Skill Builder Plan

January 1

2015

Skill Builder Plan Template and Support Documents for GED and HiSET Student Exam Preparation

SHREVE GED ACADEMY
Skill Builder Plan

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Skill Builder Plan Template

SHREVE GED ACADEMY SKILL BUILDER

Subject _____ Unit _____ Topic _____ Targeted Skill _____

Level _____ 4-6 _____ 7-9 _____ 10-12 _____ Fast Track   Contributor(s) _____

DATES IMPLEMENTED:					# OF MINUTES:				

OBJECTIVE(S): TLWBAT	Behavioral Verb	Condition / Situation	Degree: How well?	E/A
1)				☐
2)				☐
3)				☐

STANDARDS: GED 2014	CCSS	OTHER

PRE-LEARNING	INPUT	MODELING (TEACHER DRIVEN)
	CFU	CFU

REVISED May, 2014, November 2014, December 2014

GUIDED PRACTICE (STUDENT DRIVEN)	INDEPENDENT PRACTICE [STUDENT(S) ONLY]	CLOSURE
CFU	CFU	

TYPE OF SKILL BUILDER
☐ Informational ☐ Developmental ☐ Application
☐ Drill/Review ☐ Appreciation ☐ Discovery
☐ Assessment ☐ Event ☐ Other _____

INSTRUCTIONAL SETTING
☐ Whole Class ☐ Team ☐ Group ☐ Pair
☐ Individual ☐ Other: _____

TEACHING METHODS
☐ Questions ☐ Explanation ☐ Demonstration
☐ Collaboration ☐ Multimedia ☐ Discovery
☐ Other: _____

LEARNING STYLES
☐ Visual ☐ Auditory
☐ Kinesthetic/Tactile ☐ Read / Write
☐ Other: _____ ☐ Other: _____

COMPUTER / A.V. EQUIPMENT
☐ Computer (D or L) ☐ USB Port/USB Drive ☐ Internet Connection
☐ CD/DVD Play/Rec ☐ Printer ☐ Scanner/Doc. Camera
☐ Speakers/ Mic / PA ☐ Digital Camera (P or V) ☐ White/Chalk Board
☐ LCD Projector/Screen ☐ Other: _____ ☐ Other: _____

DIGITAL RESOURCES
☐ Software (Word, Excel, PowerPoint, Publisher, etc.) _____
☐ Database: _____
☐ DVD/Video: _____
☐ Website: _____
☐ Website: _____

OTHER RESOURCES
☐ Print _____
☐ Print _____
☐ Periodical _____
☐ Teacher-made _____
☐ Student-made _____
☐ Other _____

EVALUATION/ASSESSMENT TOOLS
☐ Observation
☐ Demonstration
☐ Presentation
☐ Project / Portfolio
☐ Interview
☐ Survey
☐ Journal
☐ Writing Sample
☐ Graphic Organizer
☐ All/Choral Response
☐ Rubric
☐ Checklist
☐ Standardized Test
☐ Teacher Made Test
☐ Other: _____
☐ Other: _____

| COMPUTER LAB ASSIGNMENT (OPTIONAL)

EXTENDED ASSIGNMENT (OPTIONAL) | SKILL BUILDER EVALUATION (Rate 1-5; 5 as excellent, 1 as unsatisfactory)
____ Ease of presentation of information.
____ Ease of information acquisition and application by students.
____ Did the SKILL BUILDER meet the stated objectives/standards?
____ Can the SKILL BUILDER be readily and satisfactorily duplicated?
____ Comments: _____ | NOTES |
|---|---|---|

_____ Copy submitted to Adult Education Department Coordinator _____ Copy filed at _____ Branch Shreve Memorial Library

REVISED May, 2014, November 2014, December 2014

SHREVE GED ACADEMY
Skill Builder Plan

Assessment Targets: Instructional Standards

The **Skill Builder Template** is designed to facilitate and encourage the identification and subsequent "breaking down" of skills into manageable Behavioral Objectives associated with the tests content areas to satisfy the requisite Assessment Targets (Standards and Practices) for the **GED 2014** and/or the **HiSET** High School Equivalency Exams.

In Essential Education's **2014 GED Test Curriculum Blueprint from GED Academy**, each portion or subject (content) area, included in the tests **GED 2014**, is accompanied by a description of the skills the student will need to master and the level of mastery (**DoK**) to which the student will be held accountable, with respect to the tests. The **HiSET** follows the **Core Curriculum State Standards**. These **Instructional Standards** are identified as **Assessment Targets**, **Common Core State Standards** and/or **Practices.** For example:

Subject: Mathematics
Unit: Mathematical Reasoning
Skill Topic: Quantitative Problem Solving with Rational Numbers
Targeted Skill: Q.1: Apply number sense concepts, including ordering rational numbers, absolute value, multiples, factors, and exponents.
Standard (Assessment or Core Curriculum Target):

> GED 2014:   *Q. 1.a:* Order fractions and decimals, including ordering on a number line.

> CCSS: *Math.Content.4. NF.A.2:* Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fractions such as ½. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g. by using a visual fraction model.

> *Math. Content. 6. NS.C.6:* Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates.

> *Math. Content.6.NS.C.7:* Understand ordering and absolute value of rational numbers.

The **Skill Builder Template** is structured to allow for correlative identification with the Curriculum Blueprint (see below):

SHREVE GED ACADEMY SKILL BUILDER

Subject MATHEMATICS Unit MATHEMATICS REASONING Topic QUANTITATIVE PROBLEM SOLVING WITH RATIONAL NUMBERS Targeted Skill APPLY NUMBER SENSE CONCEPTS TO RATIONAL NUMBERS
Level _____ 4-6 _____ 7-9 _____ 10-12 _____ Fast Track   Contributor(s) DEBRA KAVANAUGH

DATES IMPLEMENTED:					# OF MINUTES:					
OBJECTIVE(S): TLWBAT	*Behavioral Verb*		*Condition / Situation*			*Degree: How well?*				E/A
1)										☐
2)										☐
3)										☐
STANDARDS: GED 2014:		CCSS:						OTHER:		

SHREVE GED ACADEMY
Skill Builder Plan

Identifying Desirable Skills Based on Assessment Targets

Generally, the GED 2014 major Assessment Targets are very broadly written with respect to desirable skills. The corresponding subtopics for the 2014 GED and especially the CCSS designations seeks to offer some preliminary skill isolation as it breaks down the correlative "target" into smaller chunks.

Without even fully understanding the education process, it is relatively easy to see that "teaching" all these skills identified under the Assessment Target's subcategories in ONE lesson session is not only improbably but is also an unsound education practice. Therefore, it is the role of the instructor to further "break-down" the content and skills into learner-based "behavioral objectives."

As an example, one of the CCSS designations from the sample on page 3 has been isolated into the specific skills to be mastered:

Math.Content.4. NF.A.2:
1. Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fractions such as ½.
2. Recognize that comparisons are valid only when the two fractions refer to the same whole.
3. Record the results of comparisons with symbols >, =, or <.
4. Justify the conclusions, e.g. by using a visual fraction model.

Here we have isolated 4 different skills which, when mastered by the student, will serve to ultimately satisfy a portion of the Assessment Target. Furthermore, each of these skills can be further broken down into more manageable "building blocks" or behavioral objectives such as:

Math.Content.4. NF.A.2:
1. Compare two fractions with different numerators by creating common numerators.
2. Compare two fractions with different denominators by creating common denominators
3. Compare various fractions to benchmark fractions such as ½.
4. Compare two fractions with different numerators by creating common numerators and record the results of comparisons with symbols >, =, or <.
5. Compare two fractions with different denominators by creating common denominators and record the results of comparisons with symbols >, =, or <.
6. Compare various fractions to benchmark fractions such as ½ and record the results of comparisons with symbols >, =, or <.
7. Justify the conclusions of the objectives 1-6 by using a visual fraction model for each.

The Skill Builder, in a sense, "writes" itself when following this process. The instructor selects all the lesson components which will serve to best "facilitate" an educational match between the skill acquisition and the learner. These components include stimulating interest, accessing/remedying any pre-learning information deficiencies, accommodating for learning styles including groupings (both for grade levels and offering different experiences), Scaffolding, Spiraling and "REBAR" strategies, checking for understanding, and evaluating the lesson's effectiveness for the student.

However, sometimes the defining standard incorporates language which does not adequately isolate the skill in observable, behavioral terms. For example:

Math.Content.6.NS.C.6:
1. *Understand* a rational number as a point on the number line.
2. Extend number line diagrams and,

3. Coordinate axes *familiar from previous grades* to represent points on the line and,
4. Coordinate axes *familiar from previous grades* to represent points on the line in the plane with negative number coordinates.

"Understand" and "previous grades" are not observably or behaviorally measurable. Therefore, it is necessary for the instructor to "re-write" the desired skill using behavioral objectives which comply with more educationally-sound practices. *Understand* should be replaced with the word "identify or "explain" a rational number, a point on the number line, or a number line. *Familiar from previous grades* should be replaced with "identify" or "explain the function of the x-axis, y-axis, plot points, coordinate grid, etc. Therefore, desirable skills for **Math.Content. 6.NS.C.6** could be written as:

1. Identify rational numbers
2. Explain what makes a number rational
3. Identify a positive number
4. Identify a negative number
5. Identify a number line
6. Explain the function of a number line
7. Identify a plot point
8. Identify rational (positive and negative) numbers along a number line
9. Extend rational (positive and negative) numbers along a number line
10. Identify a coordinate plan, and the x-and y-axis
11. Explain the function of the x- and y-axis with respect to a coordinate plane
12. Identify rational (positive and negative) numbers on the x- and y-axis of a coordinate plane

It is incumbent upon the instructor to recognize the "range" of skills suggested in the standards and to write behavioral objectives accordingly. Objectives with related or supportive actions may be combined into more complex statements such as: "Identify rational numbers and explain what makes a number rational," "Identify positive and negative numbers" or "Identify and explain the function of a number line including plot points." However, if the goal is to measure learner mastery, it is important to keep the behavioral objectives as simple as possible to better identify and measure mastery success.

Here is an example of how basic skill identification translates onto the **Skill Builder Template** by incorporating the set of skills from page 4 and writing them as *beginning* behavioral objectives.

SHREVE GED ACADEMY SKILL BUILDER

Subject MATHEMATICS Unit MATHEMATICS REASONING Topic QUANTITATIVE PROBLEM SOLVING WITH RATIONAL NUMBERS Targeted Skill APPLY NUMBER SENSE CONCEPTS TO RATIONAL NUMBERS
Level _____ 4-6 __X__ 7-9 _____ 10-12 _____ Fast Track   Contributor(s) DEBRA KAVANAUGH

DATES IMPLEMENTED:					# OF MINUTES:				

OBJECTIVE(S): TLWBAT	Behavioral Verb	Condition / Situation	Degree: How well?	E/A
1) Compare two fractions with different numerators by creating common numerators.				☐
2) Compare two fractions with different denominators by creating common denominators				☐
3) Compare various fractions to benchmark fractions such as ½.				☐
4) Compare two fractions with different numerators by creating common numerators and record the results of comparisons with symbols >, =, or <.				☐
5) Compare two fractions with different denominators by creating common denominators and record the results of comparisons with symbols >, =, or <.				☐
6) Compare various fractions to benchmark fractions such as ½ and record the results of comparisons with symbols >, =, or <.				☐
7) Justify the conclusion of the objectives 1-6 by using a visual fraction model for each.				☐

STANDARDS: GED 2014: *Q. 1.a:* Order fractions and decimals, including ordering on a number line.	CCSS: *Math.Content.4. NF.A.2:* Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fractions such as ½. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g. by using a visual fraction model.	OTHER

SHREVE GED ACADEMY
Skill Builder Plan

The LEVEL is often determined by the complexity and the number of objectives to be met during a regular session. For example, all seven objectives might be appropriate if teaching toward the 7-9 grade level over a 90 minute period. However, if the Level of students is specifically the 4-6th grade, the lesson may have been limited to less than seven objectives. If the majority of the students were at the 4th grade level, the instructor might stop at Objectives 1-3. The next session might pick up the rest of the objectives. In this event, there would be several **Skill Builders** created in order to facilitate the teaching steps necessary to teach the entire skill set. The **Skill Builder** for two separate sessions might look similar to these:

Session 1:

SHREVE GED ACADEMY SKILL BUILDER

Subject MATHEMATICS Unit MATHEMATICS REASONING Topic QUANTITATIVE PROBLEM SOLVING WITH RATIONAL NUMBERS Targeted Skill APPLY NUMBER SENSE CONCEPTS TO RATIONAL NUMBERS
Level ___**X**__ 4-6 _____ 7-9 _____ 10-12 _____ Fast Track   Contributor(s) DEBRA KAVANAUGH

DATES IMPLEMENTED:					# OF MINUTES:				

OBJECTIVE(S): TLWBAT   *Behavioral Verb*   *Condition / Situation*   *Degree: How well?*   E/A
1) Compare two fractions with different numerators by creating common numerators.
2) Compare two fractions with different denominators by creating common denominators.
3) Compare various fractions to benchmark fractions such as ½.

STANDARDS: GED 2014: *Q. 1.a:* Order fractions and decimals, including ordering on a number line.	CCSS: *Math.Content.4. NF.A.2:* Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fractions such as ½. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g. by using a visual fraction model.	OTHER

Session 2:

SHREVE GED ACADEMY SKILL BUILDER

Subject MATHEMATICS Unit MATHEMATICS REASONING Topic QUANTITATIVE PROBLEM SOLVING WITH RATIONAL NUMBERS Targeted Skill APPLY NUMBER SENSE CONCEPTS TO RATIONAL NUMBERS
Level ___**X**__ 4-6 _____ 7-9 _____ 10-12 _____ Fast Track   Contributor(s) DEBRA KAVANAUGH

DATES IMPLEMENTED:					# OF MINUTES:				

OBJECTIVE(S): TLWBAT   *Behavioral Verb*   *Condition / Situation*   *Degree: How well?*   E/A
1) Compare two fractions with different numerators by creating common numerators and record the results of comparisons with symbols >, =, or <.
2) Compare two fractions with different denominators by creating common denominators and record the results of comparisons with symbols >, =, or <.
3) Compare various fractions to benchmark fractions such as ½ and record the results of comparisons with symbols >, =, or <.
4) Justify the conclusion of the objectives 1-6 by using a visual fraction model for each.

STANDARDS: GED 2014: *Q. 1.a:* Order fractions and decimals, including ordering on a number line.	CCSS: *Math.Content.4. NF.A.2:* Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fractions such as ½. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g. by using a visual fraction model.	OTHER

Identifying the desired skills from the Assessment Targets and breaking them down to into manageable components is the first step in writing excellent learner-based behavioral objectives.

Note: The *text size* can be modified to fit the template area provided. In addition, the template can "grow" as content is added. An increase in template size to three or even four pages is not an uncommon practice as traditional lesson plans tend to be longer as well. As a tool, the template should facilitate the lesson, not the other way around. Also note that the specific parts of the Assessment Targets [standard(s)] to be addressed IN THIS PARTICULAR SKILL BUILDER have been highlighted. Skill Builders should be formulated to accommodate a maximum of 90 minutes.

SHREVE GED ACADEMY
Skill Builder Plan

Using Backward Design for Skill Building

Backward design is a method of designing educational curriculum by setting goals before choosing instructional methods and forms of assessment. Backward design of curriculum typically involves three stages:

- **Identify the results desired** *(Pass the GED/HiSET Test, demonstrate Life-skills, successfully Transition to Community College or Technical School, secure a job in the Workplace skills)* **BIG PICTURE**
- **Determine acceptable levels of evidence that support that the desired results have occurred** *(GED 2014 Standards, Core Curriculum Standards, Life-skills checklist, Community College of Technical School skills checklist, Computer skills checklist, Resume writing, job search, interview skill, etc. checklist)* **BENCHMARKS (Assessments)**
- **Design activities that will make desired results happen**
  - Level 1: **PLANNED SKILL BUILDING ACTIVITIES** *(Learning Modalities, Instructional Strategies, Physical Arrangements, Classroom Climate, Check for understanding)*
  - Level 2: **FLEXIBLE STUDENT BUILDING ACTIVITIES** *(Check for understanding, re-teaching, regrouping, making accommodations, peer tutoring, encouraging independence)*

Backward design challenges "traditional" methods of curriculum planning. In traditional curriculum planning, a list of content that will be taught is created and/or selected. In backward design, the educator starts with goals, creates or plans out assessments and finally makes lesson plans. Supporters of backward design liken the process to using a "road map". In this case, the destination is chosen first and then the road map is used to plan the trip to the desired destination. In contrast, in traditional curriculum planning there is no formal destination identified before the journey begins.

The idea in backward design is to teach toward the "end point" or learning goals, which typically ensures that content taught remains focused and organized. This, in turn, aims at promoting better understanding of the content or processes to be learned for students. The educator is able to focus on addressing what the students need to learn, what data can be collected to show that the students have learned the desired outcomes (or learning standards) and how to ensure the students will learn.

Advantages

- Students are not as likely to become so lost in the factual detail of a unit that they miss the point of studying the original topic.
- Instruction looks toward global understandings and not just daily activities; daily lessons are constructed with a focus on what the overall "gain" from the unit is to be.
- Assessment is designed before lesson planning, so that instruction drives students toward exactly what they need to know *(Teaching to a well-formulated, thoughtful global goal, rather than a "test")*.

The primary starting point for backward design is to become familiar with the standards/outcomes for the grade level and curriculum being taught. The second part of curriculum planning with backward design is

finding appropriate assessments. It can be difficult for "traditional" educators to switch to this model because it is hard to conceptualize an assessment before deciding on lessons and instruction. The idea is that the assessments (diagnostic, formative and/or summative) should meet the initial goals identified.

Use the "WHERE" approach during the assessment stage of the process:

- **W** stands for students knowing *where they are heading*, *why they are heading there*, *what they know*, *where they might go wrong in the process*, and *what is required of them*.
- **H** stands for *hooking* the students on the topic of study.
- **E** stands for students *exploring* and *experiencing ideas* and being *equipped with the necessary understanding* to master the standard/outcome being taught.
- **R** stands for providing opportunities for students to *rehearse, revise*, and *refine* their work.
- **E** stands for student *evaluation*.

Diagnostic assessment can help you identify your students' current knowledge of a subject, their skill sets and capabilities, and to clarify misconceptions before teaching takes place. Knowing students' strengths and weaknesses can help you better plan what to teach and how to teach it.
Advantages:

- Creates a starting benchmark by which to measure progress
- Evaluates student level with respect to other student levels
- Provides starting point for instruction
- Helps determine whether or not the program is appropriate for the student

Examples:

- Pre-tests (on content and abilities)
- Self-assessments (identifying skills and competencies)
- Discussion board responses (on content-specific prompts)
- Interviews (brief, private, 10-minute interview of each student)

Classroom strategies: *Assessment of readiness should*

- Define what the test is measuring, how that will be measured and what the measurement means.
- Be shared the results with the students.
- Define what the student must do to reach the desired outcome.
- Designate future benchmarks and assessments which will be available to the student to measure progress.
- Outline specific student strategies to reach the first benchmark.

2014-2015 Diagnostic Assessment Activities:
1. Specifically explain the students what the TABE will be measuring and how this will affect instruction in the upcoming classes.
2.
3.
4.
5.

Formative assessment or *diagnostic testing* is a range of formal and informal assessment procedures employed by teachers during the learning process in order to modify teaching and learning activities to improve student attainment. It typically involves qualitative feedback (rather than scores) for both student and teacher that focuses on the details of content and performance. Think "feedback," "problem-solving," "organizing information or concepts," Formative assessments should be built into the skill-building template as well as engaging in spontaneous assessment according to student need.

Advantages:

- Teachers are able to determine what standards students already know and to what degree.
- Teachers can decide what minor modifications or major changes in instruction they need to make so that all students can succeed in upcoming instruction and on subsequent assessments.
- Teachers can create appropriate lessons and activities for groups of learners or individual students.
- Teachers can inform students about their current progress in order to help those set goals for improvement.
- Students are more motivated to learn.
- Students take responsibility for their own learning.
- Students can become users of assessment alongside the teacher.
- Students learn valuable lifelong skills such as self-evaluation, self-assessment, and goal setting.

Examples:

- A language teacher asks students to choose the best thesis statement from a selection; if all choose correctly she moves on; if only some do she may initiate a class discussion; if most answer incorrectly then she may review the work on thesis statements.
- A teacher asks her students to write down, in a brainstorm activity, all they know about how hot-air balloons work so that she can discover what students already know about the area of science she is intending to teach.
- A science supervisor looks at the previous year's student test results to help plan teacher workshops during the summer vacation, to address areas of weakness in student performance.

Classroom Strategies: *Assessment for learning should:*
- be part of effective planning of teaching and learning

- focus on how students learning attitude
- be recognized as central to classroom practice
- be regarded as a key professional skill for teachers
- be sensitive and constructive because any assessment has an emotional impact
- take account of the importance of learner motivation
- promote commitment to learning goals and a shared understanding of the criteria by which they are assessed
- enable learners to receive constructive guidance about how to improve
- develop learners' capacity for self-assessment so that they can become reflective and self-managing
- recognize the full range of achievements of all learners

2014-2015 Formative Assessment Activities:
1. Student-managed portfolios
2.
3.
4.
5.

Summative assessment (or **summative evaluation**) refers to the *assessment* of participants, and summarizes their development at a particular time. In contrast to formative assessment, the focus is on the outcome of a program. Summative assessment is characterized as assessment *of* learning and is contrasted with formative assessment, which is assessment *for* learning. **Summative assessment comes after all possible avenues for learning have been exhausted and formative assessment indicates that the student will succeed.**

Advantages:

- Provide motivation for students to study and pay attention in class.
- Serve as a teaching guide: Directs the skill building plan
- Serve as a curriculum guide: Directs the content and skills to be taught
- Provide periodic indicator of class progress; adjust speed and amount of content
- Provide periodic indicator of class progress: Determine effectiveness of teaching

Examples:

- TABE Assessments (National Exam)
- GED/HiSET Practice Tests (State based Exam)
- End-of-term or semester tests (Every 3-4 months; course-based)
- End-of-unit or chapter tests (Weekly or bi-monthly; content-based)
- Projects (A culminating project that synthesizes knowledge; project phases submitted at various completion points could be formatively assessed)
- Term papers (drafts submitted throughout the semester would be
- a formative assessment)

- Portfolios (could also be assessed during development as a
- formative assessment)
- Performances
- Student evaluation of the course (teaching effectiveness)
- Instructor self-evaluation
- Daily/Weekly graded/ungraded mini-assessments at the end of the day/week

Classroom Strategies: *Assessment of learning should:*

- Determine whether students have learned what they were expected to learn, i.e., to determine whether and to what degree students have learned the material they have been taught.

- Be given at the conclusion of a specific instructional period

- Be used to determine learning improvement, progress and achievement

- Evaluate the effectiveness of educational programs

- Make course-placement decisions

- Reflect realistic, measurable behaviors which have been standardized as to accurately reflect improvement, progress, and achievement equally among all participants.

2014-2015 Summative Assessment Sample Activities:

Name	Description	What to do with the data	Time required
Minute paper	During the last few minutes of the class period, ask students to answer on a half-sheet of paper: "What is the most important point you learned today?" and, "What point remains least clear to you?". The purpose is to elicit data about students' comprehension of a particular class session.	Review responses and note any useful comments. During the next class periods emphasize the issues illuminated by your students' comments.	Prep: Low In class: Low Analysis: Low
Chain Notes	Students pass around an envelope on which the teacher has written one question about the class. When the envelope reaches a student he/she spends a moment to respond to the question and then places the response in the envelope.	Go through the student responses and determine the best criteria for categorizing the data with the goal of detecting response patterns. Discussing the patterns of responses with students can lead to better teaching and learning.	Prep: Low In class: Low Analysis: Low
Memory matrix	Students fill in cells of a two-dimensional diagram for which instructor has provided labels. For example, in a music course, labels might consist of periods (Baroque, Classical) by countries (Germany, France, Britain); students enter composers in cells to demonstrate their ability to remember and classify key concepts.	Tally the numbers of correct and incorrect responses in each cell. Analyze differences both between and among the cells. Look for patterns among the incorrect responses and decide what might be the cause(s).	Prep: Med In class: Med Analysis: Med

SHREVE GED ACADEMY
Skill Builder Plan

Directed paraphrasing	Ask students to write a layman's "translation" of something they have just learned -- geared to a specified individual or audience -- to assess their ability to comprehend and transfer concepts.	Categorize student responses according to characteristics you feel are important. Analyze the responses both within and across categories, noting ways you could address student needs.	Prep: Low In class: Med Analysis: Med
One-sentence summary	Students summarize knowledge of a topic by constructing a single sentence that answers the questions "Who does what to whom, when, where, how, and why?" The purpose is to require students to select only the defining features of an idea.	Evaluate the quality of each summary quickly and holistically. Note whether students have identified the essential concepts of the class topic and their interrelationships. Share your observations with your students.	Prep: Low In class: Med Analysis: Med
Exam Evaluations	Select a type of test that you are likely to give more than once or that has a significant impact on student performance. Create a few questions that evaluate the quality of the test. Add these questions to the exam or administer a separate, follow-up evaluation.	Try to distinguish student comments that address the fairness of your grading from those that address the fairness of the test as an assessment instrument. Respond to the general ideas represented by student comments.	Prep: Low In class: Low Analysis: Med
Application cards	After teaching about an important theory, principle, or procedure, ask students to write down at least one real-world application for what they have just learned to determine how well they can transfer their learning.	Quickly read once through the applications and categorize them according to their quality. Pick out a broad range of examples and present them to the class.	Prep: Low In class: Low Analysis: Med
Student-generated test questions	Allow students to write test questions and model answers for specified topics, in a format consistent with course exams. This will give students the opportunity to evaluate the course topics, reflect on what they understand, and what good test items are.	Make a rough tally of the questions your students propose and the topics that they cover. Evaluate the questions and use the goods ones as prompts for discussion. You may also want to revise the questions and use them on the upcoming exam.	Prep: Med In class: High Analysis: High (may be homework)

2014-2015 Summative Assessment Activities:
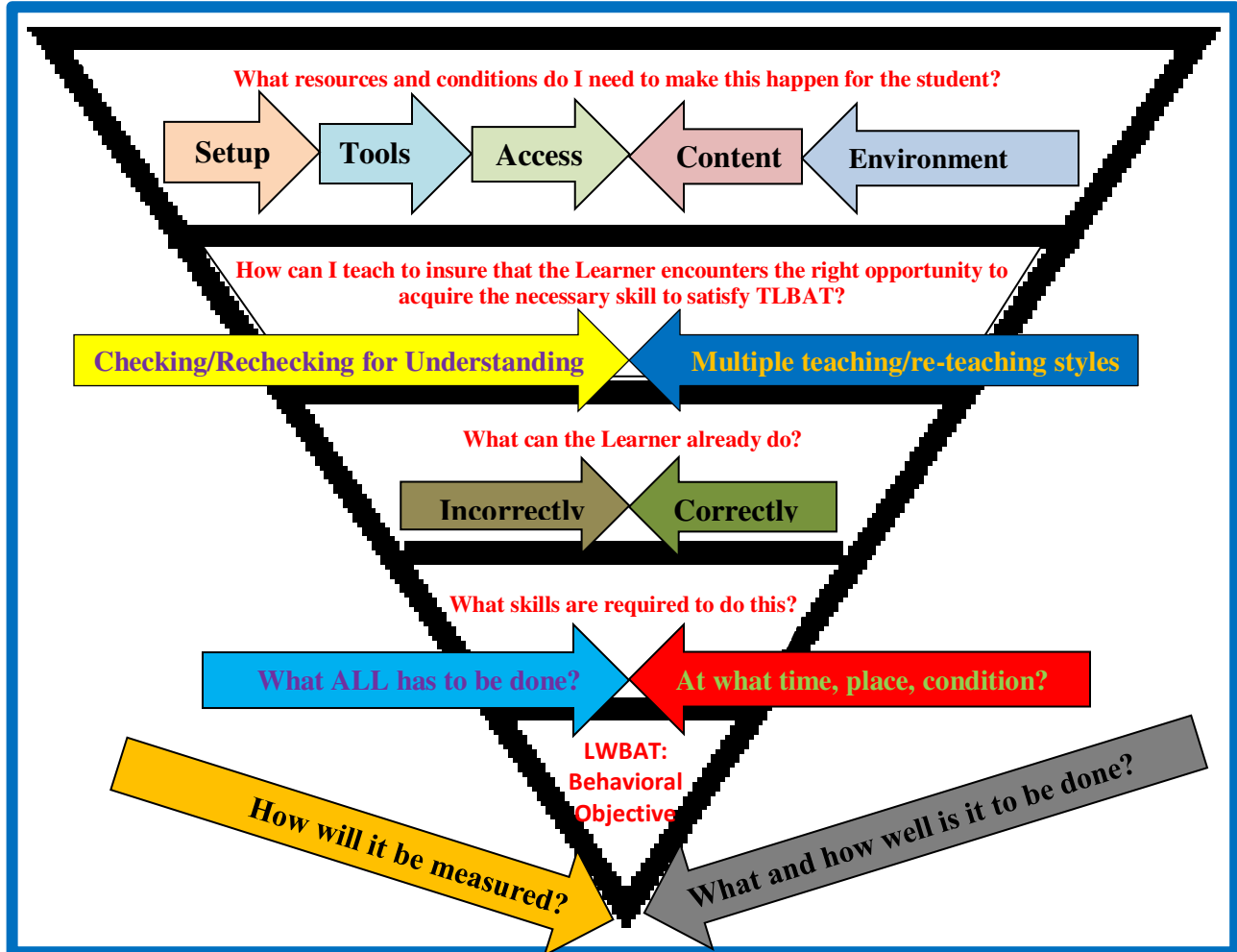1.
2.
3.
4.
5.

More evaluation/assessment information can be found on pages 46-47.

SHREVE GED ACADEMY
Skill Builder Plan

The BACKWARD DESIGN PYRAMID

Q: What do I need to do so that the student will be able to successfully meet the standard identified at the end of the lesson? How will I know the student has successfully met the identified standard?

What resources and conditions do I need to make this happen for the student?

Setup → Tools → Access → Content ← Environment

How can I teach to insure that the Learner encounters the right opportunity to acquire the necessary skill to satisfy TLBAT?

Checking/Rechecking for Understanding → ← Multiple teaching/re-teaching styles

What can the Learner already do?

Incorrectly → ← Correctly

What skills are required to do this?

What ALL has to be done? → ← At what time, place, condition?

LWBAT: Behavioral Objective

How will it be measured?   What and how well is it to be done?

Bottom: Identify what is to be done, the desired performance level and the type of assessment to be implemented**.**

One Up: Identify all the skills necessary to meet the desired performance successfully and in what environment these skills can be successfully implemented.

Two Up: Identify what the Learner can already do, especially those areas in which he/she makes errors or holds erroneous information.

Three Up: Identify the various, appropriate methods in which the skills/skill sets can be introduced, practiced, and re-taught if needed.

Four Up: Identify the external conditions needs to be secured and in place to maximize the learner's learning experience.

Identifying Content and Skills Sets for Application

While most of the written Skill Targets in the Math section lends themselves to identification of the <u>content</u> in which to teach the skills, much of the Reading, Writing and Language sections, and all of the Science and Social Studies sections, do not. However, the majority of the test will rely on the analysis and evaluation of information provided on the test with very little recall of topic <u>facts</u> required. If, you create lessons which cover some aspects of ALL the subjects identified in the resources below, your students will have a basic understanding of the principles and major concepts needed. Further, while computer skills, study skills, personal success skills, and test-taking skills, all of which are necessary for student, and, therefore, GED/HiSET, success, are not included in traditional study, there are abundant resources available to address these needs which, absolutely, should be included as part of regular instruction. In addition to the references previously mentioned, here are some excellent resources:

The GED: A Content Comparison between 2002 and 2014 can supply answers regarding the recommended HiSET content *(http://www.gedtestingservice.com/uploads/files/2487f6e1ca5659684cbe1f8b16f564d0.pdf).* The GED 2014 content topics are listed and the HiSET, based upon the GED 2002, *for now*, are also listed as general topics.

The Assessment Guide for Educators, which specifically addresses the GED 2014, is also helpful in that it illustrates which indicators support of the reporting (Assessment) category making it easier to build related skill sets (*http://www.gedtestingservice.com/uploads/files/8c13f2e71e85447c9c4caff12b4cf943.pdf*). The HiSET content is reviewed in *http://hiset.ets.org/states_educators/about/content/.* The writing response Assessment Guide is at *http://hiset.ets.org/s/pdf/writing_response_scoring_guide.pdf*. According to a summary of the HiSET by **ETS** (*http://hiset.ets.org/about/overview*), the Social Studies subtest measures a student's ability to <u>analyze and evaluate various kinds of social studies information</u>. The subtest uses materials from a variety of content areas and skill sets, including:

- History
- Political Science
- Psychology
- Sociology
- Anthropology
- Geography
- Economics
- Primary documents
- Posters
- Cartoons
- Timelines
- Maps
- Graphs
- Tables
- Charts
- Distinguish statements of fact from opinion
- Recognize the limitations of procedures and methods
- Make judgments about:
    - the reliability of sources
    - the validity of inferences and conclusions
    - the adequacy of information for drawing conclusions

Dividing the potential content into general themes is particularly useful and this example from the Florida Department of Education (*http://www.fldoe.org/core/fileparse.php/7522/urlt/0061322-2014-ged-ss.pdf*) follows the practices of a majority of Adult Education departments.

Themes	Social studies Content Topics			
	Civics & Government 50%*	U.S. History 20%*	Economics 15%*	Geography and the World 15%*
I. Development of Modern Liberties and Democracy	1. Types of modern & historical governments 2. Principles that have contributed to development of American constitutional democracy 3. Structure and design of United States	1. Key historical documents that have shaped American constitutional government 2. Revolutionary and Early Republic Periods 3. Civil War & Reconstruction 4. Civil Rights Movement	1. Key economic events that have shaped American government and policies 2. Relationship between political and economic freedoms	1. Development of classical civilizations
	Government 4. Individual rights and civic responsibilities			
II. Dynamic Responses in Societal Systems	e. Political parties, campaigns, and elections in American politics 6. Contemporary public policy	5. European population of the Americas 6. World War I & II 7. The Cold War 8. American foreign policy since 9/11	3. Fundamental economic concepts 4. Microeconomics & macroeconomics 5. Consumer economics 6. Economic causes & impacts of wars 7. Economic drivers of exploration and colonization	2. Relationships between the environment and societal development 3. Borders between peoples and nations 4. Human migration

Taking this process a step further, Florida has also created applicable subtopics for each general theme. Here is the example for the *Social Studies* Module. Ideally, we would have a similar curriculum defined for Louisiana but, as of this publication, we were unable to locate one as detailed as the one below. However, the model should serve as a good example and is in keeping with other State practices as well.

Social Studies Standards – LCP W	
Civics and Government	
CG.1	**Describe types of modern and historical governments that contributed to the development of American constitutional democracy.** CG.1.a. direct democracy CG.1.b. representative democracy CG.1.c. parliamentary democracy CG.1.d. presidential democracy CG.1.e. monarchy and other types
CG.2	**Describe the principles that have contributed to the development of American constitutional democracy.** CG.2.a. natural rights philosophy CG.2.b. popular sovereignty and consent of the governed CG.2.c. constitutionalism CG.2.d. majority rule and minority rights CG.2.e. checks and balances CG.2.f. separation of powers CG.2.g. rule of law CG.2.h. individual rights CG.2.I. federalism
CG.3	**Analyze the structure and design of United States Government.** CG.3.a. Structure, powers, and authority of the federal executive, judicial, and legislative branches CG.3.b. Individual governmental positions (e.g., president, speaker of the house, cabinet secretary, etc.) CG.3.c. Major powers and responsibilities of the federal and state governments CG.3.d. Shared powers CG.3.e. Amendment process CG.3.f. Governmental Departments and Agencies
CG.4	**Describe individual rights and civic responsibilities.** CG.4.a. The Bill of Rights CG.4.b. Personal and civil liberties of citizens
CG.5	**Describe political parties, campaigns, and elections in American politics.** CG.5.a. Political parties CG.5.b. Interest groups CG.5.c. Political campaigns, elections and the electoral process

United States History	
USH.1	**Explain the ideas and significance of key historical documents that have shaped American constitutional government.** USH.1.a. Magna Carta USH.1.b. Mayflower Compact USH.1.c. Declaration of Independence USH.1.d. United States Constitution USH.1.e. Martin Luther King's Letter from the Birmingham Jail USH.1.f. Landmark decisions of the United States Supreme Court and other Key documents)
USH.2	**Describe the causes and consequences of the wars during the Revolutionary and Early Republic Periods.** USH.2.a. Revolutionary War USH.2.b. War of 1812 USH.2.c. George Washington USH.2.d. Thomas Jefferson USH.2.e. Articles of Confederation USH.2.f. Manifest Destiny USH.2.g. U.S. Indian Policy
USH.3	**Examine causes and consequences of the Civil War and Reconstruction and its effects on the American people.** USH.3.a. Slavery USH.3.b. Sectionalism USH.3.c. Civil War Amendments USH.3.d. Reconstruction policies
USH.4	**Identify the expansion of civil rights by examining the principles contained in primary documents and events.** USH.4.a. Jim Crow laws USH.4.b. Women's suffrage USH.4.c. Civil Rights Movement USH.4.d. Plessy vs. Ferguson and Brown vs. Board of Education USH.4.e. Warren court decisions
USH.5	**Describe the impact of European settlement on population of the America's.**
USH.6	**Explain the significant causes, events, figures, and consequences of World Wars I & II.** USH.6.a. Alliance system USH.6.b. Imperialism, nationalism, and militarism USH.6.c. Russian Revolution USH.6.d. Woodrow Wilson

	USH.6.e. Treaty of Versailles and League of Nations
	USH.6.f. Neutrality Acts
	USH.6.g. Isolationism
	USH.6.h. Allied and Axis Powers
	USH.6.i. Fascism, Nazism, and totalitarianism
	USH.6.j. The Holocaust
	USH.6.k. Japanese-American internment
	USH.6.l. Decolonization
	USH.6.m. GI Bill
USH.7	**Describe the significant events and people from the Cold War era.**
	USH.7.a Communism and capitalism
	USH.7.b. NATO and the Warsaw Pact
	USH.7.c. U.S. maturation as an international power
	USH.7.d. Division of Germany, Berlin Blockade and Airlift
	USH.7.e. Truman Doctrine
	USH.7.f. Marshall Plan
	USH.7.g. Lyndon B. Johnson and The Great Society
	USH.7.h. Richard Nixon and the Watergate scandal
	USH.7.i. Collapse of U.S.S.R. and democratization of Eastern Europe
USH.8	**Analyze the impact of the September 11, 2001 attacks on the United States foreign policy.**

Economics	
E.1	**Describe key economic events that have shaped American government and policies.**
E.2	**Explain the relationship between political and economic freedoms**
E.3	**Describe common economic terms and concepts.**
	E.3.a Markets
	E.3.b. Incentives
	E.3.c. Monopoly and competition
	E.3.d. Labor and capital
	E.3.e. Opportunity cost
	E.3.f. Profit
	E.3.g. Entrepreneurship
	E.3.h. Comparative advantage
	E.3.i. Specialization
	E.3.j. Productivity
	E.3.k. interdependence
E.4	**Describe the principles of Microeconomics and Macroeconomics.**
	E.4.a. Supply, demand and price
	E.4.b. Individual choice
	E.4.c. Institutions

		E.4.d. Fiscal and monetary policy
		E.4.e. Regulation and costs of government policies
		E.4.f. Investment
		E.4.g. Government and market failures
		E.4.h. Inflation and deflation
		E.4.i. Gross domestic product (GDP)
		E.4.j. Unemployment
		E.4.k. Tariffs
E.5	**Describe consumer economics**	
		E.5.a. Types of credit
		E.5.b. Savings and banking
		E.5.c. Consumer credit laws
E.6	**Examine the economic causes and impact on wars.**	
E.7	**Describe the economic drivers of exploration and colonization in the Americas.**	
E.8	**Explain the relationship between the Scientific and Industrial Revolutions.**	

	Geography	
G.1	**Describe how geography affected the development of classical civilizations.**	
G.2	**Describe the relationships between the environment and societal development.**	
		G.2.a. Nationhood and statehood
		G.2.b. Sustainability
		G.2.c. Technology
		G.2.d. Natural resources
		G.2.e. Human changes to the environment
G.3	**Describe the concept of borders between peoples and nations.**	
		G.3.a. Concepts of region and place
		G.3.b. Natural and cultural diversity
		G.3.c. Geographic tools and skills
G.4	**Describe the forms of human migration.**	
		G.4.a. Immigration, emigration and Diaspora
		G.4.b. Culture, cultural diffusion and assimilation
		G.4.c. Population trends and issues
		G.4.d. Rural and urban settlement

While this arrangement still lacks "specific" terminology and identified facts to be highlighted, again, it is the general outline of these concepts with which the student should be familiar including fundamental ideas, agents of change, and relevant vocabulary. Your student will not be responsible for ALL the facts and details surrounding the areas suggested above; however, familiarizing the students with the information prior to the test eliminates the time they might take during the test to "process" unfamiliar concepts rather than using the time needed to answer the questions based on those concepts. Similar content outlines are available for Science, Writing, and Reading at (*http://www.fldoe.org/core/fileparse.php/7522/urlt/0061322-2014-ged-ss.pdf)*. Suggested student technology skills can be found at ***Instructor Guide: Computer Skills for the 2014 GED Test*** at *http://www.csus.edu/coe/hep/instructional/assets/ged-instructor-guide-computer-skills-2014.pdf*. Study strategies are listed in ***Study Guides and Strategies*** *http://www.studygs.net/adulted.htm*.

Identifying and Developing Requisite Mastery Levels for Desirable Skills

In addition to identifying the specific skills (and potential content) your students will need, you must address the level of mastery required for that skill. These mastery levels are often referred to as "higher order thinking" or "critical thinking skills."

Both the GED 2014 and the Core Curriculum Standards, as used by HiSET, rely on Webb's Depth of Knowledge Chart (see directly below).   In the Assessment Targets, these are listed as **DoK**. The **DoK** replaced *Bloom's Taxonomy* as the standard measure of mastery in that **DoK** added a core of reasoning skills to the lessons. For Behavioral Objective purposes, the "active verbs" associated with each level is what is important in that the verb dictates the level of thinking in which the student must be able to successfully engage in order to meet mastery of the standard.

Webb's Depth of Knowledge
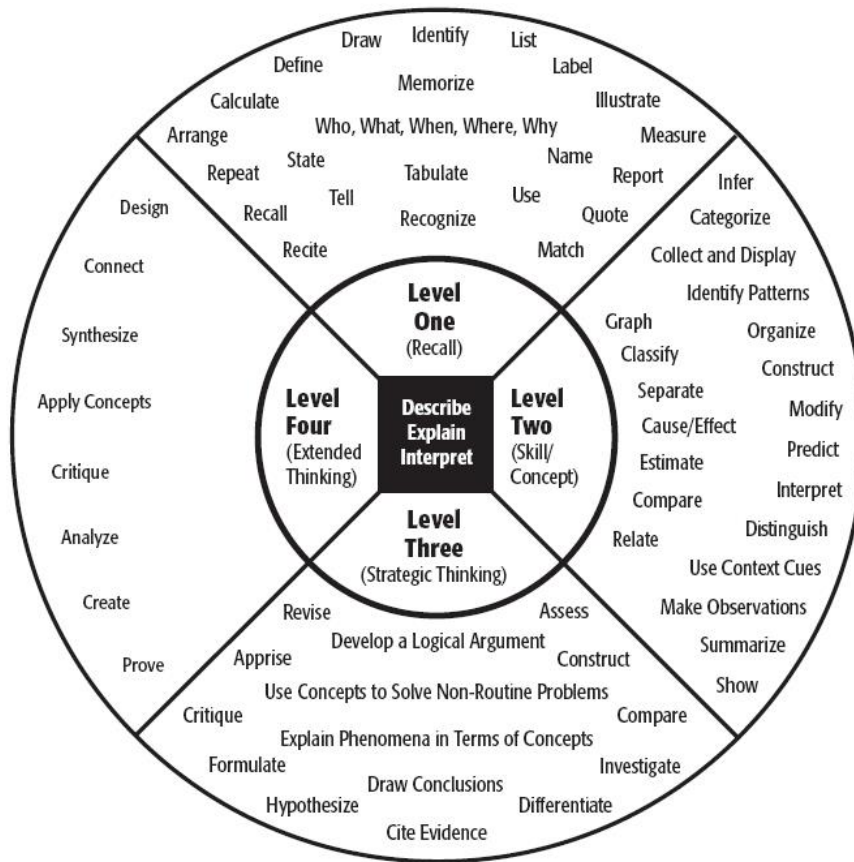
Calculating Cognitive Depth or Depth of Knowledge (DoK)

For classroom teachers, the more important question is one of practice: how do we create rich environments where all students learn at a high level? One useful tool, Norman Webb's Depth of Knowledge Levels, can help teachers meet that challenge. Depth of Knowledge (**DoK**) categorizes tasks according to the complexity of thinking required to successfully complete them. Recently, educators have begun applying Webb's DoK to help them design better instruction.

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Level 1: Recall and Reproduction

Tasks at this level require recall of facts or rote application of simple procedures. The task does not require any cognitive effort beyond remembering the right response or formula. Copying, computing, defining, and recognizing are typical Level 1 tasks.

Level 2: Skills and Concepts

At this level, a student must make some decisions about his or her approach. Tasks with more than one mental step such as comparing, organizing, summarizing, predicting, and estimating are usually Level 2.

Level 3: Strategic Thinking

At this level of complexity, students must use planning and evidence, and thinking is more abstract. A task with multiple valid responses where students must justify their choices would be Level 3. Examples include solving non-routine problems, designing an experiment, or analyzing characteristics of a genre.

Level 4: Extended Thinking

Level 4 tasks require the most complex cognitive effort. Students synthesize information from multiple sources, often over an extended period of time, or transfer knowledge from one domain to solve problems in another. Designing a survey and interpreting the results, analyzing multiple texts by to extract themes, or writing an original myth in an ancient style would all be examples of Level 4.

Examples of Level 1-4 Thinking Activities

Level One Activities	Level Two Activities	Level Three Activities	Level Four Activities
Recall elements and details of story structure, such as sequence of events, character, plot and setting.	Identify and summarize the major events in a narrative.	Support ideas with details and examples.	Conduct a project that requires specifying a problem, designing and conducting an experiment, analyzing its data, and reporting results/ solutions.
Conduct basic mathematical calculations.	Use context cues to identify the meaning of unfamiliar words.	Use voice appropriate to the purpose and audience.	Apply mathematical model to illuminate a problem or situation.
Label locations on a map.	Solve routine multiple-step problems.	Identify research questions and design investigations for a scientific problem.	Analyze and synthesize information from multiple sources.
Represent in words or diagrams a scientific concept or relationship.	Describe the cause/effect of a particular event.	Develop a scientific model for a complex situation.	Describe and illustrate how common themes are found across texts from different cultures.
Perform routine procedures like measuring length or using punctuation marks correctly.	Identify patterns in events or behavior.	Determine the author's purpose and describe how it affects the interpretation of a reading selection.	Design a mathematical model to inform and solve a practical or abstract situation.
Describe the features of a place or people.	Formulate a routine problem given data and conditions.	Apply a concept in other contexts.	
	Organize, represent and interpret data.		

Webb, Norman L. and others. "Web Alignment Tool" 24 July 2005. Wisconsin Center of Educational Research. University of Wisconsin-Madison. 2 Feb. 2006. <http://www.wcer.wisc.edu/WAT/index.aspx>

DOK Question Stems

DOK 1
- Can you recall_____?
- When did ____ happen?
- Who was ____?
- How can you recognize____?
- What is____?
- How can you find the meaning of____?
- Can you recall____?
- Can you select____?
- How would you write___?
- What might you include on a list about___?
- Who discovered___?
- What is the formula for___?
- Can you identify___?
- How would you describe___?

DOK 2
- Can you explain how ____ affected ___?
- How would you apply what you learned to develop ____?
- How would you compare ___? Contrast____?
- How would you classify____?
- How are____alike? Different?
- How would you classify the type of____?
- What can you say about____?
- How would you summarize____?
- How would you summarize___?
- What steps are needed to edit___?
- When would you use an outline to ___?
- How would you estimate___?
- How could you organize___?
- What would you use to classify___?
- What do you notice about___?

DOK 3
- How is ____ related to ____?
- What conclusions can you draw _____?
- How would you adapt____to create a different____?
- How would you test___?
- Can you predict the outcome if___?
- What is the best answer? Why?
- What conclusion can be drawn from these three texts?
- What is your interpretation of this text? Support your rationale.
- How would you describe the sequence of____?
- What facts would you select to support____?
- Can you elaborate on the reason____?
- What would happen if___?
- Can you formulate a theory for___?
- How would you test___?
- Can you elaborate on the reason___?

DOK 4
- Write a thesis, drawing conclusions from multiple sources.
- Design and conduct an experiment. Gather information to develop alternative explanations for the results of an experiment.
- Write a research paper on a topic.
- Apply information from one text to another text to develop a persuasive argument.
- What information can you gather to support your idea about___?
- DOK 4 would most likely be the writing of a research paper or applying information from one text to another text to develop a persuasive argument.
- DOK 4 requires time for extended thinking.

From Depth of Knowledge – Descriptors, Examples and Question Stems for Increasing Depth of Knowledge in the Classroom Developed by Dr. Norman Webb and Flip Chart developed by Myra Collins

You may be asking at this point, "Well, what *is* a reasonable distribution? How often should I be offering tasks at each level? What's the right sequence?"

DoK Levels are _not_ sequential. Students need not fully master content with Level 1 tasks before doing Level 2 tasks. In fact, giving students an intriguing Level 3 task can provide context and motivation for engaging in the more routine learning at Levels 1 and 2. DOK levels are also _not_ developmental. All students, including the youngest preschoolers, are capable of strategic and extended thinking tasks. What they look like will differ, and what is Level 3 to a kindergarten student may be a Level 1 task for an adult. All students, however, should

have opportunities to do complex reasoning. To find the right balance, ask yourself these questions: What kinds of thinking do I want students to do routinely? What's the most effective way to spend the limited classroom time I have?

Regardless of how you define "rigor," the important thing is that students are thinking deeply on a daily basis. Webb's Depth of Knowledge gives you a framework and common language to make that happen in your classroom. Try these exercises to better understand the cognitive depth of the tasks you are using in your classroom and improve the rigor of your instruction. Here is a sample list of tasks you might assign students in the course of a lesson or series of lessons including classwork, extended (lab) work, and projects.

- Support ideas by reference to details in the text.
- Describe and illustrate how common themes are found across texts from different cultures.
- Use punctuation marks correctly.
- Contrast or compare people, places, events and concepts.
- Recall facts, terms, musical symbols, and basic musical concepts, and to identify specific information contained in music.
- Give an example.
- Compose a simple melody in a given key.
- "Classify," "organize," "estimate," "make observations," "collect and display data," and "compare data" regarding a math application.
- Perform the required tasks for a technical theatre crew.
- Recall, recite or reproduce information.
- Perform the functions of a technical element, serving as a designer, stage manager or crew chief.
- Classify or sort items into meaningful categories.
- Describe, interpret or explain issues and problems, patterns, reasons, cause and effect, significance or impact, relationships, points of view or processes.
- Identify parts of the stage, theatre terminology, general theatre safety, theatre hierarchy, basic rules of audience etiquette.
- "Identify," "recall," "recognize," "use," and "measure" a math application.
- Write summaries that contain the main idea of the reading selection and pertinent details.
- Represent in words or diagrams a scientific concept or relationship.
- Self-assess your own performance.
- Explore how to alter movements so kinesthetic and visual differentiation is felt and viewed.
- Provide or recognize a standard scientific representation for simple phenomenon.
- Formulate a routine problem given data and conditions. Identify research questions and design investigations for a scientific problem.
- Based on provided data from a complex experiment that is novel to the student, deduct the fundamental relationship between several controlled variables.
- Use music theory knowledge to analyze chords/harmonies.
- Convert information from one form to another.
- Demonstrate basic playwriting skills.
- Perform in front of the class, creating a stereotypical or previously seen character.
- Organize, represent and interpret data.

- Make decisions on what features of the graph need to be considered and how information from the graph can be aggregated.
- Compare and contrast styles of acting.
- Apply pitch relationships while singing.
- Recognize or identify specific information contained in maps, charts, tables, graphs or drawings.
- Determine the author's purpose and describe how it affects the interpretation of a reading selection.
- Summarize information from multiple sources to address a specific topic.
- Write a script, in proper format, with contextual support of historical theme, characterization, and technical direction.
- Explain how light affects mass by indicating there is a relationship between light and heat.
- Critique experimental designs.
- Perform accurately on an instrument.
- Analyze and synthesize information from multiple sources.
- Explain the purpose and use of experimental procedures.
- Draw conclusions.
- Cite evidence.
- Apply concepts to new situations.
- Justify the response given more than one option/answer.
- Use concepts to solve problems.
- Create an in-depth character analysis, including textural and historical support for choices and perform said character.
- Utilize more independent thinking and action to execute dance movement with proper technique and qualitative distinction.
- Identify technical problems on stage and formulate desired outcomes.
- Analyze similarities and differences in issues and problems.
- Direct a one-act with script analysis, characterization, blocking, and technical elements to support the playwright's intent.
- Take into consideration a number of variables.
- Analyze and synthesize information from multiple sources, examine and explain alternative perspectives across a variety of sources and/or describe and illustrate how common themes and concepts are found across time and place.
- Propose and evaluate solutions to problems.
- Recognize and explain misconceptions or make connections across time and place to explain a concept or big idea.
- Perform in front of class, creating an original character in scene work
- Apply pitch and rhythmic accuracy.
- Support ideas with details and examples.
- Construct compound sentences.
- Recall or recognize a fact, term, or property.
- Perform basic dance movements in a variety of genres or mimic the teacher or electronic media/video.
- Make predictions with evidence as support.
- Develop a logical argument.
- Perform short form improvisational format.
- Plan and develop solutions to problems.
- Rehearse and perform solos with or without accompaniment or in non-conducted ensembles.

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- Describe and explain examples and non-examples of science concepts.
- Select a procedure according to specified criteria and perform it.
- Complete basic character analysis and perform said character.
- Solve non-routine problems.
- Conduct an investigation, from specifying a problem to designing and carrying out an experiment, to analyzing its data and forming conclusions.
- Use simple organizational strategies to structure written work.
- Examine and explain alternative perspectives across a variety of sources.
- Use a dictionary to find the meaning of words.
- Play independent parts in an ensemble
- Use voice appropriate to the purpose and audience.
- Use aural skills to blend, balance, and sing/play in-tune.
- Identify figurative language in a reading passage.
- Use context cues to identify the meaning of unfamiliar words.
- Hear and recognize basic forms intervals, and rhythmic patterns.
- Predict a logical outcome based on information in a reading selection.
- Perform a routine procedure such as measuring length.
- Specify and explain the relationship between facts, terms, properties, or variables.
- Develop a scientific model for a complex situation.
- Form conclusions from experimental data.
- Sight-read independently.
- Explain and interpret contrasting styles and genres.
- Compose in two or more voices, which require the application of harmony, voice leading, and chord progressions.
- Use awareness of physical movement and aspects of dance as an art from to create and critique original choreographed dances.
- Identify and summarize the major events in a narrative.
- Identify Standard English grammatical structures and refer to resources for correction.
- Edit writing to produce a logical progression of ideas.
- Analyze and describe the characteristics of various types of literature.
- Play or sing in a group, responding to the cues of the conductor.
- Write an analysis of two selections, identifying the common theme and generating a purpose that is appropriate for both.

Many tasks fit easily into the defined categories, but some will require deeper consideration to clarify your demand at a desired level. Remember:

a. The verb does not define the level. Instead, consider the **cognitive effort** that a student will use to complete the task. The verb "describe," for example, could be any level, depending on the kind of description.
b. It is common to find tasks that seem to fall in between levels. When in doubt, assign the higher level.
c. "Extended time" alone does not make a task Level 4. Lower-level tasks that are merely repeated over a period of time are still lower level.

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Measuring Cognitive Depth or Depth of Knowledge (DoK): When "USE" is not USEFUL!

Use: *take, hold, or deploy (something) as a means of accomplishing a purpose or achieving a result; employ.*
She <u>used</u> her key to open the door.
She <u>turned</u> the key to open the door.
She <u>turned</u> the key and <u>unlocked</u> the door.

Utilize: *make practical and effective use of.*
Vitamin C helps your body <u>utilize</u> the iron present in your diet.
Vitamin C helps your body <u>absorb</u> the iron present in your diet.
Vitamin C helps <u>release</u> a higher percentage of plant-source iron for absorption by the body.

From the examples above, which sentence in each set most accurately describes what the actions were taken to achieve the desired results?

In the first set:
- She could have merely placed the key in the door, thus not achieving the desired result. *This sentence implies, not states, how she used the key and if it opened the door. It requires an assumption to be applicable.*
- She could have used any key which may or may not have achieved the desired result. *This sentence demonstrates action but does not indicate whether desired results were achieved. It requires the assumption that it was the correct key.*
- She both turned and unlocked the door, thus employing the correct action <u>and</u> desired results. *This sentence clearly states that she employed the correct action to achieve the desired results.*

In the second set:
- Vitamin C neither helps your body utilize or absorb iron—it releases iron. *It makes it accessible to the body but it is up to another function to absorb and employ it.*

Use/utilize is a "lazy" verb.

It is not enough to merely ask that the student employ certain behavioral actions, it is also vital to know what and how to measure those actions.

Evaluation: the making of a judgment about the amount, number, or value of something.

We don't create behavior objectives just for the sake of keep the students busy. We create them in order that the students attain a desired acquisition of content knowledge and skill. Consider these examples below:

She <u>turned</u> the key and <u>unlocked</u> the door.

The desired goal is for the student to demonstrate her mastery of:
1. Selecting the correct key
2. Placing the key in the right direction into the lock
3. Turning the key the correct direction
4. Apply sufficient pressure to the key
5. Rotating the key to the point needed to disengage the lock

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If the desired outcome of the activity is to successfully unlock the door, all these activities must be employed in order to measure the success. If we wanted to write this as a behavioral objective, it might read like this: TLWBAT select, place, turn, apply sufficient pressure to and rotate the correct key to disengage the lock on a door.

Needed action: ***select, place, turn, apply sufficient pressure to and rotate the correct key***
Desired Result: ***disengage the lock on a door***.

Evaluation: ***The Learner successfully enacted all the steps to the lock and the lock "appeared" disengaged.***

Yes, "appeared." Did we hear the tumblers click? Did the door swing open by itself, thus proving the lock which held the door closed was unlocked? No? Well, we need to add one more step.

6. Turning the door knob and pushing the door open to verify that the lock has been disengaged

Complete Behavioral Objective: TLWBAT unlock a locked door by selecting, placing, turning, applying sufficient pressure to, and rotating the correct key to disengage the lock on a door and, then, turning the door knob and pushing the door open.

Needed action: ***select, place, turn, apply sufficient pressure to and rotate the correct key, turn the door knob and push the door open***

Desired Result: ***open a locked door***

Evaluation: ***The Learner engaged all the proper steps to the lock and door, and opened the door.***
We could STOP at the unlocking of the door by observing all the behaviors up until that point. However, we can't be SURE that the learner has truly succeeded until the door swings open. Why? If the learner did not successfully employ ALL the steps, the door would not open. Opening the door is not the same as unlocking the lock. Or vice versa.

This example might seem a bit exaggerated, however, when it comes to our adult learners (or any learners), identifying the appropriate goal and applying the related evaluation to determine success of that goal is essential. In this case, which desired result was more important:

- Demonstrating the steps to unlocking a lock?
- Demonstrating the steps to unlocking and opening a locked door?

But wait, there is more? By identifying all the steps it took to UNLOCK THE LOCK and OPEN THE DOOR, you can successfully SCAFFOLD and SPIRAL your learning into complete mastery of lock disengaging and door opening. And when you combine this instruction with "lock-picking" (lock disengaging) and "battery-ramming" (door opening), you will SHORE UP (REBAR) the learning experience altogether (see page 73).

Activity: Restructure (dissect, rearrange, and complement) the "use" statements from your behavioral objectives to create a <u>complete behavioral objective</u>. Identify: the needed action, the desired results and the evaluation.

SHREVE GED ACADEMY
Skill Builder Plan

Using Bloom's Taxonomy to Write Behavioral Objectives

Bloom's Taxonomy for Thinking
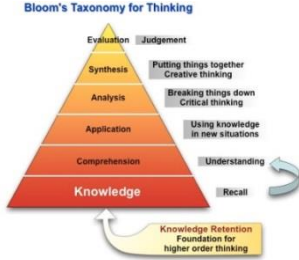
Suggested Verb List for Writing Behavioral Objectives According to Bloom's Taxonomy
http://www.maricopa.edu/academic/ccta/curric/handbook/cr_suggverb.php
(The Curriculum Procedures Handbook is a product of the Maricopa County Community Colleges District. Any and all changes to the Handbook are monitored and coordinated through the District Curriculum Office. Please give credit to the Maricopa County Community College District if the Handbook or sections of the Handbook are duplicated)

KNOWLEDGE	COMPREHENSION	APPLICATION	ANALYSIS	SYNTHESIS	EVALUATION
Cite	Associate	Apply	Analyze	Arrange	Appraise
Count	Classify	Calculate	Appraise	Assemble	Assess
Define	Compare	Complete	Contrast	Collect	Choose
Draw	Compute	Demonstrate	Criticize	Compose	Critique
Identify	Contrast	Dramatize	Criticize	Construct	Determine
Indicate	Describe	Employ	Detect	Create	Estimate
List	Differentiate	Examine	Diagram	Design	Evaluate
Name	Distinguish	Illustrate	Differentiate	Detect	Grade
Point	Explain	Interpret	Distinguish	Formulate	Judge
Quote	Estimate	Interpolate	Experiment	Generalize	Measure
Read	Express	Locate	Infer	Integrate	Rank
Recite	Extrapolate	Operate	Inspect	Manage	Rate
Record	Interpret	Order	Inventory	Organize	Recommend
Relate	Interpolate	Predict	Question	Plan	Revise
Repeat	Locate	Practice	Separate	Prepare	Score
Select	Predict	Relate	Summarize	Prescribe	Select
State	Report	Report	Translate	Produce	Test
Tabulate	Restate	Restate		Propose	
Tell	Review	Review		Specify	
Trace	Translate	Schedule			
Write	Sketch	Solve			

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Skill Builder Plan

Engaging Costa's Levels of Inquiry

Inquiry is an important aspect of curriculum. Inquiry-based learning focuses on the student as learner, developing skillful, open-ended questioning skills. Being able to recognize different levels of inquiries and the answers required is beneficial for all students in many areas of learning. Utilizing the different levels of questions below in activities and discussions during instruction will prepare learners to answer these types of questions during the GED or HiSET test.

Level One Questions (Text Explicit)	**Level 1 examples:**
Readers can point to one correct answer right in the text. Words found in these questions include: • defining • observing • describing • naming • identifying • reciting • noting • listing	• Define irony. (English) • Identify the starting date of the American Revolution. (History) • Define tangent. (Math) • Define photosynthesis. (Science)
Level Two Questions (Text Implicit)	**Level 2 examples:**
Readers infer answers from what the text implicitly states, finding answers in several places in the text. Words found in these questions include: • analyzing • grouping • synthesizing • comparing/contrasting • inferring • sequencing	• Compare and contrast Mr. Frank and Mr. Van Daan in Anne Frank: Diary of a Young Girl. (English) • Analyze the causes of the American Revolution. (History) • Compare the square root of 49 to the square root of 64. Which is greater? (Math) • Diagram and order the stages of photosynthesis. (Science)
Level Three Questions (Experience Based)	**Level 3 examples:**
Readers think beyond what the text states. Answers are based on reader's prior knowledge/experience and will vary. Words found in these questions include: • evaluating • judging • applying a principle • speculating • imagining • predicting • hypothesizing	• Predict how Charlie Gordon will change after his operation in Flowers for Algernon. (English) • Imagine you were a soldier fighting in the Civil War. How would you feel? (History) • Apply the Pythagorean Theorem to the find the measurement of this triangle. (Math) • Diagram the stages of photosynthesis and predict how long each takes.(Science)

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Skill Builder Plan

Teaching Higher Level Thinking

DoK, Bloom and Costa are all valid skill thinking structures. Higher Level (Order) Thinking, sometimes called HOTS, insures that the learner is able to apply the knowledge beyond the rudimentary level and can, in fact, expand the application to include more mature, creative and complex processes which are relevant for adult interaction. As fields of work rely more and more on interdisciplinary thought (such as STEM: Science, Technology, Engineering and Mathematics), the adult learner must be prepared to "transfer" skill applications across many disciplines and to make "connections" between varying collections of data and input. Higher order thinking is essential for post-secondary education options.

Unfortunately, many instructors assume that if you ask a student to "analyze" an essay, he/she will know what "analyze" means and how to apply that to the task. Higher order thinking processes need to be TAUGHT as a skill and THEN applied to the desired content. Teaching these skills in a cross-disciplinary fashion (applying the skill to more than one "subject"), and teaching specific thinking "sets" such as task analysis, scientific method of inquiry, engineering design, resilience thinking, art and music appreciation, systems thinking, and developing an argument (for writing or debate purposes) also engages higher order thinking as the "problem" is approached from more than one direction. There are a number of "systems" of thought:

1. **Critical thinking** is the mental process of objectively analyzing a situation by gathering information from all possible sources, and then evaluating both the tangible and intangible aspects, as well as the implications of any course of action.
2. **Implementation thinking** is the ability to organize ideas and plans in a way that they will be effectively carried out.
3. **Conceptual thinking** consists of the ability to find connections or patterns between abstract ideas and then piece them together to form a complete picture.
4. **Innovative thinking** involves generating new ideas or new ways of approaching things to create possibilities and opportunities.
5. **Intuitive thinking** is the ability to take what you may sense or perceive to be true, and without knowledge or evidence, appropriately factor it in to the final decision.

Often you read the phrase "accessing" higher order thinking skills" or "engaging critical thinking." However, how do you TEACH a skill which larger relies on increasing complex thought processes which may or may not already exist in your student's experience? The best solution is to set aside time to actually guide students through the thinking processes needed, modeling examples of that thought and talking aloud to the learners as you develop your thought. For example:

State a logistics problem: "I need to figure out how to get an important fragile 40lb package to Kansas City, Missouri within 10 hours with only $150 by midnight Friday. It is Thursday.
- Greyhound, 11 ½ hours, costs $125-131 (one way)
- United Airline, $241, 3hrs 48 min (one way)
- Budget Rent-A-Car, compact/economy $ 44.04, 546 miles, 9 hours plus gas, $50 in gas (one way).
- Hitchhiking???
- Overnight Mailing $181, plus insurance

Students research and debate the possibilities of making a trip featuring one of five methods including:
- Visualizing the problem
- Separating relevant from irrelevant information
- Seeking reasons and causes

- Justifying solutions
- Seeing more than one side of a problem
- Weighing sources of information based on their credibility
- Reveal assumptions in reasoning
- Identify bias or logical inconsistencies

By "talk-teaching" one example (or a portion of each example), you can prompt your students in the direction to go beyond simple, reflexive-like, transparent and "certain" type of thinking toward exploring possibilities.

For instance, to set up the problem you could:
- Display a city map, road map to Kansas City, bring an object weighing 40 pounds, outline the dimensions of an airline seat
- Bring in a list of the types of materials a Pawn Shop accepts and what they pay
- Post the regulations required to rent-a-car, to mail a package overnight
- News reports of hitchhiking disasters
- Etc.

Incorporate graphic organizers to help "facilitate" the compare/contrast, decision-making, data collection processes. There is no right or wrong answer to this exercise and it encompasses an element of fun and competition.

After successful completion of the "fun" activity, you can "translate" the skills learned into targeted materials such as math word problems, analyzing reading selections, identifying the main idea, preparing a debate, etc.

Developing skills such as inference is not easy. Using a picture file where the photos "tell" the story through clues which the viewer must identify and "infer" a meaning is helpful. Some commercial products do address inference but a set of **National Geographic** or **Smithsonian** magazine will go further to "start" the inference conversation. Here are some additional resources below:

Chapter 10: Pearson Materials http://www.pearsonhighered.com/samplechapter/0205734367_ch10.pdf

Effective Teaching for Inference Skills in Reading http://files.eric.ed.gov/fulltext/ED501868.pdf

Inference Strategy Handouts
http://www.scred.k12.mn.us/UserFiles/Servers/Server_3022443/File/Instructional%20Services/Language%20Arts%20Resources/-Inference%20Strat%20handouts.pdf

Inference/Visualization Pictures http://www.pinterest.com/coogdebi/inference-visualization-pictures/

Inference Worksheets http://www.ereadingworksheets.com/free-reading-worksheets/reading-comprehension-worksheets/inferences-worksheets/ 10 worksheets for low-level and scaffolding inference instruction

Reading Resources: Drawing Inferences http://www.laflemm.com/reso/inference.html

SHREVE GED ACADEMY
Skill Builder Plan

The Assessment Target, DoK, Content, Behavioral Objectives and Suggested Resources in Tandem

The example below incorporates the applicable **Assessment Target and Practices** with **relevant content** and correlating **Depth of Knowledge Level** in addition to **suggested resources** in order to create **Behavioral Objectives** which can be expanded into Skill Builders. The DOK levels INFORM the verb to be selected. All topics, subtopics, standards, practices, and DOK levels are appropriate for our GED/HiSET adult students. However, some DOK and all DOK 4 are NOT required for our GED/HiSET students. Those which are NOT required, in the box below, are in green. However, we list them because we hope that during the course of our students study we DO prepare them to think at this level so as to meet with greater success beyond GED instruction. The behavioral objectives (preceded by DOK) are "starters." For example, you may have to create additional supporting "<u>skill</u>" objectives to guide your students to successful completion of "content" objectives. We have attempted to do this regarding "inference" and "cause-and-effect" in the box below. However, your students may require even more interim objectives. In addition, the behavior objectives, as written below, do not include, for the most part, the conditions in which the objective will occur or how the desired degree of mastery will be measured. These steps will be discussed in the next section as these two variables are dependent upon the instructor's resources, preparations, expectations, class level, type of lesson (introduction, developmental, review, assessment) and classroom set up. The example below, thus, serves as a preliminary step to be made either by the instructor or by the program's curriculum developer.

<div align="center">

Subject: Social Studies
Unit: Civics and Government   25%
CG.a: Topic: Types of modern historical governments

</div>

CG.a.1 Direct democracy, representative democracy, parliamentary democracy, presidential democracy, monarchy and other types of government that contributed to the development of American constitutional democracy.

==SSP.4.a | Determine the meaning of words and phrases as they are used in context, including vocabulary that describes historical, political, social, geographic, and economic aspects of social studies.== CCSS.ELA-LITERACY.RH.11-12.4 |Determine the meaning of words and phrases as they are used in a text, including analyzing how an author uses and refines the meaning of a key term over the course of a text.

Content: Democracy (direct, representative, parliamentary, presidential, constitutional), monarch, other types of government
- *DOK 1: Define the terms "government," "democracy," "monarchy," and other types of government*
- *DOK 2: Expand on the definition of the term democracy to include "direct," "representative," "parliamentary," "presidential" and "constitutional"*

==SSP.3.d | Compare differing sets of ideas related to political, historical, economic, geographic, or societal contexts; evaluate the assumptions and implications inherent in differing positions.== CCSS.ELA-LITERACY.RH.11-12.2 |Determine the central ideas or information of a primary or secondary source; provide an accurate summary that makes clear the relationships among the key details and ideas. CCSS.ELA-LITERACY.RH.11-12.1 |Cite specific textual evidence to support analysis of primary and secondary sources connecting insights gained from specific details to an understanding of the text as a whole.

Content: Democracy (direct, representative, parliamentary, presidential, constitutional), monarch, other types of government

- *DOK 3: Compare and contrast between the types of "democracy"*
- *DOK 3: Identify other countries which now share or have shared government structures similar to ours*
- *DOK 4: Compare two or three types of government to determine why one or another may be more advantageous or disadvantageous for that country.*

SSP.3.a | Identify the chronological structure of a historical narrative and sequence steps in a process. CCSS.ELA-LITERACY.RH.11-12.7 |Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, as well as in words) in order to address a question or solve a problem.

Content: The timeline of the development of American constitutional democracy
- *DOK 1 : Identify specific periods representing the development of American government*
- *DOK 2: Create a timeline and apply the periods accurately along the timeline*
- *DOK 3: Determine which periods of government were in power longest; shortest*

SSP.1a Determine the details of what is explicitly stated in primary and secondary sources and make logical inferences or valid claims based on evidence. CCSS.ELA-LITERACY.RH.11-12.3 |Evaluate various explanations for actions or events and determine which explanation best accords with textual evidence, acknowledging where the text leaves matters uncertain.

Content: Explicitly stated, logical inferences, valid claims, evidence, drawing conclusions
- *DOK 1: Define the terms "explicitly stated," "logical inference," "valid claims," "evidence," "conclusions"*
- *DOK 2: Describe the relationship between the terms "explicitly stated," "logical inference," "valid claims," "evidence," "conclusions*
- *DOK 3: Compare and contrast examples of logical inference and illogical inference made using explicit statements based on given evidence.*
- *DOK 3: Compare and contrast examples of valid claims and invalid claims made using explicit statements based on given evidence.*
- *DOK 4: Explain why distinguishing the difference between valid/invalid claims and logical/illogical inference when using explicit statement and supporting evidence is essential when conducting research of any kind*
- *DOK 4: Construct a list of valid/invalid claims and logical/illogical inferences supported by evidence or not supported by evidence present given a list of samples of explicate statements.*

SSP.1.b | Cite or identify specific evidence to support inferences or analyses of primary and secondary sources, attending to the precise details of explanations or descriptions of a process, event, or concept. CCSS.ELA-LITERACY.RH.11-12.9 |Integrate information from diverse sources, both primary and secondary, into a coherent understanding of an idea or event, noting discrepancies among sources.

Content: Evidence
- *DOK 1: Define the terms "evidence" as related to "explicitly stated," "logical inference," "valid claims"*
- *DOK 2: Identify examples of evidence in an explicate statement.*
- *DOK 3: Identify examples of evidence in an explicate statement to support a logical inference*
- **DOK 4: Construct a list of valid/invalid claims and logical/illogical inferences supported by evidence or not supported by evidence present given a list of samples of explicate statements.**

SSP.3.c | Analyze cause-and-effect relationships and multiple causation, including action by individuals, natural and societal processes, and the influence of ideas. CCSS.ELA-LITERACY.RH.11-12.3 |Evaluate various explanations for actions or events and determine which explanation best accords with textual evidence, acknowledging where the text leaves matters uncertain.

Content: Cause-and-effect; multiple causation; action by individuals, natural and societal processes, the influence of ideas
- *DOK 1: Define the terms "cause-and-effect," "multiple causation," action by action by individuals, natural and societal processes, the influence of ideas*
- *DOK 2: Identify single or multiple "cause-and-effect" from a set of provided examples*
- *DOK 3: Create several scenarios depicting single or multiple "cause-and effect"*
- **DOK 4: Create several scenarios depicting single or multiple "cause-and effect" and specifically identify causation through action by individual, natural or societal processes or a combination of one or more**

Content: The causal (cause-and-effect) relationship timeline of the development of American constitutional democracy
- *DOK 1 : Cite identified actions by individuals, natural and societal processes which may have influenced the development of American constitutional democracy*
- *DOK 2: Place the identified actions along a timeline which represents specific periods of changes in the development of American constitutional democracy*
- *DOK 3: Determine what, if any, cause-and-effect relationships and/or multiple causations may have existed due directly or indirectly between changes in government because of actions by individuals, natural or societal processes and vice versa.*
- **DOK 4: Isolate one specific event or event series and time period and speculate how the various agents may have played a role in causing these changes.**

SSP.3.d | Compare differing sets of ideas related to political, historical, economic, geographic, or societal contexts; evaluate the assumptions and implications inherent in differing positions. CCSS.ELA-LITERACY.RH.11-12.6 |Evaluate authors' differing points of view on the same historical event or issue by assessing the authors' claims, reasoning, and evidence.

Content: Causal effects leading to different outcomes; same outcome generated by differing causal effects
- *DOK 2 : Identify two similar causal effects leading to different outcomes on a timeline*

- *DOK 2: Identify two similar outcomes generated by different causal effects on a timeline*
- *DOK 3,4: Examine the different outcomes generated by similar causal effects and interpret why two different outcomes may have occurred*
- *DOK 3, 4: Examine the different causal effects which generated similar outcomes and interpret why two the different causal effects may have achieved the same outcome.*

Recommended Resources:
Print:
Visual Literacy Scales, Charts, Diagrams *pgs. 3, 8-10 [New Readers Press]*
American Lives 1: Reading and Language Activities *(Grades 3-8) [New Readers Press]*
Focus of U.S. History: Era of Revolution & Nation Forming *(Grades7-11) [Walch]*
Great Documents in U.S. History, Vol.1: Early Settlement to Reconstruction *(Grades 9-12) [Walch]*

DVD's: (from Cerebellum)
America's Documents of Freedom
The United States Constitution & Bill of Rights
The Declaration of Independence

Online:
Lesson 1: The Constitution in Today's America *http://www.scholastic.com/browse/lessonplan.jsp?id=1122*
Discovering Democracy *http://www.abc.net.au/civics/democracy/concepts.htm*
The American Democracy
http://highered.mheducation.com/sites/0072481218/student_view0/chapter2/index.html
American Government *http://www.ushistory.org/gov/index.asp*
Unit 1: Principles of American Democracy
http://wsfcs.k12.nc.us/cms/lib/NC01001395/Centricity/Domain/54/CE%20Unit%201-Principles%20of%20American%20Democracy%20NEW.pdf
Constitutional Democracy-Center for Civic Education
http://www.civiced.org/resources/publications/resource-materials/390-constitutional-democracy
Democracy In America Timeline *www.seattleymca.org/.../Democracy%20In%20America%20Timeline.pdf*
Chapter two PowerPoint - Slide Share
http://www.slideshare.net/marshaweinstein/chapter-two-powerpoint-24628593
BBC NEWS | Special Reports | Why democracy
http://news.bbc.co.uk/nol/shared/spl/hi/in_depth/why_democracy/timeline/html/non_flash.stm
Constitutional Democracy
http://www.compton.edu/facultystaff/pflor/ps1docs/ConstitDemocracy%20ch1,%20part1.ppt

Practice Worksheets:
Help Teaching *www.helpteaching.com;*
http://www.helpteaching.com/questions/Making_Inferences_and_Drawing_Conclusions
Teacher Planet *http://www.worksheets4teachers.com/timelines.php*

YouTube:
Making Inferences *http://youtu.be/ioZW58bOBFE*
Making Inferences *http://youtu.be/to30AJm2epQ*
Cause and Effect *http://youtu.be/IQWBnwu1oZs*

Writing COMPLETE Learner-Based Behavioral Objectives

The task of creating the outline, on page 32, takes no small effort. However, doing so insures that every Assessment Target, Standard, Topic, Subtopic, Practice and desirable skill has been addressed and matched with the appropriate mastery expectation. Building your Skill Builder <u>from</u> this type of review makes the work easier in the long-run. As thorough as that sample is, there are still some major and necessary components missing from the outline. A behavioral objective is only as good as the reason in which to engage in it.

Behavioral Objective for this Skill Builder Template Tutorial:

> **(OK)** The instructor will be able to <u>write</u> behavioral objectives <u>after</u> reading the materials presented in the Skill Builder Template, and <u>practicing</u> writing behavioral objectives on his/her own.
>
> **(BETTER)** The instructor will be able to <u>write</u> and <u>apply</u> <u>effective</u> behavioral objectives for adult education students in the adult education classroom <u>after</u> reading the materials presented in the Skill Builder Template, and <u>practicing</u> writing behavioral objectives on his/her own.
>
> **(BEST)** The instructor will be able to <u>create</u> and <u>apply</u> targeted behavioral objectives, <u>after</u> reading the materials presented in the Skill Builder Template, and <u>practicing</u> writing behavioral objectives on his/her own, for adult education instruction which address the <u>requisite educational standards and specific learning needs</u> of the adult education student to <u>effectively assist</u> <u>the adult education student in achieving an overall score of 12.1 on the TABE</u>.

The first Behavioral Objective is ok in that the instructor should be able to <u>write</u> behavioral objectives (what) after <u>reading</u> the materials presented in the Skill Builder Template and <u>practicing</u> writing behavioral objectives on his/her own (when). The problem lies in the ***purpose*** of Behavioral Objective writing. Is it sufficient that the learner simply be able to write an objective on his own?

The second Behavioral Objective is better in that the learner should be able to write and <u>apply</u> (DOK 3) <u>targeted</u> (direction) behavioral objectives for the <u>adult education student</u> (audience) in the <u>adult education classroom</u> (environment) <u>after</u> reading the materials presented in the Skill Builder Template, and <u>practicing</u> writing behavioral objectives on his/her own. Now the objective has a purpose other than to be written. It is to be applied to a specific target for a specific group in specific settings and conditions. Is it sufficient that the learner simply write a targeted objective on his/her own, and apply it in a classroom of adult learners?

The third Behavior Objective come closest to defining the reason the Behavioral Objective is created in the first place. The instructor's goal is to craft STUDENT success. The only measure of the instructor's success is when the <u>student</u>, after engaging with the instructor-created and –applied behavioral objectives which address the requisite educational standards and specific learning needs of the adult education student, <u>successfully achieves</u> an overall score of 12.1 on the TABE. When the student succeeds, the instructor succeeds.

This measure of success is an essential component of the Behavioral Objective in education. Furthermore, it is important that the conditions in which this success occurs are defined. A student may be able to apply all the correct strategies and skills in the classroom and yet not successfully apply the same concepts during a testing condition. Therefore, if the goal is student success in passing the GED or HiSET, the student must demonstrate success by passing the GED or HiSET thus confirming that the instructor has been successful.

To make Behavioral Objective writing easier, the writer should take into consideration all the components of a well-written, complete Learner-Based Behavioral Objective.

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Skill Builder Plan

Traditional Definition of a Behavioral Objective: A Behavioral Objective is a defined description of an expected educational experience for your students. Behavioral Objectives have three components: the expected student behavior, the condition of performance, and the performance criteria.

Improved Learner-Based Behavioral Objective Definition: A Learner-Based Behavioral Objective is defined as a description of an expected educational experience for your students:

1) Observable (by the instructor and others)

2) Measurable (using common instruments)

3) Applicable actions and activities (applying desirable Skills as dictated by Assessment Targets)

[4) Reasonable (with respect to the allotted time and accessible resources)

Three parts of a Written Learner-Based Behavioral Objective:
- Student Behavior -- An action verb (e.g. analyze, brainstorm, categorize, design, write) linked to with the desired knowledge or skill and desired mastery level (DOK)

   The learner will be able to draw multi-view drawings
   The learner will be able to design a robot
   The learner will be able to build an assistive technological device

- Condition/Situation-- The behavior will be performed under the prescribed conditions or within a particular context.

   …of assigned machine parts
   …that will collect ping pong balls, golf balls and tennis balls
   …after identifying a specific need for a disabled person

- Degree: How well? This describes the measure (and tool) to which the behavior will be evaluated.
   …with 90% accuracy on a teacher-made rubric
   …using only materials designated by the instructor
   …which meets a determined need to improve the person's quality of life?

Each portion of the above examples is contingent upon the student's pre-existing skill and knowledge and the instructor's ability to guide student's skill level to meet the objective within a *reasonable* amount of allotted time and available resources.

Example of a well-written behavioral objective:
1. TLWBAT draw multi-view drawings of assigned machine parts with 90% accuracy on a teacher made rubric.
2. TLWBAT design a robot using only materials designated by the instructor that will collect ping pong balls, golf balls and tennis balls.
3. **TLWBAT build an assistive technological device** after identifying a specific need for a disabled person that meets a determined need to improve the person's quality of life.

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Skill Builder Plan

It doesn't really matter in what order the behavioral objective is written; however, generally the template calls for the statements to be written as a "behavior/condition/degree" sequence. Also note that "the student will be able to" is shorted to TLWBAT for efficiency. Refer to the Sample below.

Subject: MATHEMATICS Unit: MATHEMATICS REASONING Topic: QUANTITATIVE PROBLEM SOLVING WITH RATIONAL NUMBERS Targeted Skill: APPLY NUMBER SENSE CONCEPTS TO RATIONAL NUMBERS

Level X 4-6 X 7-9 10-12 Fast Track Contributor(s): DEBRA KAVANAUGH

First Skill Builder

DATES IMPLEMENTED: 1-5-2015   # OF MINUTES: 90

OBJECTIVE(S): TLWBAT

Behavioral Verb	Condition / Situation	Degree: How well?
DOK 1: Create common numerators and denominators	between positive unlike fractions	as a small group activity to 75% accuracy
DOK 1,2: Compare unlike fractions	by creating common denominators or numerators	as a small group activity to 75% accuracy
DOK 1,2: Record the results of comparing positive unlike fractions with symbols >, =, or <	by creating common numerators and denominators	as a small group activity to 75% accuracy
DOK 2: Justify the conclusion of some of the results from the exercises above	by representing the comparison with a visual fraction model	as a small group activity to 75% accuracy
DOK 1,2: Order the results of comparing unlike positive fractions	on a number line using benchmark fractions such as ½	as a small group activity to 75% accuracy
		OTHER

STANDARDS: GED 2014: Q. 1.a: Order fractions and decimals, including ordering on a number line.

CCSS: Math.Content.4. NF.A.2: Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fractions such as ½. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.

Second Skill Builder

DATES IMPLEMENTED: 1-12-2015   # OF MINUTES: 90

OBJECTIVE(S): TLWBAT

Behavioral Verb	Condition / Situation	Degree: How well?
DOK 1,2: Order unlike fractions on a number line	by creating common denominators/ numerators between unlike fractions	independently to 90% accuracy on a teacher-made quiz
DOK 2: Observe a demonstration of fractions which do not refer to the same whole	lead by the teacher	as a participant
DOK 3: Demonstrate recognition of valid/invalid comparison of fractions	by writing a three-paragraph summary	independently to 90% accuracy
DOK 3: Predict which fractions with different denominators and numerators will be larger	without creating common numerators/denominators as a group activity to 75% accuracy	
DOK 2: Justify the conclusion of some of the results from the exercises above	by representing the comparison with a visual fraction model	to check for accuracy
		OTHER

STANDARDS: GED 2014: Q. 1.a: Order fractions and decimals, including ordering on a number line.

CCSS: Math.Content.4. NF.A.2: Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fractions such as ½. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.

E/A ☐☐☐☐☐
E/A ☐☐☐☐☐

The Target Assessments from these two Skill Builders are similar. However, the focuses of the two lessons, as well as the relevant behavioral objectives, are different. In the first lesson, the students become familiar with the general concepts and learn new skills (creating common denominators between unlike fractions, using symbols to represent unlike fractions, creating visual models to demonstrate unlike fractions and applying unlike fractions to a number line). The learner is not asked to demonstrate mastery of the skills requested but is expected to become familiar with the principles by participating in small group activities.

In the second lesson, the learners are expected to demonstrate understanding of the concept of unlike fractions by creating common denominators/numerators and placing these in accurate order on a number line. Furthermore, the last portion of the CCSS standard, which asks that the student "(r)ecognize that comparisons are valid only when the two fractions refer to the same whole," is finally addressed. This concept becomes clear only after the other portions, including the visual representation, has been applied. The "understanding" requires a DOK 3 because it calls upon the interpretation of several other concepts in order to make the connection.

Decimals were completely left out of this instructional series as the learner will be better served to master one and, then, through another series of lesson, apply learned concepts to decimals. Now, using the fractions as a "tool" to apply similar concepts to decimals (by establishing their one-to-one correspondence) is a sound instructional strategy.

SHREVE GED ACADEMY
Skill Builder Plan

Skill Builder Plan Application Tools

The Skill Builder does not stop with identifying the Assessment Target and Standards, or the writing of Behavioral Objectives. While these all serve as the goal and destination particulars, there is still the "journey" to be mapped out.

Madeline Hunter's Seven-Step Lesson Plan Model **(http://jfmueller.faculty.noctrl.edu/205/madelinehunter.htm)** served the education field well for over 30 years. Many of the models currently used today still rely on the principles and practices established by her research. With a little modification and additions, the Skill Builder Template does incorporate the sections and practices of the Hunter plan to include:

- Assessment Targets (already covered)
- Behavioral Objectives (already covered)
    - Pre-Learning
        - Input
    - Modeling
- Guided Practice
- Independent Practice
- Check for Understanding
    - Closure

The Pre-Learning Module (formerly, Anticipatory Set)

1. Purpose of the Pre-Learning Module: Set the expectation for the day's lesson
    a. **Engages** the student's **attention**
    b. **Generates** the student's **interest**
    c. **Activates student background knowledge/experience**
        i. How can you know for sure that the student has **sufficient background** to successfully participate/benefit from the anticipatory set activity?
            1. Start with what you know about the students. They are:
                a. Students
                    i. Studying for their GED
                    ii. Providing information in their Intake Forms
                b. Adults
                c. Humans
                d. Residents of Shreveport, Louisiana, USA
            2. Access one of the skills you have RECENTLY taught
                a. Within the last week
                b. One in which the MAJORITY of the students showed evidence of MASTERY
        ii. Activate means "to set in motion, make something active or operative"
            1. **Tangible**: Does it reflect a real life scenario?
            2. **Personal:** Is it real to ME?
            3. **Applicable:** How can I use it TODAY?
            4. **Action:** What do I need to do to make this happen?

    b. **Links** the student's previous knowledge/experience with the day's lessons

        i. **Context (When):** When is this link applied?

        ii. **Mechanics (How):** How is this link constructed?

        iii. **Rationale (Why):** Why is this link important?

        iv. **Measure (How much)**: How skilled/familiar are you with making this link? Does

        v. **Focus (Where):** In what direction is this link appropriate? Is there a beginning or end?

2. Summary: **The Pre-Learning Module brings something to the upcoming learning experience which may make the difference in whether or not the student fully engages with the lesson.**

There's a famous maxim that goes, "you can lead a horse to water, but you can't make him drink." The problem with this statement is that it's just not true. The fact of the matter is that you can feed a horse salt so that it becomes thirsty. What approach do you take when it comes to your students? Are you feeding them salt or waiting around for them to drink on their own?

The Pre-Learning Module Checklist

	Check All That Apply	How will you do this?
1. **Engages attention**	____	_____
2. **Generates interest**	____	_____
3. **Activates background/experience**		
a. **Tangible**	____	_____
b. **Personal**	____	_____
c. **Applicable**	____	_____
d. **Action**	____	_____
4. **Links previous knowledge to lesson**		
a. **Context (When)**	____	_____
b. **Mechanics (How)**	____	_____
c. **Rationale (Why)**	____	_____
d. **Measure (How much)**	____	_____
e. **Focus (Where)**	____	_____

Match the activities with the Checklist

_____ *Prior to the introduction of a new unit: Distribute KWL CHART on new TOPIC.*

_____*Display a collection of memorabilia from a specific time period/culture/event. Ask students to write a three paragraph story which incorporates all the objectives.*

_____*Play a Matching Game: Distribute strips of paper with the steps/procedures for a process which was introduced earlier in the week. Ask students to either arrange their strip in order or to rearrange other steps/procedures in order. Allow the students to "discuss" whether the final product is correct or not.*

_____*Conducting an opinion poll about a topic and then graph the responses together.*

_____*Show a YouTube or other media (video/audio/photograph) clip which presents or represents an aspect of your lesson topic which stimulates the student's emotions (humor, surprise, joy, sadness, excitement).*

_____*Discover the topic! Cut-up several headlines/articles which specifically address the topic/topics to be discussed in the upcoming lesson/unit. Distribute pieces to the students and let them find the "match" among the other students.*

Here is an example of a **Pre-Learning** Activity:

PRE-LEARNING

Number Dating Service Game! (Finding multiples)
Review of factoring and using the numbers to find "common multiples" for different numbers. A precursor to finding common numerators and denominators in fractions.

Application: Students are each assigned a number. They are to identify all possible factors. Then students find all possible "matches" (dates) with other students based on their "common multiples."

The "game" engages the student with the upcoming content and with each other by using a familiar context (dating services) with a skill to which they have been previously introduced and which is essential for mastery of the upcoming lesson.   Verify this using the checklist below:

5. **Engages attention**
6. **Generates interest**
7. **Activates background/experience**
    a. **Tangible**
    b. **Personal**
    c. **Applicable**
    d. **Action**
8. **Links previous knowledge to lesson**
    a. **Context (When**
    b. **Mechanics (How**
    c. **Rationale (Why)**
    d. **Measure (How much)**
    e. **Focus (Where)**

Input: Say & See

INPUT is just that---the new information or extension of previous information you are going to present today. The moment your transition from Pre-Learning with the words "today, we are going to. . ." or "here is something new you can do with fractions," you are transitioning into INPUT. Students are not expected to know anything about what you are going to tell them and any questions you ask during "input" should not depend on a student's knowledge or mastery of the new skill or information ---otherwise it is part of the Pre-Learning module. The rest of the Skill Builder Template is the vehicle which BUILDS the new knowledge and new skill and the INPUT is where the instructor lets the students know what they need to know. Introducing the objective and how the objective will be measured is also good instructional practice. The facts, formulas, procedures, conditions…all of this is considered INPUT.

Say: *What is important for the student to know?*
See: *Show them how it is going to work, connect, and be relevant.*

Check for Understanding? Some instructors may wish to "check for understanding" after having dispensed the information. All you can really check for, at this point, is whether or not the students were present, appeared focused on what you presented, and were not distracted by any obvious interruptions (such as a late arrival, outside noise, a student's activity next to them). Since they are not required at this point to UNDERSTAND anything newly presented, then what you are really doing is verifying that the student had an opportunity to hear and see what you were presenting. Review the example below:

INPUT

When comparing unlike fractions you cannot compare the fractions directly because they have different denominators. This means that the "whole" part to which the fractions refer are different from one another. Therefore you must change them to reflect a common "whole." Review the information presented in the websites:

Help with Fractions:

http://www.helpwithfractions.com/math-homework-helper/least-common-denominator/

and **Learn Zillion**

https://learnzillion.com/lessonsets/220-compare-fractions-by-creating-common-denominators-or-numerators-2

Terms to emphasize:

1. Multiples & factoring
2. Primes
3. Least common denominator
4. Symbols >, =, or <
5. Visual fraction model
6. Number line/order

CFU: Confirm understanding of the terms by alternately throwing out a term or definition and asking "volunteers" to match them to the appropriate definition or term.

Modeling: Do (Teacher Driven)

MODELING is also just that---demonstrating the new skills, procedures, and processes, etc. which you expect the student to be able to DO when the lesson is over. However, MODELING is more than just a quick "once through." It is a systematic, step-by-step process where the teacher shows and explains what, how and why each step is taken. It is also "interactive" in that the instructor frequently CHECKS FOR UNDERSTANDING . When the majority of students indicate comprehension (more on how to CHECK FOR UNDERSTANDING later), the teacher moves onto the next step. If the majority of students do NOT indicate comprehension, it is imperative that the instructor STOP and back up to where the students last indicated comprehension. Sometimes, this requires only going back over the preliminary steps again and sometimes this requires the instructor to approach the information differently (see Scaffolding, Spiraling, REBAR). Either way, the instructor does not go forward until the majority of students are comfortable with the previous steps. Review the example below:

MODELING (TEACHER DRIVEN)

For each step in INPUT (1-6), demonstrate the process using multiple examples:

1. Listing Multiples
2. Primes
3. Least common denominator
4. Symbols >, =, or <
5. Visual fraction model
6. Number line/order

Examples for #1-3 are provided on the websites. Additional examples can be teacher made or taken from Foundations Mathematics pgs. 136 and Pre-GED Skill Workbooks Mathematics 2 p. 10

Examples for #4 are teacher made
#5 Visual fraction model:
http://www.visualfractions.com/worksheets/numeratoranddenominator/numeratoranddenominator.pdf
#6 Number line model:
http://www.mathisfun.com/numbers/fraction-number-line-html and teacher created number line

CFU: CHORAL RESPONSE

Guided Practice: Do (Student Driven)

GUIDED PRACTICE is also just that---practice for the students with a guide from the instructor. The students (generally as a class or group) are expected to "practice" the step or steps as modeled by the instructor with prompts, redirects or re-teaching (see Scaffolding, Spiraling, REBAR page _____) as needed from the instructor. Mastery is not yet expected as the students are still practicing the new skills and identifying those areas which need additional clarification. A CHECK FOR UNDERSTANDING insures that the students are, for the most part, beginning to perform, with assistance, most of the expected skills. Review example below:

GUIDED PRACTICE (STUDENT DRIVEN)

For each step in INPUT (1-6), ask student volunteers to solve for sample problems:

1. Listing Multiples
2. Primes
3. Least common denominator
4. Symbols >, =, or <
5. Visual fraction model
6. Number line/order

Use additional examples from the materials used in Guided Practice. Remind students to "talk" their way through aloud as they solve the samples for the benefits of other students.

CFU: Ask the "audience" to verify the answers and to "assist" student volunteers who get stumped.

Independent Practice: Do (Student Driven)

INDEPENDENT PRACTICE is often mistaken for independent student evaluation. The word "practice" is still important in that the students are presented with yet another opportunity for interaction which further identifies those areas needed for additional instruction by the teacher. The "supports" are removed temporarily as the students, individually or as a small group, work through the materials with no input from the teacher. The group strategy really allows for peer-to-peer tutoring and critical thinking as the students "talk through" solutions to the problems. The follow up CHECK FOR UNDERSTANDING reveals any final "gaps" in concept mastery and application. It is the final opportunity for students to raise questions about the materials before attempting to demonstrate mastery on his/her own.

INDEPENDENT PRACTICE [STUDENT(S) ONLY]

Groups: Break into groups of 3 or 4. Distribute teacher-made unlike fractions sheets. Ask students, as a group to go through steps 1-5 (show ALL work) in order to prepare the original fractions appropriately on the number line.

Individual: Each student in the group selects set of fractions and goes through steps 1-5 (show ALL work) and then explain his/her answer to the group in order to prepare the original fractions appropriately on the number line.

Groups display original fractions on number line. Be sure EACH student has an opportunity to post a fraction on the number line and is prepared to be "challenged."

CFU: As a class, verify answers. Allow students to "challenge" a fraction placement. Ask student volunteers to "remedy" and explain any wrong answers.

Closure: The Last Impression

Do you want your students to attach personal meaning and relevance to what they glean from your daily lessons? An effective "Closure" activity at the end of each class period can help with that objective, creating what psychologists call the *Recency Effect*, otherwise known as a last impression. Ideally, closure activities create powerful learning effects at the tail-end of the class, something that will reverberate for hours after the lesson is over, something a little sticky. The defining element of the closure activity is that which your students will soon come to realize: class isn't over until it has taken place. The bonus added-value factor, of course, is this: as they come to realize that the closure activity is an essential part of the overall lesson, your students are more likely to think twice before leaving early! Closure activities also help define the next session and the intended learning progression. As a deliberate part of your planning process, these activities summarize the current lesson, put it in context, and build anticipation for the next. Properly implemented, they will help you establish and maintain course momentum. Reinforcing what students have learned, closure activities also serve as an assessment tool with which to evaluate your students retention level—Did they get it?—as well as your own effectiveness. Look at the example below:

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Skill Builder Plan

CLOSURE

Grape Fraction Project*:* Divide class into three groups. Display Grapefruit cut into sections. Distribute the following products, one to each group:
Grapes
Box of raisins
Grapenut Flakes (in a box) and cups

As groups, compare ½, 1/3, 3/5 of each of the fruits to one another.

Ask the groups to create an (approximate) equivalent **portions** for:
½ grapefruit
1/3 grapefruit
3/5 grapefruit

Create equivalent fractions for the portions using grapefruit as the "whole."

Ask students to speculate, using the information above, as to why it is important to refer to the same "whole" when managing fractions. (Answer: A fraction refers to a portion of the whole but doesn't designate the size of the whole.)

Note: Just as with the Pre-Learning section, there is no "formal" assessment in closure. The object is to provide an opportunity for the students to "expand" or "apply" what they have learned today so as to solidify the lesson and to extend their understanding without limitations. If the information from closure is to be "formally" assessed at a later date, then the information will have be presented in a formal lesson and this exercise serves as an experience from which to build the pre-learning module for that next lesson.

- **The Outcome Sentences Strategy**

The Outcome Sentence strategy is an excellent way to show the student's grasp of learning and to give the student time to reflect about what he/she has learned. The teacher provides several sentence starters such as:
- o I was surprised that…
- o I have a question about…
- o I would still like to know more about…
- o I learned a great deal about…
- o Today, I understood…
- o I am still confused about…

The beauty of this strategy is that the teacher chooses the sentence starter that is appropriate for your class. Are you processing, reviewing, drawing closure, and creating interest in a new topic? Students can be given a "post-it" note for their response that they stick on the door as they leave class. *(From **A+ Teacher Handbook)***

- **Next Time We Meet Strategy**

The Next Time We Meet strategy is an excellent way to spark an interest in learning that will be following. The teacher closes class with a preview of tomorrow's learning that will be interesting to students. It is almost a commercial for the new learning. It may take the form of a statement like "Tomorrow, you will learn who was the only president in our history to never marry and why," or "When we meet again, we'll find out how learning about rock formation has made millions of dollars for some enterprising people." Your closure may be a question like "Would you like to learn how to how to reduce study time? Well, come to class tomorrow and find out how." The closure may be a challenge like "By the end of class tomorrow, you will know ten words in French that could help you out of a jam." (from Eric Jensen*, **Super Teaching,** p. 127)

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Skill Builder Plan

Evaluation/Assessment: Mastery (Individual Student Driven)

Not every lesson requires a demonstration of *individual* student mastery at the end. Often, a series of related sub-skills must be introduced prior to measuring the final skill during a subsequent lesson. While it is a good idea to access group progress during and after each lesson (CHECK FOR UNDERSTANDING), it is also important to periodically check for individual mastery if the skill series covers more than three or four lessons. Evaluations don't have to be formal but it does have to isolate the individual's progress. In addition, assessments may or may not specifically measure information or skill acquisition but may allow for inter- or intrapersonal skill observation and development (generally informal). Here are some examples of formal and informal Evaluations and Assessments which can be implemented effectively during and after skill instruction.

Types of Evaluations/Assessments and Potential Gains

Writing Samples/Journals: (Gains) Allows for personal reflection, Checks level of understanding for presented content or skill even for traditionally "non-writing" subjects, Allows for critical thinking application, Identifies areas for additional instruction, provides avenue for safe student feedback (formal/informal)

Demonstrations/Presentations: (Gains) Provides concrete application of presented content or skill, Checks level of understanding of presented content or skill. Provides public speaking practice, Allows for critical thinking application, Identifies areas for additional instruction Need, Peer Teaching (formal/informal)

Observations: (Gains) Offers visual cues reflecting student response to lesson structure or information, Allows students to interact with structure or information at his/her own pace and level of comfort (informal)

Projects/Portfolios: (Gains) Encourages self-directed learning, Creates an intersection for instruction and assessment, Provides cross-section of opportunities for multiple skill applications, Enlarges the view of what is learned, Fosters learning about learning, Demonstrates progress toward identified outcomes, Supports the students sense of accomplishment, Offers opportunities for peer-supported growth (formal/informal)

Rubrics/Checklist: (Gains) Provides clear expectations prior to performance, Allows for more objective and Consistent evaluation, Allows for skill- or application-targeted feedback (formal)

Interviews/Surveys: (Gains) Allows for immediate modification in order to successfully manage information retrieval, Allows for student-generated pacing and response types (informal)

Standardized/Teacher-made test: (Gains) Insures accountability for students and teachers, Can provide objective information to determine mastery level of information and skill, Establishes a standard expectation for all students (formal)

Graphic Organizer: (Gains) Graphic organizers can be used as powerful tools for probing and analyzing student thinking and learning. Appeals to visual, tactile, and read/write learners but may also serve well as a developmental tool for other learners (formal).

All/Choral Response: (Gains) Choral response is a good choice when all students will benefit from responding aloud and in unison, as when early childhood/primary and foreign language teachers ask students to repeat a new word or sound. Another possible example is when teachers want students to call out arithmetic facts in an effort to build computational proficiency and efficiency (informal).

To insure that the behavioral objectives have been measured throughout the lesson, checkmarks are placed in the boxes after each objective. Not only do they remind the instructor to account for them but they also serve as a quick reference point for program evaluators. The evaluations or assessments may come in the form of CFU's distributed throughout the lesson or as formal evaluations or assessments at the end of the lesson (but not written into the lesson as a part of "closure"). All objectives must be measured, whether formally or informally, and this is to be indicated in the E/A Checkboxes. If the evaluation/assessment is "informal," it should appear in the CFU sections. If the evaluation/assessment is "formal," meaning that the results will be collected and evaluated outside of the regular class instruction and may be used as a recorded "measurement" for success, then the type of _formal_ assessment/ evaluation is recorded in the EVALUATION/ ASSESSMENT TOOLS section of the template.

OBJECTIVE(S): TLWBAT	Behavioral Verb	Condition / Situation	Degree: How well?	E/A
1) Write a 3 paragraph essay to include a relevant topic sentence and three supporting details based on a topic selected from the teacher-made list to 90% accuracy				X

INDEPENDENT PRACTICE [STUDENT(S) ONLY]

Independent practice on sample essay #4.
As a group, debrief the essay asking why the student selected the topic sentence and supporting details to support the topic.

EVALUATION: The learner will write a 3 paragraph essay containing a topic sentence and three supporting details based on one topic selected from a teacher-generated list. The student will have 10 minutes and will turn in the essay for evaluation at the end of 10 minutes. Bonus points will be given if one of the vocabulary words on the board is used in the essay.

CFU: REVIEW REQUIREMENTS OF THE ESSAY/ASK VOLUNTEERS TO RESTATE

EVALUATION/ASSESSMENT TOOLS
- ☐ Observation
- ☐ Demonstration
- ☐ Presentation
- ☐ Project / Portfolio
- ☐ Interview
- ☐ Survey
- ☐ Journal
- X Writing Sample: 3 paragraph essay; Select from one of 3 topics
- ☐ Graphic Organizer
- ☐ All/Choral Response
- ☐ Rubric
- ☐ Checklist
- ☐ Standardized Test
- ☐ Teacher Made Test
- ☐ Other: _____
- ☐ Other: _____

For assistance in identifying and developing targeted pre-, formative, and summative assessments**, *Focus on Student Learning*** (2012) has developed three excellent instructional guides:

Book One: 50 Preassessment Strategies
http://gssdelementarymath.wikispaces.com/file/view/Book%20One.pdf/475347884/Book%20One.pdf

Book Two: 60 Formative Assessment Strategies*: http://andreahnatiukliteracycoach-goodspiritschooldivision.yolasite.com/resources/Book%20Two%20Natalie%20Regier.pdf*

Book Three: Summative Assessment-50 Ways to Gather Evidence of Student Learning
http://gssdelementarymath.wikispaces.com/file/view/Book+Three.pdf

Other Checklists in the Templates

Other checklists address different learner and teacher environments and interactions essential to crafting a rich, varied experience. Completing the information on these checklists is essential in creating future lessons and in sharing these lessons with other instructors. It also serves as a quick preview for the instructor creating the lessons to insure that a variety of strategies and tools are used over the course of the course, skill and instructional year. It also insures that accommodates are made to address the differentiated needs of the learners. Generally, all applicable information may be checked.

Types of Skill Builder

```
TYPE OF SKILL BUILDER
X Informational    X Developmental    X Application
☐ Drill/Review    ☐ Appreciation    ☐ Discovery
☐ Assessment    ☐ Event ☐ Other _____
```

1. The **informational lesson**; in which the immediate aim is to supply the mind with new knowledge or facts needed as a part of the equipment of thought and understanding.

2. The **developmental (or inductive) lesson**; in which the aim is to lead the student through his own investigation and thinking to use the information already in his possession as a basis for discovering new truth or meaning.

3. The **application (or deductive) lesson**; in which the aim is to make application of some general truth or lesson already known to particular problems or cases.

4. The **drill/review lesson**; in which the aim is to give readiness and skill in fundamental facts or material that should be so well known as to be practically automatic in thought or memory.

5. The **appreciation lesson**; in which the aim is to create a response of warmth and interest toward, or appreciation of, a person, object, situation, or the material studied.

6. The **discovery lesson**; in which the aim is to allow maximum student interaction with the information prior to a formal presentation of the skills and concepts in order that the students engage personal inquiry, spontaneity and other pre-existing skills to a subject.

7. The **assessment lesson**; in which the aim is formally measured, for each individual student, the behavioral objectives for that lesson or for a series of lessons.

8. The **event lesson**; in which the aim is to provide opportunities for social and/or other non-formalized instructional interaction, often including non-class participants such as families or the general public.

9. The other **lesson**; in which the aim is to provide formal or informal instruction via a method not described above.

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Skill Builder Plan

Instructional Setting

```
INSTRUCTIONAL SETTING
X Whole Class    ☐ Team  X Group  ☐ Pair
☐ Individual     ☐ Other:_____
```

1. **Whole Class**: Presentation according to the needs of a newly introduced concept or skill; ex: generally the first time information is presented to the students.

2. **Team**: Presentation according to the needs of an assignment which may include students at different developmental or skill levels; ex: science experiment, themed project, or multi-part presentation or game

3. **Group:** Presentation according to the needs of several students grouped according to similar developmental or skill level; ex: reading or math group.

4. **Pair:** Presentation according to the needs of paired students often engaging in a peer-to-peer teaching environment; ex: an advanced student teaching a less advanced student, or two similarly leveled students working through the same level of materials as support.

5. **Individual:** Presentation according to the specific needs of a single student; ex: one-one tutoring.

6. **Other:** Presentation which does not fall within the categories described above.

Teaching Methods in Education http://www.buzzle.com/articles/teaching-methods-in-education.html

```
TEACHING METHODS
☐ Questions    X Explanation   X Demonstration
X Collaboration ☐ Multimedia   ☐ Discovery
☐ Other:_____
```

1. **Questions:** Interactive questions to bring students to answers or conclusions, or to teach students the value of questions and questioning (Costa's and Socratic Inquiry).

2. **Explanation:** Explanations are accompanied by examples to promote introduction to or better understanding of a topic/concept. Generally, the "default" method of teaching; however, it is not as effective as other methods for most students.

3. **Demonstration**: Enhancing student understanding through practical applications via visual, auditory, tactual and kinesthetic products and activities. May be provided through teacher, multimedia, student volunteer, or guest presenter sources.

4. **Collaborative (or Peer) Teaching**: A group/paired instructional setting which develops cooperation, utilizing various strengths of individual students, encourages high order thinking and motivates learning.

5. **Multimedia**: Using technology as well as "hands-on" artifacts and resources make teaching more interesting and more productive for the students.

6. **Discovery:** Not to be confused with discovery "learning," it is the teacher which "guides" the students through the lesson by demonstrating appropriate "discovery" strategies.

7. **Other:** As new methods are discovered and incorporated, new teaching methods can be added here.

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Skill Builder Plan

Descriptions of Learning Styles (Modalities)

LEARNING STYLES
X Visual   X Auditory
X Kinesthetic/Tactile   ☐ Read / Write
☐ Other:_____   ☐ Other:_____

Visual	Kinesthetic/Tactile (Hands-on)	Auditory	Read/Write
Picture	Gestures	Listening	Note-taking
Drawings	Touching	Sounds Patterns	Re-reading
Shape	Body Movements	Rhythms	Organizing
Sculpture	Object Manipulation	Tone	List-making
Paintings	Positioning	Chants	Rewriting

Note: There are a number of other learning style measuring tools which have not been accounted for here. List these in the "other" area.

Learning Styles Evaluations:
http://www.educationplanner.org/students/self-assessments/learning-styles.shtml
http://vark-learn.com/the-vark-questionnaire/
https://www.engr.ncsu.edu/learningstyles/ilsweb.html
http://www.personal.psu.edu/bxb11/LSI/LSI.htm

Multiple Intelligences:
http://www.edutopia.org/multiple-intelligences-assessment
http://www.literacynet.org/mi/assessment/findyourstrengths.html
http://www.bgfl.org/bgfl/custom/resources_ftp/client_ftp/ks3/ict/multiple_int/index.htm
http://www.businessballs.com/howardgardnermultipleintelligences.htm

Warning: At the time of publishing, the resources above were free, subject to change.

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Skill Builder Plan

Computer/A.V. Equipment/ Digital Resources/ Other Resources

It is important to identify the "equipment and resources" required for each lesson and the steps in the lesson in order to prepare adequately and to insure flow of the lesson. It also facilitates "duplication" which is vital when building a curriculum for your program. ALL materials to be used in the lesson should be listed here.

```
COMPUTER/ A.V. EQUIPMENT
 X  Computer (D or L)      X  USB Port/USB Drive     X Internet Connection
 [ ] CD/DVD Play/Rec       [ ] Printer               [ ] Scanner/Doc. Camera
 [ ] Speakers/ Mic / PA    X  Digital Camera (P or V) [ ] White/Chalk Board
 X   LCD Projector/Screen  [ ] Other: _____    [ ] Other:_____
DIGITAL RESOURCES
 [ ] Software (Word, Excel, PowerPoint, Publisher, etc.) _____
 [ ] Database: _____
 [ ] DVD/Video: _____
 X  Websites Wiki How http://www.wikihow.com/Find-the-Least-Common-Denominator
Help with Fractions:
http://www.helpwithfractions.com/math-homework-helper/least-common-denominator/
and Learn Zillion
https://learnzillion.com/lessonsets/220-compare-fractions-by-creating-common-
denominators-or-numerators-2
Fractional Clothesline http://illuminations.nctm.org/Lesson.aspx?id=2867
Visual fraction model:
http://www.visualfractions.com/worksheets/numeratoranddenominator/numeratorandden
ominator.pdf
Number line model:  http://www.mathisfun.com/numbers/fraction-number-line-html
OTHER RESOURCES
 X  Print Contemporary Foundations Math p. 136
 X  Print NRP Pre-Skill Workbook Mathematics 2 p. 10-11
 [ ] Periodical _____
 [ ] Teacher-made Number Dating Game, Timeline Clothesline, Grape Fraction
Game,
 [ ] Student-made Visual Fraction Model
 [ ] Other _____
SKILL BUILDER EVALUATION (Rate 1-5; 5 as excellent, 1 as unsatisfactory)
```

Computer Lab Assignment/Extended Assignment/Skill Builder Evaluation/Notes

COMPUTER LAB ASSIGNMENT (OPTIONAL)

Students will work on assignment during lab

Fractions Booster Activity

http://www.bgfl.org/bgfl/custom/resources_ftp/client_ftp/ks2/maths/fractions/level4.htm

EXTENDED ASSIGNMENT (OPTIONAL)

NONE

SKILL BUILDER EVALUATION (Rate 1-5; 5 as excellent, 1 as unsatisfactory)

5   Ease of presentation of information.

3   Ease of information acquisition and application by students.

4   Did the SKILL BUILDER meet the stated objectives/standards?

5   Can the SKILL BUILDER be readily and satisfactorily duplicated?

 X Comments: I am not sure if the Closure Activity was sufficiently managed to satisfy the objective "Recognize that comparisons are valid only when the two fractions refer to the same whole." I will follow this up in a forthcoming lesson.

NOTES

For several new students, I will have to set up a review of fraction basics between now and the next math class.

If there is a lab activity for the computer which reinforces the skill or skills introduced today, you can record it in the **COMPUTER LAB ASSIGNMENT** section. If there is an activity which the student will be expected to complete which EXTENDS the presented assignment (such as practice questions, a journal entry, collecting data) and which must be completed before the next related session (next math class for example), then you would record the assignment in the EXTENDED ASSIGNMENT section.

SHREVE GED ACADEMY
Skill Builder Plan

The **SKILL BUILDER EVALUATION** rates the application of the lesson by the instructor. This serves as a teacher-driven assessment of how well this Skill Builder worked in actual practice. It provides an opportunity for comments which may influence how the instructor will/may present the information the next time the lesson is presented. It may be that the entire Skill Builder needs to be revamped and this is where the comments are essential.

NOTES allows for that information which the instructor wants to remember which may/may not DIRECTLY influence the next time he/she teaches the lesson but certainly NEEDS to note for student/class success.

Three additional sections, **DATES IMPLEMENTED** and **# of MINUTES** and the **SUBMISSION** portion are not to be ignored.

SHREVE GED ACADEMY SKILL BUILDER

Subject:MATHEMATICS Unit MATHEMATICS REASONING Topic:QUANTITATIVE PROBLEM SOLVING WITH RATIONAL NUMBERS Targeted Skill:APPLY NUMBER SENSE CONCEPTS TO RATIONAL NUMBERS

Level __**X**___ 4-6 __**X**__ 7-9 _____ 10-12 _____ Fast Track   Contributor(s) DEBRA KAVANAUGH

| DATES IMPLEMENTED: | 1-5-2015 | | | | # OF MINUTES: | 90 | | | | |

_____ Copy submitted to Adult Education Department Coordinator _____ Copy filed at_____Branch Shreve Memorial Library

Tracking your dates insures that you "recycle" skills to new learners AND do not repeat a lesson "too" soon as to bore your students. Theoretically, a lesson should not be repeated to the same set of students within a year while repeating the same skills while using different materials and strategies is an excellent technique.

Tracking the number of minutes (added AFTER the lesson has been implemented) helps the creating instructor get the "feel" of how long a lesson takes and assists other instructors, who wish to implement it, carve out an appropriate amount of time. For our Adult Education students, 90 minutes is the maximum of time in which to teach a skill or skill set. If it takes longer, it indicates that there are too many skills introduced. If it takes shorter than 90 minutes, it may mean that not enough skills were included or that additional lessons should be taught upon completion.

The bottom line is that the Skill Builder Template not only creates a tool in which to "capture" the essence of a lesson, but also serves as an excellent source of feedback for the creating instructor and future instructors.

Skill Builders are created for the Assessment Target until all possible behavioral objectives have been addressed. All related Skill Builders (those referring to a specific Assessment Target) should be housed together according to the SUBJECT/UNIT/TOPIC/TARGETED SKILL/LEVEL. This practice will insure Skill Builders have been developed which will afford learners ample and expansive opportunities to master the necessary skills according to the Assessment Target. This may mean that, over time, the folder (physical and desktop) housing those related Skill Builders may get larger, especially when they are "modified" with each subsequent application (due to student level, resource, or other factor changes). By periodically reviewing the folders, outdated or unworkable plans will be culled and only the "best" Skill Builders will remain available for use.

SHREVE GED ACADEMY
Skill Builder Plan

Scaffolding: Building a Sound Learning Structure

Scaffolding is <u>breaking up the learning into chunks</u> and then **providing a tool, or structure, with each chunk**.

Breaking up isn't hard to do!

<u>Breaking up the learning into chunks:</u> What does the student need to know/have/do in order to complete the larger, more complex task?

Activity: Take a task…any task…and identify each and every component included in that task.

Sample tasks: Making an appointment, taking your car to the shop, returning a sweater to a department store, reconciling your checkbook, wiring money to your daughter in Turkey.

1. What skills/abilities are required to successfully complete this task given that the student has never engaged in the activity prior to today?
2. What resources/tools are required to successfully provide the necessary information the student will need in conjunction with the skills?
3. What conditions/situations are required to successfully support the application of skills to resources and resources to skills in order to complete the task?
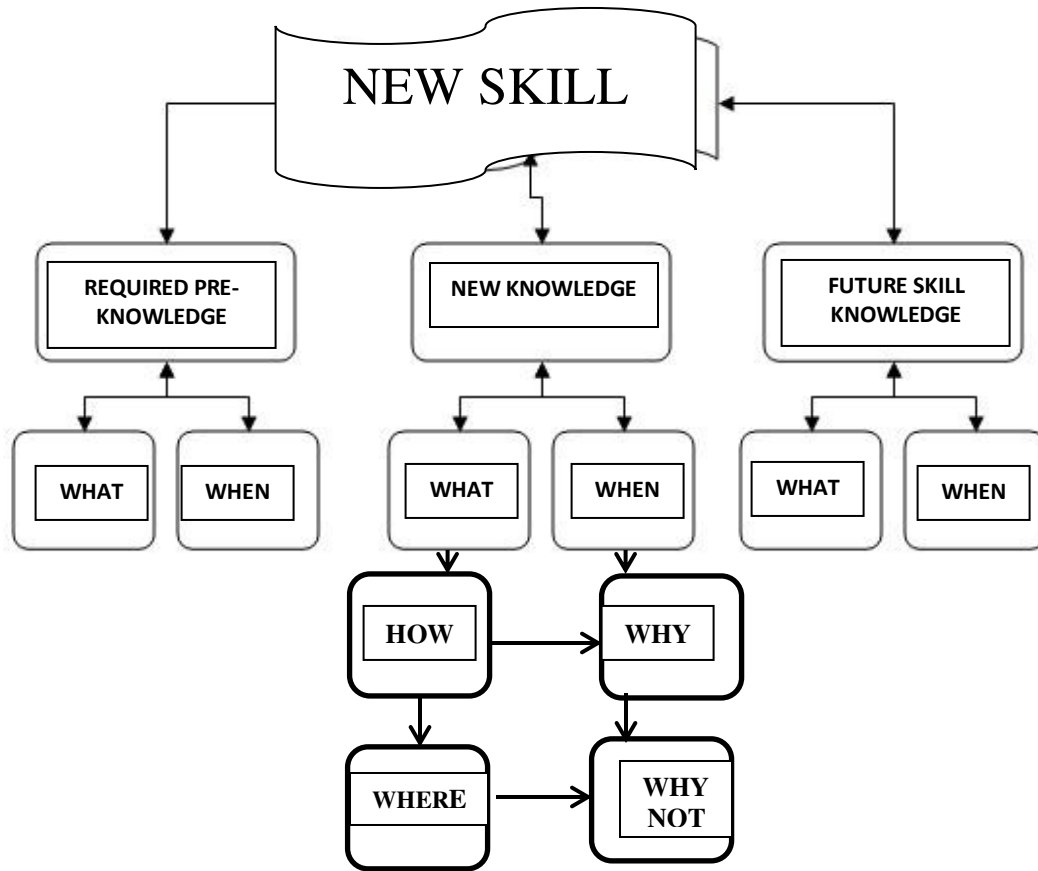
Complete the activity using the following graphic organizer:

Skills/Abilities	Resources/Tools	Conditions/Situations

SHREVE GED ACADEMY
Skill Builder Plan

Scaffolding A Skill Model

NEW SKILL

REQUIRED PRE-KNOWLEDGE	NEW KNOWLEDGE	FUTURE SKILL KNOWLEDGE

WHAT	WHEN	WHAT	WHEN	WHAT	WHEN

HOW → WHY

WHERE → WHY NOT

Pre-knowledge: What does the person need to know/ be able to do before attempting the new skill? When do you apply the pre-knowledge toward the new skill?

CFU, Anticipatory Set, Previous Lesson Review, KWL

New knowledge: What will the person need to know/be able to do by the time the lesson is over? When will the person apply the new skill? How will the person apply the new skill? Where will the new skill be applied? Why will the person apply the new skill? Why, when, how, where is the skill NOT applied?

*About 100 different teaching/instructional strategies*

Future skill knowledge: What does the person need to know about the new knowledge that will apply to another skill in the future? When will the person apply the new knowledge for to a future skill?

Closure, Transition to new lesson, Pre-Learning

SHREVE GED ACADEMY
Skill Builder Plan

Scaffolding a Skill Blank Template
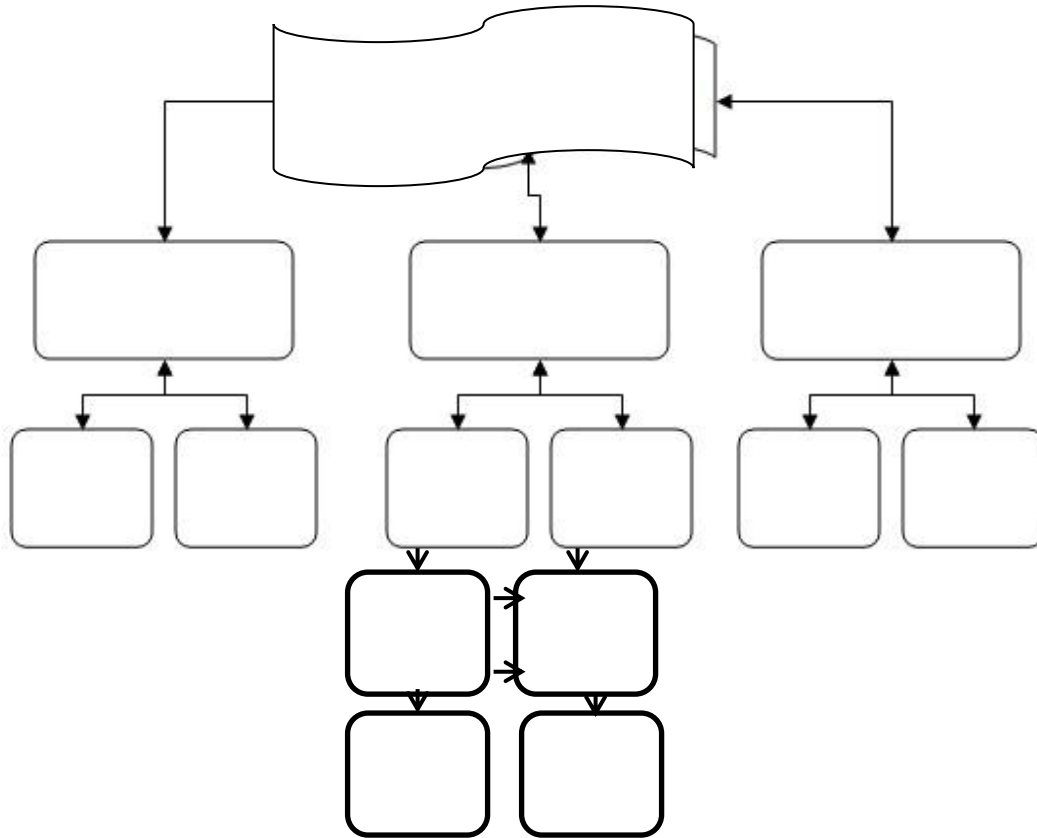
What Can I Do To Answer Yes?

Closure: Review and Expectations
    What statement/activity/feedback can I create which will allow students to KNOW what was presented, how it was used, how it is applicable, and how it might be applicable in the future or in another condition?
Type of Assessment: Measuring Environment
    Is it a valid measurement?
    Is it standardized?
    Will be it be the standard to which the student must be able to perform?
    Will the conditions provided offer student have an equal/fair opportunity to be successful as would another student?
Performance Objective: Behavior, Conditions, Standards
    What skills/knowledge will the student need to have mastered?
    How well does the student need to show mastery?
    In what format/condition will the student need to perform?
Guided and Independent Practice Standards: Measurable
    How do I create an activity which measures comprehensive, competence, or mastery?
    How do I create an activity which measure comprehensive, competence, or mastery accurately?
    How does the activity measure comprehensive, competence, or mastery fairly?

SHREVE GED ACADEMY
Skill Builder Plan

Independent Practice Conditions: Student driven performance
> Can the student achieve the performance objective without assistance?
> Can the student achieve the performance objective given assessment conditions without assistance?
> Can the student apply the same skills to a different set of problems?
> Can the student correctly apply the same skills to a different set of problems?

Guided Practice Conditions: Student driven performance
> Can the student achieve the performance objective with assistance?
> Can the student achieve the performance objective given assessment conditions with assistance?
> Can the student apply the same skills to a different set of problems with assistance?
> Can the student correctly apply the same skills to a different set of problems with assistance?

Level 1: **PLANNED SKILL BUILDING ACTIVITIES** *(Learning Modalities, Instructional Strategies, Scaffolding, Physical Arrangement and locations, Classroom Climate, Check for understanding,)* Teacher driven activities
> In what ways can I offer sufficient learning modality opportunities?
> In what ways can I offer a variety of instructional strategies to make the information interesting, memorable, and accessible?
> In what ways can I properly scaffold the instruction and modeling to facilitate effective, efficient learning?
> In what ways can I arrange the classroom to accommodate various instruction strategies?
> Where else could I conduct my class?
> In what ways can I arrange the classroom to facilitate student interaction?
> In what ways can I check for understanding?
> In what ways can I offer frequent opportunities for student input regarding information, instruction, etc.?

Level 2: **FLEXIBLE STUDENT BUILDING ACTIVITIES** *(Check for understanding, re-teaching, regrouping, making accommodations, group/peer tutoring, and encouraging independence)* Student response activities
> In what ways can I encourage students to ask questions, respond to CFU, etc.?
> In what ways can I re-teach/re-demonstrate the concepts to facilitate student understanding?
> In what ways can I revise or redirect the instruction/class so as to support student achievement and not draw attention to slow progress or a different direction?
> In what ways can I arrange the classroom to accommodate various instruction strategies without calling undo attention to the accommodations?
> In what ways can I organize peer tutoring or group projects so as to maximize cooperative learning and positive social interaction?
> In what ways can I encourage independence, especially for those students who are hesitate or afraid of failure?
> In what ways can I encourage student participation in offering feedback regarding information, instruction, etc.?

Pre-Learning, Input, Modeling Information: Teacher Generated Modules
> How can I help my learner's transition from their day to be ready for today's instruction?
> How can I motivate my learner's for the upcoming instruction?
> How can I set the expectation for the upcoming information by connecting it with real life?
> How can I provide introductory information which was relevant to the skill/content to be introduced?
> How can I offer sufficient learning modality opportunities?
> How can I offer a variety of instructional strategies to make the information accessible?
> How can I select content which will be enjoyable, meaningful and applicable?

How can I offer a demonstration which directly relevant to the information presented and the desired skill application?

How can I demonstrate what the process is?

How can I demonstrate the process thoroughly?

How can I demonstrate why the process is useful?

How can I demonstrate the conditions needed in order for the demonstrated process to work successfully?

How can I present/review the various steps and emphasize the order?

How can I demonstrate the larger implications of this process (is it part of another process? how do you recognize when to apply this process?)

Modeling Conditions: Teacher driven performance

Have I demonstrated it in such a way that most students in the class will understand what it is I am doing?

Have I broken down and demonstrated each skill individually so as to check for understanding at each part?

Have I provided additional opportunities for those students who are struggling with the concepts or applications?

Input Conditions: Teacher driven information

Did I present sufficient information to successfully introduce the skill/content?

Am I presenting this information in such a way that most students in the class will be able to understand what it is I am saying?

Is the information directly relevant to the skill/content the student will need to mastery for the assessment?

Did I explain what the content/process is?

Did I explain why the content/process is useful?

Did I explain the conditions needed in order for the demonstrated content/process to work successfully?

Did I present/review the various steps and emphasize the order?

Have I broken down and explained each required skill individually so as to check for understanding at each part?

Did I explain the larger implications of this process (is it part of another process? how do you recognize when to apply this process?)

Have I provided additional opportunities for those students who are struggling with the concepts or applications?

Pre-Learning Conditions:

Did I keep the pre-learning module relatively short as compared to the input, modeling, etc.

Did I demonstrate the relevance of the pre-learning module to the rest of the skill building?

Did the activity facilitate the transition, motivate or set the expectation to the rest of skill building appropriately?

Did I use something new or different rather than rely on the same old strategy I always use?

Did I offer opportunities for student input regarding the activity?

RESULTS/SETUP: Teacher Preparation

Instructional Setting:

What type of instruction setting will best meet the objective, conditions, and standards as outline above?

Type of Instruction:

What type of overall instruction (skill builder, lesson) does this lesson best represent?

Teaching Methods/Learning Styles:

What teaching methods (including learning styles) are represented in the activities?

Resources:

What resources will I need to purchase, prepare or access in order to smoothly and effectively implement the lesson?

Learning Objective:

Does the learning objective match assessment expectation?

Does the learning objective clearly and simply define a curriculum standard?

Does the learning objective state what is expected behaviorally, in what condition and to what degree of success?

SKILL BUILDER EVALUATION:

Use this section to evaluation the skill builder after delivery. Use it to modify your instructional plan next time.

Using Backward Design is the 21st Century effort to make learning more accessible and more "real" for our students. Here are a few websites which might further explain and provide examples of backward design for the classroom.

Backwards Design *(http://cou.on.ca/news/commentary---events/events/symposium-on-learning-outcomes-2013/m-savage_s-drake_backwards-design---from-outcomes-)*

Backward Design-Lesson Planning on Pinterest *http://www.pinterest.com/klabuhna/backward-design-lesson-planning/*

Traditional Model to Backwards Design Model *(http://www.slideshare.net/kiabroussard/backwards-design-33148848)*

Understanding by Design - 21st Century School Teacher
(www.21stcenturyschoolteacher.com/uploads/.../ubdallenparishfinal2.ppt..).

SHREVE GED ACADEMY
Skill Builder Plan

Unpacking the Pre-Knowledge Bag!

<u>Tap into Pre-Knowledge</u>: Students don't enter the classroom as a blank slate. With what 'knowledge baggage" did the student arrive?

Activity: Discover what the students already know. Help them "tap" into their own experiences, hunches, and ideas about the content or concept of study and have them relate and connect it to their own lives. Help them identify what skills they already possess as it is directly related to the identified task or as it is related to a similar task. Help them identify any misconceptions they may have which may hinder their successful acquisition and implementation of today's lesson. Sometimes you may have to offer hints and suggestions, leading them to the connections a bit, but once they get there, they will grasp it as their own.

1. ***Background Knowledge Probe:*** Open the class by preparing two or three open-ended questions or ten to twenty multiple-choice questions that probe students' existing knowledge of that concept. As soon as possible, report the results and explain how those results will affect your role as teacher ("I will be introducing the process of using multiplication and division to arrive at math problem answers faster") and what they need to do as learners ("You will build upon your knowledge of the adding and subtracting processes to apply multiplication and division in order to arrive at math problem answers faster").

Example: Check all that apply

Find a common denominator:

_____Have never heard of this.
_____Have heard of this but don't really know how to use it.
_____ Have some idea of how to use it, but not too well.
_____Have a clear idea of how to use it and have some experience with it.

Shakespeare

_____ Have never heard of this person.
_____ Have heard of this person but I don't really know who he or she is.
_____ Have some idea of this person but have had no contact with him/her
_____ Have a clear idea of who this person is.
_____ Have a clear idea of who this person is and have had contact with him/her

Information Literacy

_____ Have never heard of this concept.
_____ Have heard this phrase but don't really know what it means
_____ Have some idea of what it means but not too clear
_____ Have a clear idea of this idea of what this is and can explain

SHREVE GED ACADEMY
Skill Builder Plan

2. *Misconception/preconception check*. Identify some of the most common misconceptions about concept/skill. Activities such as a brainstorm mind-map will solicit information. Help the students identify patterns by "grouping" student answers into categories on the map. Manage "misconceptions" by assigning the terms/concepts as a source of extended learning (computer lab) research. KEEP THE ORIGINAL MINDMAP for later use. Example:

Terrorists

Who

What

Legislation

Immigration in the U.S.

Why

Where

How

Mexican Boarders
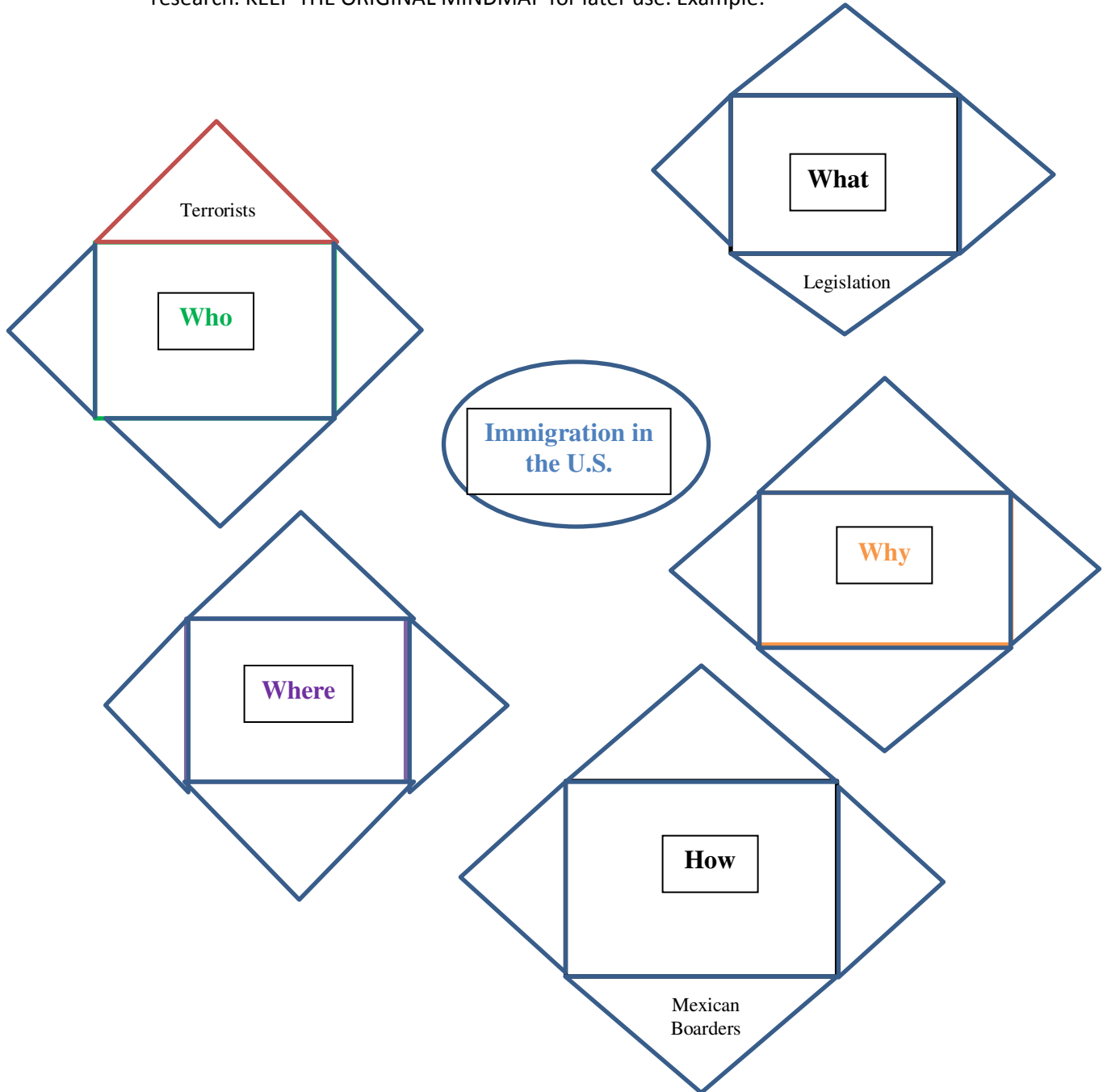
As students respond, place their answers according to the preconceived guide (above). NO answer is wrong; students will "verify" information as part of instruction process. Systematically, refer to chart as new information is introduced.

Tool Time!

Providing a tool, or structure, with each chunk: What tools can you provide the student in order to acquire/apply the desired skills to complete the larger, more complex task?

Precursors:

Pre-Teach Vocabulary: Sometimes referred to as **frontloading vocabulary**, this is a strategy that teachers don't use enough. Many are guilty of sending students all alone down the bumpy, muddy path known as Challenging Text -- a road booby trapped with difficult vocabulary. We send them ill-prepared and then we are often shocked when they: a) lose interest b) create a ruckus c) fall asleep. Pre-teaching vocabulary doesn't mean pulling a dozen words from the chapter and having students look up definitions and write them out (we all know how this will go. Again, see above a, b, and c). Instead, introduce the words in photos, and in context to things they know and are interested in. Use analogies, metaphors and invite students to create a symbol or drawing for each word and give time for discussion of the words (small and whole groups). Not until they've done all this should the dictionaries come out. And the dictionaries will be used only to compare with those definitions they've already discovered on their own. With the dozen or so words "frontloaded," students are ready, you as their guide, to tackle that challenging text.

Use Visual Aids: Graphic organizers, pictures, and charts can all serve as scaffolding tools. Graphic organizers are very specific in that they help kids visually represent their ideas, organize information, and grasp concepts such as sequencing and cause and effect. A graphic organizer shouldn't be The Product, but rather it's a scaffolding tool that helps guide and shape the student's thinking so that they can apply it. Some students can dive right into the discussion, or writing an essay, or synthesizing several different hypotheses without using a graphic organizer of some sort, but many of our students benefit from using them with a difficult reading or challenging new information. Think of graphic organizers as training wheels; they are temporary and meant to be removed. **However, the BEST graphic organizer is the one the STUDENT creates.** Either pass-out individual graphic organizer templates with all the components ready to be "assembled," or divide class into groups to create a poster-size graphic organizer. Student work has so much more meaning and impact that "ready-made" AND the students actually begin to "acquire" the information on the graphic organizer faster by "handling" the information.

Review/reteach "prerequisite" skills. Team Relays, "work-around-the-room" (SAME problem/subject questions which are simultaneously passed around the room until all worksheets are completed!), Skill Review Stations, etc., all followed by a quick reinforcement of those skills most missed by the class. Ask for volunteers to "reteach" the skill.

Demonstrate or show the __finished__ product. How many of us say that we learn best by seeing something rather than hearing about it? Demonstrating or showing the finished product for students is a cornerstone of scaffolding in my experience. Have you ever interrupted someone with "just show me!" while they were in the middle of explaining to you how to do something? Every chance you have, let students "see" exactly what they are expected to do, know, experience. When used appropriately (and not as an "instructional tool"), a video clip can present the big picture, provide an impressive experience, and set up the necessary anticipation for

the bulk of the lesson. However, don't substitute this for the step-by-step modeling incorporated as part of the larger instructional process.

Activity: Identify what <u>precursor</u> tools might be useful for the activities on page 1, 2, 3**. Generally, precursor activities are employed during the <u>PRE-LEARNING</u> portion of the lesson. *Applied:* After establishing a "foundation" or precursor, the new skill can be introduced and **applied**. Application requires that 1) the new skills are systematically taught and 2) the environment provides adequate time and resources for acquisition, application and practice of the new skill. Rarely does the introduction of a skill require MASTERY at the end of an instructional session; therefore, a skill often enjoys several "stages" or levels of instruction. For example, when introducing subtraction of whole numbers, the student may experience the following levels of instruction over the course of several separate sessions.

Session 1: Skill Introduction, Development and Application

Precursor: a) Review of whole number properties; b) Review place value, c) Review of addition function and operation

New Skill Input: a) Present <u>concept</u> and <u>function</u> of subtraction of whole numbers; b) Present <u>operation</u> of subtraction of 3 place whole numbers; c) Present ways to write <u>same</u> operation using <u>different</u> forms/symbols d) Regrouping [Notice: This portion of the lesson presumes that the learners are **ready** to learn new materials/skills, a new application, an extension of an application, or is reviewing in order to meet the requirements for an assessment. The input covers something **<u>new</u>**. (An assessment, standardized, independent and generally timed, is a new application of previously learned skills.) **We call this new information INPUT.** Tools: a) Present vocabulary of subtraction; b) Present symbols of subtraction c) Present regrouping

A tool differs from skill in that it ASSISTS in facilitation, acquisition, and application of the skill. The word "minus" is a tool because it communicates the operation and the symbol signifying that operation. The word "minuend" is a tool because it identifies which number (the number from which another is to be subtracted). The subtrahend is the number to be subtracted from the minuend. The difference is the result of subtracting the subtrahend from the minuend. And so on. The vocabulary itself has little relevance outside of a subtraction equation.

Can a tool also serve as a skill? Of course. If the word "minuend" is to be tested as vocabulary or on a word list for a spelling bee, then the word becomes part of a skill ("defining or spelling the word minuend"). It all depends upon the context in which you wish to evaluate or assess the learner. **So tools and skills are interchangeable depending on their context**.
Skill Level 1: Armed with the necessary precursors and the tools, the **rudimentary** skill (subtraction of single place whole numbers, no regrouping) is presented.

Modeled (Instructor-driven Physical-, Audio (think-aloud)-, Visual- Demonstration of a portion of the skill. Not to be confused with MODELING in the Pre-Learning Module. Think demonstrating the subtraction of single place whole numbers with no regrouping as opposed to complete task of a 3 place subtraction problem with

regrouping. The first is skill modeling; the second is completed task modeling. NOTE: A terrific CFU for modeling is to pause between steps and to allow the students to call out the next step before you proceed).

Guided Practice (Whole class-driven Demonstration a portion of the skill. Class can instruct the instructor through the process, or may volunteer to demonstrate desired skill. NOTE: Students call out or work problems with teacher assistance only as needed. A terrific CFU is to allow a student volunteer to work the problem for all and the students call out any corrections.

 Independent Practice (Small group- or individual-driven Demonstration a portion of the skill. NOTE: Students are the LEADER(S) in this activity. The instructor can circulate and offer some suggestions. However, IF THE TEACHER INTERVENTION BECOMES A ONE-ONE INSTRUCTIONAL SESSION, THE STUDENTS ARE NOT READY FOR INDEPENDENT PRACTICE. Return to Model/Guided Practice before engaging another Independent Practice. A terrific CFU is to ask each student to "explain and demonstrate" the desired portion of the skill to another student(s). If the student does not correctly apply the skill set, the other students should serve to correct him/her.

Further NOTE: Some students will NOT exhibit success during Independent Practice. If the majority of the class exhibits success, then you have been successful for that session. Pull those students who still exhibit challenges and create a brief "before or after" class session to identify and work through their individual concerns. It may be that the student's precursor skills are not strong enough or even an unrelated issue (visual/auditory impairment, etc.)

Skill Level 2: Including another component to the rudimentary skill (subtraction of two place whole numbers, no regrouping) is presented. Modeled, Guided Practice, Independent Practice (See above)

Skill Level 3: Including additional components to the rudimentary skill (subtraction of two place whole numbers, **regrouping [Notice regrouping is a skill AND a tool]**) is presented. Modeled, Guided Practice, Independent Practice (See above)

Session 2: Skill Review, Development, Application

Precursor: a) Review of subtraction function and concept, b) review of regrouping to two place whole numbers Modeled, Guided Practice, Independent Practice (See above)

Skill Level 4: Including additional components to the rudimentary skill (subtraction of three place whole numbers, regrouping) Modeled, Guided Practice, Independent Practice (See above)

Skill Level 5: Independently working ten 3 place whole numbers with regrouping with 80% accuracy rework incorrect problems.

Session 3: Formal Application for Evaluation or Assessment

 Skill Level 5: Independently working ten 3 place whole numbers with regrouping with 80% accuracy for grade.
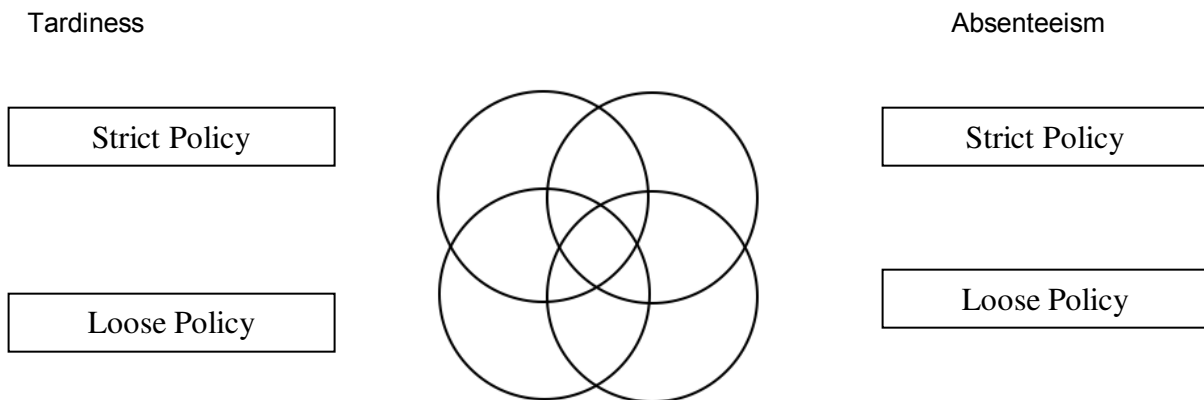
SHREVE GED ACADEMY
Skill Builder Plan

Activity 1: Did you notice a pattern? **Yes, the Skill Builder Template is designed to "scaffold" the learning of a skill in a logical/sequential order with ample time for learner acquisition and practice opportunities.** Apply 1 skill identified from the activity on page 1 to the Skill Builder Template and "scaffold" that skill appropriately for an adult learner classroom using the demonstration above. You need not write it as thoroughly as you will for the Skill Builder Template; just present the steps to scaffold the skill.

Activity 2: As a group answer these questions: WHY DO YOU THINK SCAFFOLDING IS A KEY STRATEGY FOR TEACHING LEARNERS OF ANY AGE? WHY DO YOU THINK SCAFFOLDING IS A KEY STRATEGY FOR TEACHING ADULT LEARNERS IN PARTICULAR? (Hint: Reinforcement; time management)

Environment: Setting the Stage for Maximized Skill Acquisition!

The best strategy must be applied in the appropriate setting. Flying a kite in a rainstorm will not provide the best "arena" to demonstrate kite flying skills. (It may provide an impressive electricity gathering skill demonstration but if you not assessing for that skill, it becomes an "unintentional" learning moment.) Environment includes: student learning styles, instructor teaching styles, classroom conditions including resources and temperature, interruptions and extraneous noise, tardiness and absenteeism, length and time of class and sufficient opportunities to apply the new skills. Some conditions we can control or manipulate, such as providing various learning style opportunities to accommodate a variety of learners, varying instructor styles and resources to offer energized, creative experiences, insuring that resources are available and working prior to instructional time, keeping the temperature in a comfortable zone, limiting interruptions and making others aware that your class is in session, limiting tardiness and absenteeism by making students accountable, and modifying the length of your lessons or the time of day you host your classes to facilitate student schedules. You can also include a variety of formats for skill practice and assessment.

Activity 1: Tardiness and absenteeism continues to be a challenge. Host a discussion as to the advantages and disadvantages of hosting "loose" or "strict" policies regarding each. Use the tool below as a guide.

Tardiness   Absenteeism

Strict Policy		Strict Policy
Loose Policy		Loose Policy

Activity 1: Based on your group discussion, what course of action for the Shreve GED Academy seems to be best. List at least 3 reasons why.
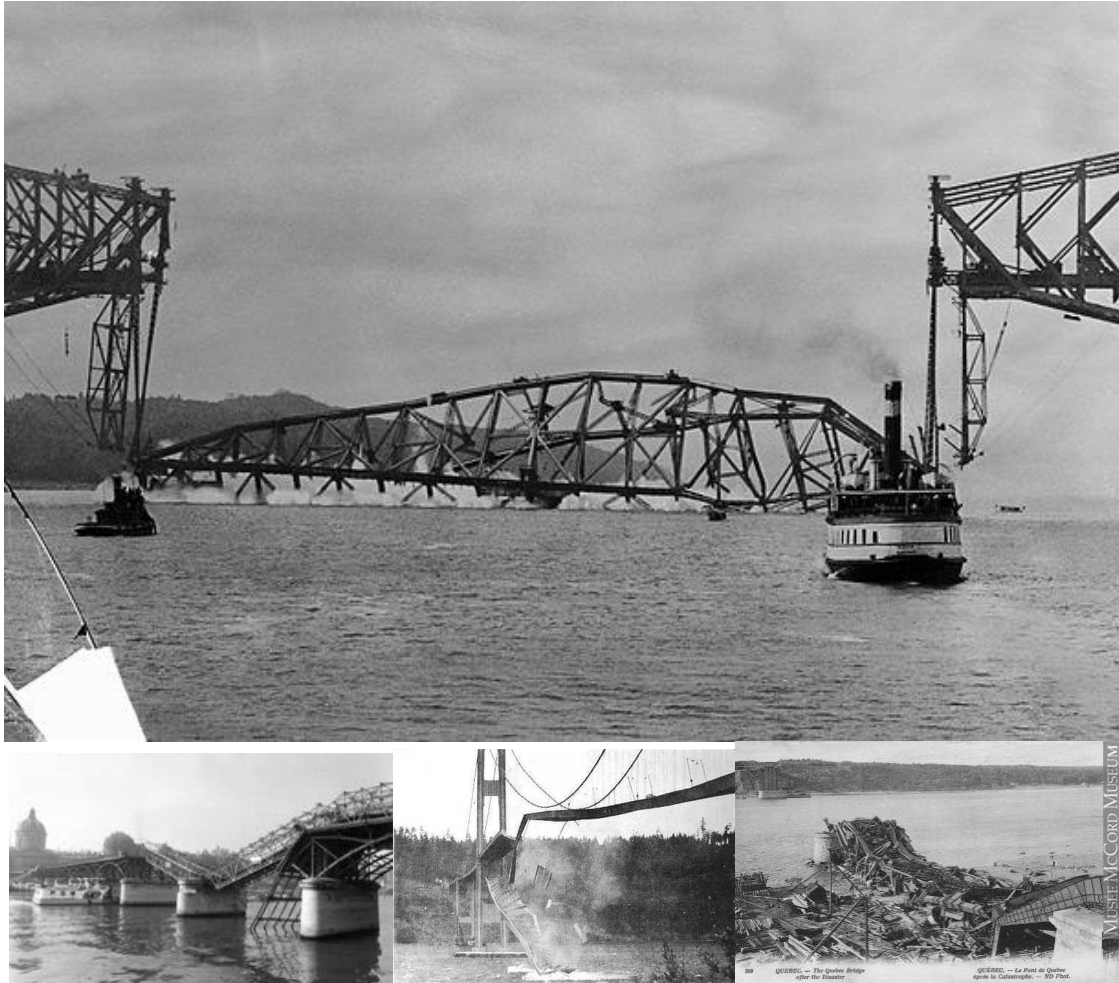
Conclusion: Scaffolding a lesson may, in fact, take longer to teach, but the end product is of far greater quality and the experience much more rewarding for all involved.

Spiraling: Returning to the Scene of the Learning Event

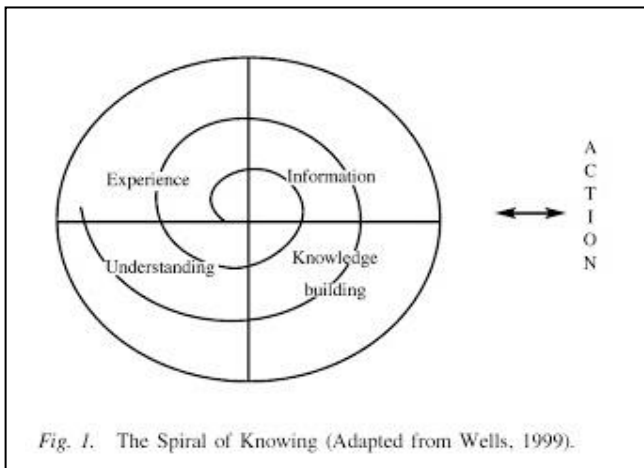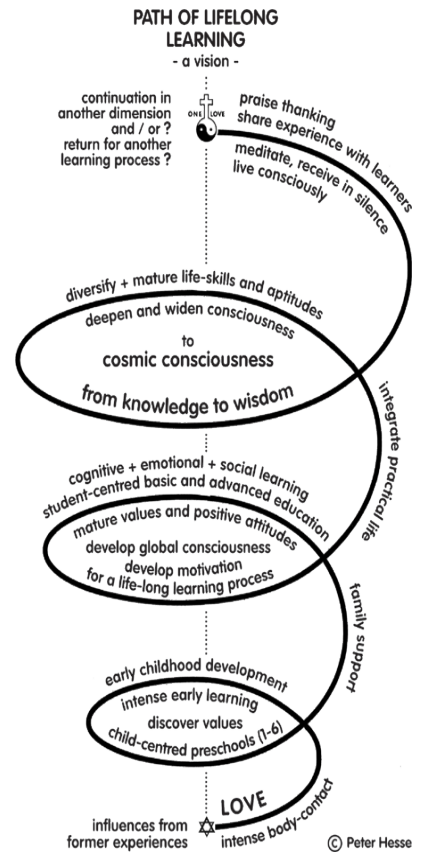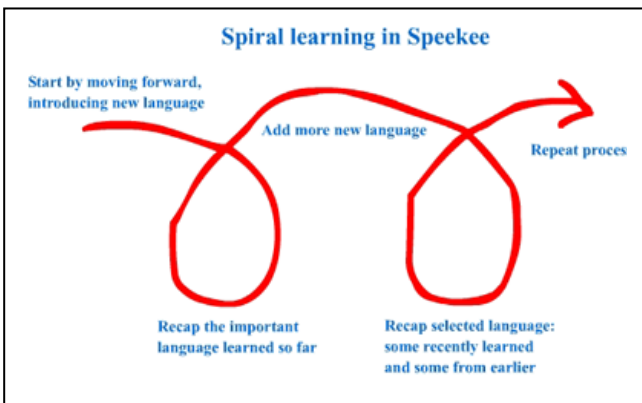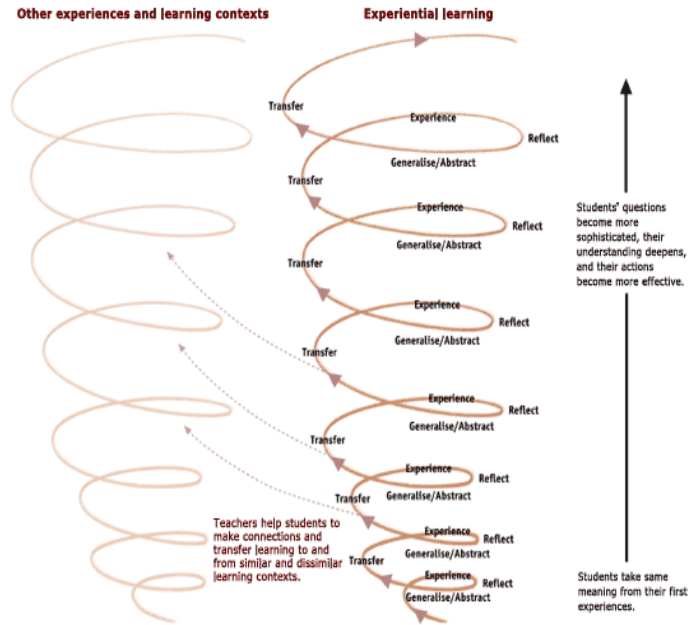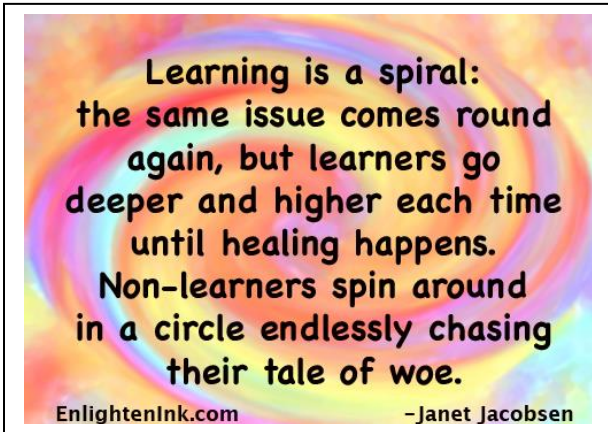*"If scaffolding is all that it is cracked up to be, why spiral?"*

Few architects worth their salt would ever design a structure with the intention that it will collapse. However, as depicted above, even the best designs are subject to failure. The materials may have been, unknowing, sub-prime; the employee who tightened that bolt may have been having an off day, or the ground below the structure experienced some instability. Even in education, what "appears" to be well-constructed, even passing an "inspection," over time and/or due to changing circumstances may no longer support the learner as well as it did in the past. It's sort of like the game *Jenga*---you think you have got a good thing until that very last block when it all falls down!

Students need to have their "scaffolding" revisited from time to time. Not only does this allow for "repairs" in areas which aren't as strong as they appeared, but it also creates an environment which can accommodate multiple level learners. Systematically returning to previous content creates opportunities for all learners to enjoy immediate success and enriched application, and to repair any area of knowledge which may need reinforcement and additional support.

Spiraling, as an education model, is not easy to depict, especially in 2-D. Here are some examples below.
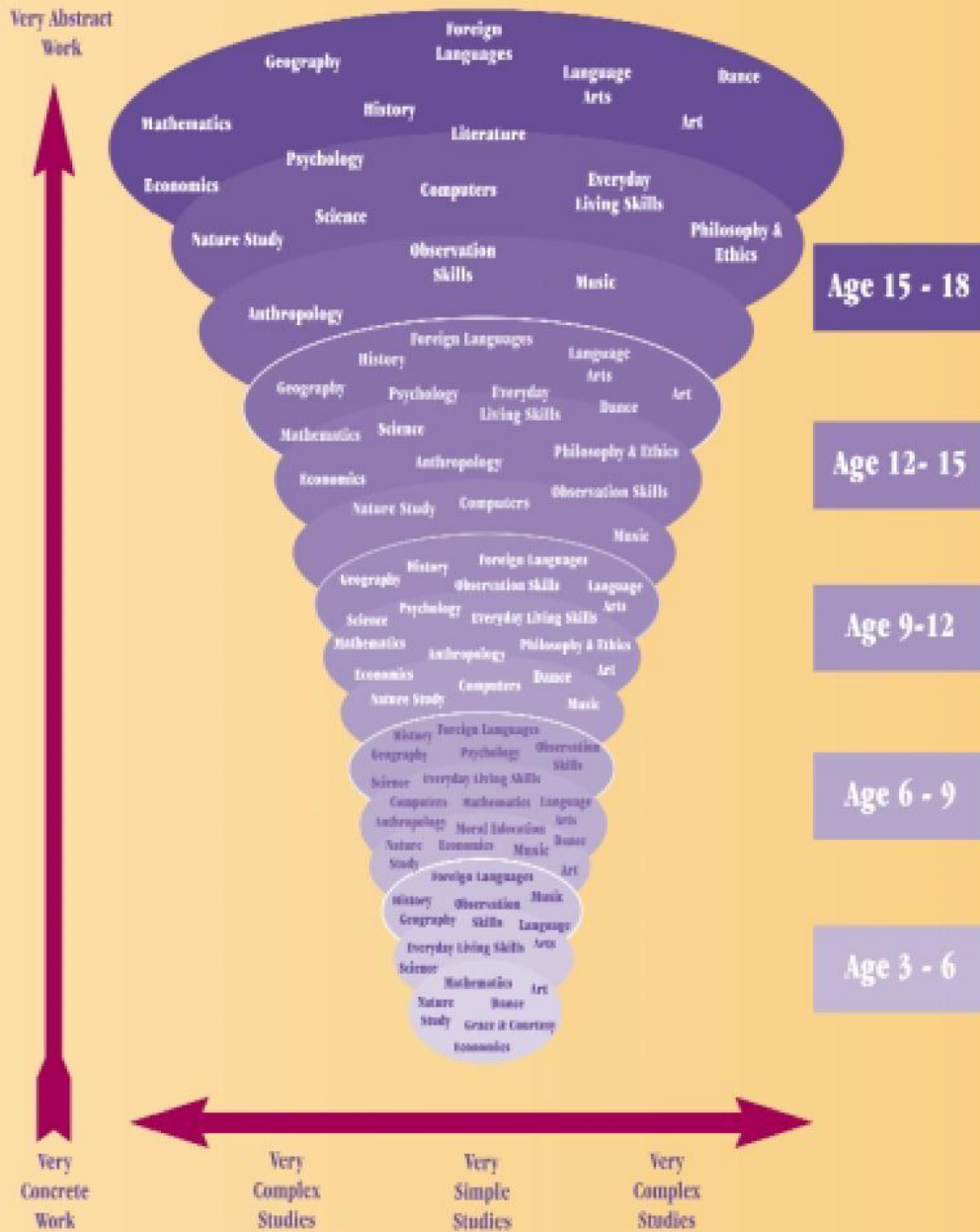Examine them in preparation for this discussion.

Learning is a spiral:
the same issue comes round
again, but learners go
deeper and higher each time
until healing happens.
Non-learners spin around
in a circle endlessly chasing
their tale of woe.

EnlightenInk.com   —Janet Jacobsen

Other experiences and learning contexts   **Experiential learning**

Transfer — Experience — Reflect — Generalise/Abstract

Students' questions become more sophisticated, their understanding deepens, and their actions become more effective.

Teachers help students to make connections and transfer learning to and from similar and dissimilar learning contexts.

Students take same meaning from their first experiences.

Spiral learning in Speekee

Start by moving forward, introducing new language

Add more new language

Repeat proces

Recap the important language learned so far

Recap selected language: some recently learned and some from earlier

PATH OF LIFELONG LEARNING
- a vision -

continuation in another dimension and / or ? return for another learning process?

praise thanking share experience with learners
meditate, receive in silence
live consciously

diversify + mature life-skills and aptitudes
deepen and widen consciousness
to
cosmic consciousness
from knowledge to wisdom

integrate practical life

cognitive + emotional + social learning
student-centred basic and advanced education
mature values and positive attitudes
develop global consciousness
develop motivation
for a life-long learning process

family support

early childhood development
intense early learning
discover values
child-centred preschools (1-6)

LOVE
influences from former experiences   intense body-contact

© Peter Hesse

Experience   Information

Understanding   Knowledge building

A C T I O N

Fig. 1. The Spiral of Knowing (Adapted from Wells, 1999).

The Spiral of the Montessori Curriculum

▲ Everything is interrelated. One lesson leads to many others.
▲ The child moves from the concrete toward abstract understanding.
▲ We always work from the big picture to increasing detail.
▲ Every three years major themes in the curriculum are studied again in
   increasing levels of abstraction.

Very Abstract
Work

Foreign Languages
Geography   Language   Dance
        History   Arts
Mathematics   Literature   Art
        Psychology
Economics   Everyday
        Science   Computers   Living Skills
Nature Study   Philosophy &
                Observation   Ethics
                Skills   Music
Anthropology

Age 15 - 18

Foreign Languages
        History   Language
Geography   Psychology   Everyday   Arts
            Living Skills   Dance   Art
Mathematics   Science
                    Philosophy & Ethics
        Anthropology
Economics   Observation Skills
    Nature Study   Computers
                        Music

Age 12- 15

            Foreign Languages
    History   Language
Geography   Observation Skills   Arts
Science   Psychology   Everyday Living Skills
Mathematics   Philosophy & Ethics
    Anthropology   Art
Economics   Dance
    Nature Study   Computers
                Music

Age 9-12

History   Foreign Languages
Geography   Psychology   Observation
                            Skills
Science   Everyday Living Skills
    Computers   Mathematics   Language
Anthropology   Moral Education   Arts
Nature   Economics   Music   Dance
Study   Art

Age 6 - 9

        Foreign Languages
    History   Observation   Music
    Geography   Skills   Language
    Everyday Living Skills   Arts
    Science
        Mathematics   Art
    Nature   Dance
    Study   Grace & Courtesy
        Economics

Age 3 - 6

Very   Very   Very   Very
Concrete   Complex   Simple   Complex
Work   Studies   Studies   Studies

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Skill Builder Plan

While the Skill Builder Template appears to teach in linear fashion (going from one point to another), in fact, it definitely supports the notion of "spiral teaching and spiral learning." As depicted in the examples earlier in the manual, learning new skills requires varying levels of expected mastery and generally serves as a precursor or stepping stone to another skill. It is only logical to revisit skills from time to time but by planning for this activity provides a safe and practical learning environment for all students.

Give basic level students the minimum new knowledge and skills needed to be creative.

Learning should work *just like a game*. The spiral looks like this:

1) Get me interested (make the case for why I should be motivated to learn this).

2) Give me a challenging and engaging activity (learning this new thing).

3) Give me the payoff/reward for having learned this (let me *apply* what I just learned to something interesting and meaningful, or at least *fun*).

4) Repeat with new thing that builds on what I now know.

By taking an iterative--rather than linear--approach to each topic, the learner gets to do more interesting things more quickly. If you force me to do each topic to death before moving on, I might have to wait until the end of the book or course before I can actually do anything really cool. And that's a motivation killer for sure. And without motivation, learning suffers dramatically. How many of us have left a course knowing that we were *exposed* to a lot of content, but we still can't actually *do* anything?

Another benefit of the iterative/spiral model for learning is that the spiral approach is much more forgiving. If the linear model relies on immediate mastery--- "we're only going to do this topic once, so you better pay attention!" and assumes that I've completely learned that topic before moving on (made less likely by the fact that I'm given too many details about the topic), then if I really *didn't* nail it, I'm in trouble moving forward.

But by iterating through the topic, I get another chance--potentially *many* more chances--to revisit the topic. So if I'm still a little fuzzy on the details the first time through that topic, then when it comes up again in a later iteration of the course/book, I get another chance to get or reinforce more clarity. Maybe I didn't quite get it the first time, even though I was able to *use* it, but perhaps the new things I've done since the last time I saw this topic have given me a better perspective. So the second time we come back to it, I'm in a better place to ask the right questions and see this topic in a broader context.

Learning should use the spiral experience model just as a game does. Each new thing I learn should be a chance to help me "get to the next level." Iterating through the topics means revisiting the *same* topic in multiple places (if needed). So each iteration through a topic gives me *just what I need and no more* with which to do something creative with that new skill/knowledge. If I need to learn more before the course or book is done, then come back to it later... when it's needed for something new.

 When you're communicating new knowledge to your learners, ask yourself: **What's the minimum you can give them that'll let them be creative?** There's a pretty simple formula for keeping users engaged; we call it the spiral experience model. It's based on four parts:

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Skill Builder Plan

1) Get their attention (aha, here's that pesky pre-learning module again!)

2) Give them challenging, engaging experiences.(Experiences designed to keep them in the flow state.) This part is a spiral, where the user gets a payoff for their interaction (getting to the "next level"), and the payoff, in turn, creates new interest) to want to use their new knowledge/skill/superpower to keep going... and on it goes. The keys are challenge, meaningful payoff, and creating new interest by giving them clear, cool new goals. ("Now that you reached this level (or now that you know this new tool, or understand this new issue), look how you can use that new knowledge/skill/superpower to do this even COOLER thing...").

This spiral is in some ways at the heart of game design, good learning experiences, pacing in many novels and films, sports that keep you in the flow state, and is the model we try to use in our classrooms. But you can use it for just about anything you communicate—the idea is to inspire users to want to learn more (or at least *do* more), so that they want to keep progressing. The payoff/reward for their involvement should be a meaningful lead-in to yet another round of wanting more...

3) Leave them with the "I Rule!" feeling.

Remember, it doesn't matter what users think about YOU. All that matters is what they think about themselves as a result of interacting with your [whatever it is you make or do].

Shoring Up with REBAR (Repair, Engineer, Bond, Activate and Reinforce a Learning Experience)

No matter the specific example, they all have one thing in common---at several points along their path, portions overlap or intersect. This overlap is the "revisiting" of information with the intent on taking that information to a new level---up or across the spiral. Look at the Montessori Model page 67. At each level, the same or similar subjects are introduced. However, the rings or spheres at the higher levels are wider indicating, as explained by the legend, that the specifics are more complex, more abstract----in other words, require more advanced skill and thinking sets to express explain and apply it.

So how does scaffolding and spiraling work together? By returning to previously introduced information/skills introduced through scaffolding in order to expand it through spiraling, it is possible to:

1) Measure skill mastery at the previous level
2) Identify any deficiencies or misconceptions regarding the information acquisition or skill application
3) Administer needed remediation (re-teaching)
4) Take newly refreshed skill/content to an expanded level through varying applications

Activity 1: Think back upon a personal experience win which your "mastery" of a skill was later expanded on when called into action in a very different situation. How did the experience expand, build on or otherwise modify your initial impressions?

Activity 2: Discuss how scaffolding and spiraling together best serves a classroom of differentiated learners.

We have already introduced the first step in shoring up the learners' experience---employing pre-knowledge as a foundation. With familiarity comes comfort and confidence. And building on a foundation (pre-knowledge) saves instructional time.

However, to really solidify the experience, especially when building or rebuilding those skills identified as incomplete, compromised or misdirected, a great strategy is to create a direct "link" between information. A new pathway in the brain is easier to establish with "way-stations of knowledge" to connect between and to stop at along the way. But the link itself is better fortified when it is made with REBAR.

Repair: Eliminate misconceptions by <u>reviewing</u> the skill/information as a group game or relay. Students may "realize" their own mistaken concepts and be able to immediately remedy them by themselves just through observation. When using the "game" scenario, don't rely on ONE student to work the problems or provide the information. Teams or groups work best when they can "compare" skills and information. The student who doesn't know how to work the problem correctly will not be "isolated" and will "see" how to work it properly due to group effort!

Engineer: CREATE a connection when a natural one does not appear evident. This activity is especially important when the learner does not have a personal experience which adequately matches the upcoming concept. Through inquiry, curiosity and the "ridiculous," you can help facilitate a connection between skills
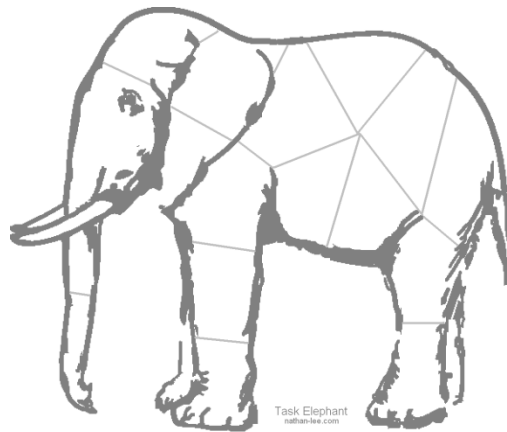
and information which will serve to "illuminate" the skill or information in a unique way. Graphic Organizers are terrific tools for this! For example: **Task Analysis**

1. Divide the task into its smallest parts
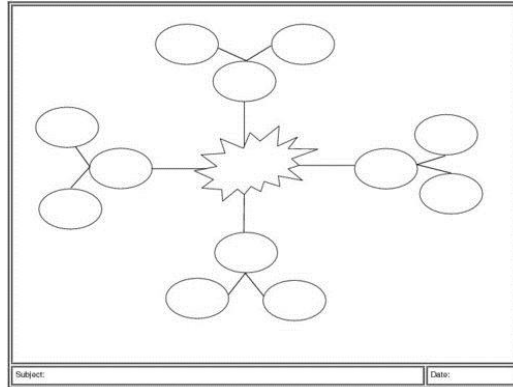
OR

2. Eat an elephant with a spoon
   a. Spoon is small and require a bite-size portion
   b. Elephant is large but has many parts or portions

Other "engineering" suggestions would be:

- Understanding physical perspective by creating a map/drawing of an area as it would be seen:
  1. From an eagle eye view
  2. From a mouse eye view
  3. From within a fish-tank
  4. From the other side of mirror

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Skill Builder Plan

- Understanding task analysis and procedure by giving complete directions for making a peanut butter sandwich in which the student may ONLY comply with a specific direction given (person giving directions keeps his/her back to the other student)
- Watching a video on a given scenario and then, as a class, expressing opinions as to how the actions and decisions reflected in the scenario came about/could have been different/could have a different outcome
- Re-enacting a viewed scenario or "play-acting" a situation given certain conditions
- Mash-ups: Apply information or skill in a unique form such as:
    1. Miming a previously learned skill or task (no talking allowed!!!)
    2. Using charades or *Pictionary* to guess new vocabulary words
    3. Present a procedure "backwards" to see how quickly the students guess what the procedure is used for
    4. Sing or chant a list of related words and ask students to guess their relationship
    5. Ask students to "read" a section of the text using:
        1. A newscaster's voice
        2. As "dialogue" one person reads the first line in a conversational tone. The next person reads the next line in a conversational tone. And so on.

As tempting as it is, simply watching a video or video clip does not create the "experience." Looking at a situation does not translate into the type of reference and thinking skills the person may need to have in order to relate or engage in a similar but new task. Whenever you can provide a "hands-on" or "real-life" situation which links to or matches the upcoming information or skill, you create an experience with which the learner can use to "bond" to a new experience.

Bond: *One-to-One Correlation* is a concept which is specifically taught at the pre-school or elementary school level. However, understanding this concept is essential for higher order "extrapolation" or for applying a "sample" to a larger body of information or population. For example, in the activity outlined in *The Hand Squeeze* **http://math.rice.edu/~lanius/Algebra/hndsq.html** , the data collection (skill) can easily be used to predict a conclusion if applied to a larger population across a farther distance. This application can be extended to the spread of information or disease and can host implications for advertising or health care. In *The Hot Tub* **http://math.rice.edu/~lanius/Algebra/hottub.html**, the concepts are easily translatable into other "scenarios" including a real-life example of maintaining a money account balance.

Compare and Contrast Graphic Organizers display the similar/different qualities. When the similar attributes are overlapped, it is called a *Venn Diagram.* *Decision Trees* provide for alternate paths based on decisions or conditions and serve to readily display consequences or options. *Checklists* which describe the characteristics or qualities which the concept must possess also offer additional information to which the learner can bond the concept. *Patterns and Grouping* aid in the visual comparison and create a "graphic" to recall and analysis.
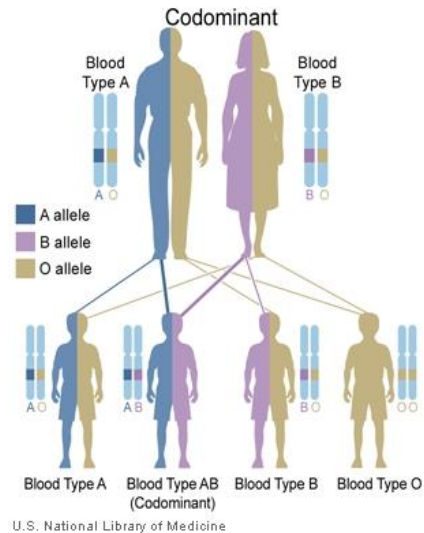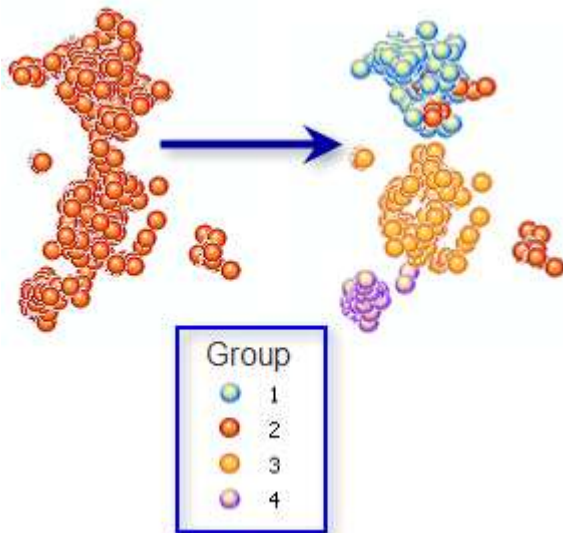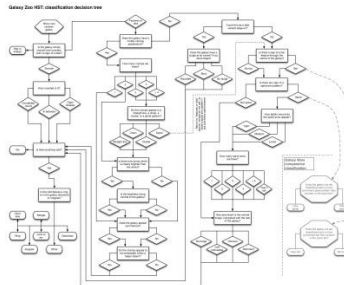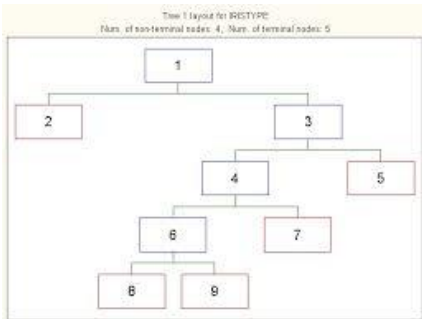
Compare/Contrast Matrix

	Name 1	Name 2
Attribute 1		
Attribute 1		
Attribute 1		

Venn Diagram

Introduction to the similarities/differences between A and B
↓
Compare/contrast A and B in terms of 1st difference
↓
Compare/contrast A and B in terms of 2nd difference
↓
Compare/contrast A and B in terms of 3rd difference
↓
etc
Conclusion

Differences   Similarities   Differences

Tree 1 layout for IRISTYPE
Num. of non-terminal nodes: 4, Num. of terminal nodes: 5

Galaxy Zoo HST classification decision tree

CHECK LIST

Group
1
2
3
4

Codominant

Blood Type A   Blood Type B

A allele
B allele
O allele

Blood Type A   Blood Type AB (Codominant)   Blood Type B   Blood Type O

U.S. National Library of Medicine

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Skill Builder Plan

When learners engage in "different" or "alternative" perspectives, conditions or facts, something unique occurs as the brain is force to "select" between pieces of information rather than merely recall the "correct" step or fact during the learning process. Sesame Street got it right with the game "Which of these things belong together, which of these things doesn't belong." We, as humans are "wired" to identify <u>otherness</u> and so, by incorporating a very basic human imprinted skill, we actually acquire the desired skill better than we would with information or skills taught in isolation. For example:

a) Students learn to spell better if they have to pick the word out from a list of misspelled variations.
b) Students learn math operations better when presented as "paired but opposite" functions.
c) People make better car choices when there are multiple models from which to choose.
d) Kids will eat more and a better variety of vegetables if they have several from which to choose.
e) My own learning experience with languages has been that I learn more quickly if I learn TWP languages (besides English) side by side.

While it appears that MORE information may provide a challenge, in practice, just as in creating a cement patio, the cement sets more quickly, is stronger and lasts longer when mixed with sand, aggregate and water because of the chemical reaction this mixture initiates. And to finish off the entire process, you may as well set the foundation for new learning pathways by suggesting/demonstrating OTHER applications of the skill or information for less similar or completely different contests called "skill transfer."

Activate: *Pre-learning* activities are examples of activating the learner to the upcoming information. By calling upon the student's previous experience or knowledge or by pointing out the connections made during a prior to teaching the lesson or by connecting it back that prior knowledge or experience after the lesson is completed, "activates" the brain to place that information near the familiar spot making for quicker access. The result is similar to that which happens with **mnemonics** (see below).

In addition, there are exercises and activities which actually "stimulate" brain engagement. Many of these are online and are free, which can be "assigned" to computer lab days, OR set up on one computer in the classroom. Others are based on feeding oxygen and stimulating the PHYSICAL aspects of your brain. Still others just "get you thinking:"

> **FitBrains** **https://www.fitbrains.com/rosettastone/?cid=se-nb-gg-f1brainhomepg&cvosrc=ppc.google.free%20brain%20games%20for%20adults&matchtype=b**
> **Brain Metrix** http://www.brainmetrix.com/
> **10 Free Brain Gym Exercises**
> http://sspw.dpi.wi.gov/sites/default/files/imce/sspw/pdf/sascevanshandouts.pdf
>
> From your Core Curriculum Branch Shelf materials:
> > *Ten-Minute Critical Thinking Series*
> > *What's The Question?*
> > *Logic Problems for Student Groups*
> > *Solving and Test-Taking Strategies*

In addition, teaching the skills required for graphic organizers BEFORE they have to actually apply them to desired content is a great "activator." The learner can then later focus on applying the organizer to the content rather than figuring out how the "organizer" works.

Reinforce: Mnemonics any learning technique that aids information retention. Mnemonics aim to translate information into a form that the brain can retain better than its original form. Even the process of merely learning this conversion might already aid in the transfer of information to long-term memory. Commonly encountered mnemonics are often used for lists and in auditory form, such as short poems, acronyms, or memorable phrases, but mnemonics can also be used for other types of information and in visual or kinesthetic forms. Their use is based on the observation that the human mind more easily remembers spatial, personal, surprising, physical, humorous, or otherwise "relatable" information, rather than more abstract or impersonal forms of information. The very best mnemonic is the one made up by the student, however, there are a number of "tried and true" practices which have their origins in history and are still effective:

What's Your Favorite Mnemonic: *http://www.teachers.net/gazette/AUG00/poll.html*

Reading Memory Strategies for High School Kids *http://everydaylife.globalpost.com/reading-memory-strategies-high-school-kids-13647.html*

Transfer of the Method of Loci, Pegword, and Keyword Mnemonics in the Eighth Grade Classroom
http://www.nrmera.org/PDF/Researcher/Researcherv21n2Richmond.pdf

Pre-Learning Practice Example

Here is an example of creating Pre-Learning Assessment Module for the Learning Standard "demonstrate knowledge of the formula for determining the area and circumference of a circle and use them to solve problems" (GED Q.4.b/CSS.Math.7.G.4)
1) What is/are the new material/skills to be introduced in our practice lesson?
   - Learn formula(s) for determining the area and circumference of a circle: See: http://www.wikihow.com/Calculate-the-Area-of-a-Circle
   - Concept of "area," "diameter" "circumference" in relation to measuring a circle?
   - Concept and symbol for pi
   - Introduction of 6 solutions/formulas
   - Use formula to solve problems for area and circumference of a circle: See: http://www.wikihow.com/Calculate-the-Area-of-a-Circle
   - Recognize which formula(s) are applicable to area and to circumference
   - Input correct data into formulas and solve using multiple operations
   - Recognize potential checks and balances to insure correct application and answer

2) What must the learner know or be able to do prior to learning the new material/skills for our practice lesson?
   a. Recognize a circle? Recognize concept of measuring?
   b. Use a ruler/measuring tape in inches, centimeters?

   c. Understand operations using symbols as placeholders for numbers, multiplication, exponents, decimals, fractions, degrees, parentheses, calculators

3) In what ways can we:
   a. Create an environment through which all learners, beginning, intermediate, and advanced, are actively engaged in the upcoming learning process?
      i. Multiple learning styles instructional tools (Multi-sensory input resources such as Graphics, Multimedia, Games, Relays, Manipulatives)
      ii. Use collaborative and whole class instructional strategies (Games, group/team activities, group debate, group guided questioning, group surveys)
   b. Access what the students know or are able to do which is required prior to learning the new lesson skills/information?
      i. Guided questioning (Socratic Method, Costa's Level of Inquiry, Koans or other Thought Provokers) such as:

A Cup of Tea: Nan-in, a Japanese master during the Meiji era (1868-1912), received a university professor who came to inquire about Zen. Nan-in served tea. He poured his visitor's cup full, and then kept on pouring. The professor watched the overflow until he no longer could restrain himself. "It is overfull. No more will go in!" "Like this cup," Nan-in said, "you are full of your own opinions and speculations. How can I show you Zen unless you first empty your cup?"

---

      i. Group or Team games
      ii. KWL (followed by discussion)
      iii. "Capture response" board prompted by the question "Tell me everything you know about this subject!"
   b. REBAR: Prepare the learner with the required skills and/or information needed prior to learning the new lesson?
      i. Quickly reviewing necessary skills which were taught in a previous lesson but which were not strong enough or complete, as evidenced during your assessment but not so lacking as to require a "mini" lesson (Spiral teaching)
      ii. Interject a "mini" lesson by teaching the minimal skills or the necessary experience or by providing a "cheat sheet" to all learners so that all might be successful with the new lesson even if there are still gaps in instruction (Scaffold teaching)
      iii. Connect previous knowledge/skills with new lesson expectations?
      iv. Validate that the information/skill the learners currently possess is important/key/valuable to the forthcoming information/skill acquisition.
   c. Suspend the planned lesson and host another complete lesson to teach the pre-requisite skills.

More to the Question

Socratic Questioning

Socrates was one of the greatest educators who taught by asking questions and thus drawing out answers from his pupils ('ex duco', means to 'lead out', which is the root of 'education'). Sadly, he martyred himself by drinking hemlock rather than compromise his principles. Bold, but not a good survival strategy. But then he lived very frugally and was known for his eccentricity. One of his pupils was Plato, who wrote up much what we know of him.

Here are the six types of questions that Socrates asked his pupils, probably, often to their initial annoyance, but more often to their ultimate delight. He was a man of remarkable integrity and his story makes for marvelous reading.

The overall purpose of Socratic questioning is to challenge accuracy and completeness of thinking in a way that acts to move people towards their ultimate goal.

The Socratic Questioning technique is an effective way to explore ideas in depth. It can be used at all levels and is a helpful tool for all teachers. It can be used at different points within a unit or project. By using Socratic Questioning, teachers promote independent thinking in their students and give them ownership of what they are learning. Higher-level thinking skills are present while students think, discuss, debate, evaluate, and analyze content through their own thinking and the thinking of those around them. These types of questions may take some practice on both the teacher and students' part since it may be a whole new approach.

Tips for Using Socratic Questioning

Plan significant questions that provide meaning and direction to the dialogue

Use wait time: Allow at least thirty seconds for students to respond

Follow up on students' responses

Ask probing questions

Periodically summarize in writing key points that have been discussed

Draw as many students as possible into the discussion

Let students discover knowledge on their own through the probing questions the teacher poses

Six Types of Socratic Questions and Examples

(1) Conceptual clarification questions

Get them to think more about what exactly they are asking or thinking about. Prove the concepts behind their argument. Use basic 'tell me more' questions that get them to go deeper.

- *Why are you saying that?*
- *What exactly does this mean?*
- *How does this relate to what we have been talking about?*
- *What is the nature of ...?*
- *What do we already know about this?*

- *Can you give me an example?*
  - *Are you saying ... or ... ?*
- *Can you rephrase that, please?*

(2) Probing assumptions

Probing their assumptions makes them think about the presuppositions and unquestioned beliefs on which they are founding their argument. This is shaking the bedrock and should get them really going!

- *What else could we assume?*
- *You seem to be assuming ... ?*
- *How did you choose those assumptions?*
- *Please explain why/how ... ?*
- *How can you verify or disprove that assumption?*
- *What would happen if ... ?*
- *Do you agree or disagree with ... ?*

(3) Probing rationale, reasons and evidence

When they give a rationale for their arguments, dig into that reasoning rather than assuming it is a given. People often use un-thought-through or weakly-understood supports for their arguments.

- *Why is that happening?*
- *How do you know this?*
- *Show me ... ?*
- *Can you give me an example of that?*
- *What do you think causes ... ?*
- *What is the nature of this?*
- *Are these reasons good enough?*
- *Would it stand up in court?*
- *How might it be refuted?*
- *How can I be sure of what you are saying?*
- *Why is ... happening?*
- *Why? (keep asking it -- you'll never get past a few times)*
- *What evidence is there to support what you are saying?*
- *On what authority are you basing your argument?*

Questioning viewpoints and perspectives

Most arguments are given from a particular position. So attack the position. Show that there are other, equally valid, viewpoints.

- *Another way of looking at this is ..., does this seem reasonable?*

- *What alternative ways of looking at this are there?*
  - *Why it is ... necessary?*
  - *Who benefits from this?*
- *What is the difference between... and...?*
  - *Why is it better than ...?*
- *What are the strengths and weaknesses of...?*
  - *How are ... and ... similar?*
  - *What would ... say about it?*
  - *What if you compared ... and ... ?*
- *How could you look another way at this?*

Probe implications and consequences

The argument that they give may have logical implications that can be forecast. Do these make sense? Are they desirable?

- *Then what would happen?*
- *What are the consequences of that assumption?*
  - *How could ... be used to ... ?*
  - *What are the implications of ... ?*
  - *How does ... affect ... ?*
- *How does ... fit with what we learned before?*
  - *Why is ... important?*
  - *What is the best ... ? Why?*

Questions about the question

And you can also get reflexive about the whole thing, turning the question in on itself. Use their attack against themselves. Bounce the ball back into their court, etc.

- *What was the point of asking that question?*
  - *Why do you think I asked this question?*
  - *Am I making sense? Why not?*
  - *What else might I ask?*
  - *What does that mean?*

Example 1:

This questioning dialogue would take place after the unit had been introduced and was well underway.

1. Teacher: What is happening to our global climate?
2. Stan: It's getting warmer.
3. Teacher: How do you know it's getting warmer? What evidence do you have to support your answer?

4. Stan: It's in the news all of the time. They are always saying that it's not as cold as it used to be. We have all of these record heat days.
5. Teacher: Has anyone else heard of this kind of news?
6. Denise: Yeah. I have read about it the newspaper. They call it global warming, I think.
7. Teacher: Are you saying that you learned about global warming from newscasters? Are you assuming they know that global warming is occurring?
8. Heidi: I heard it too. It's terrible. The ice caps in the Arctic are melting. The animals are losing their homes. I think the newscasters hear it from the scientists that are studying the issue.
9. Teacher: If that is the case and the scientists are telling the newscasters, how do the scientists know?
10. Chris: They have instruments to measure climate. They conduct research that measures the Earth's temperature.
11. Teacher: How long do you think scientists have been doing this?
12. Grant: Probably 100 years.
13. Candace: Maybe a little more than that.
14. Teacher: Actually, it's been studied for about 140 years. Since about 1860.
15. Heidi: We were close.
16. Teacher: Yes. How did you know that?
17. Grant: I just figured that seems like when instruments were available and scientists had the means to measure climate like that.
18. Teacher: So, looking at the last 100 year's climate on this graph, what can we say about the earth's climate?
19. Raja: The 20th century has become much warmer than previous centuries.
20. Teacher: Can we hypothesize why?
21. Raja: One word: pollution.
22. Teacher: What are you assuming when you say that pollution is the cause for the temperatures to rise?
23. Heidi: Carbon dioxide from cars causes pollution and chemicals from factories.
24. Frank: Hair spray causes dangerous chemicals to get into the atmosphere.
25. Teacher: Okay. Let's take a minute to review what we've discussed so far.

Activity 1: Can you identify the six Socratic questioning strategies used in this dialogue? Identify examples from the text (reference the sentence number) and record your answers below.

Conceptual clarification questions:
Probing assumptions:
Probing rationale, reasons and evidence:
Questioning viewpoints and perspectives:
Probe implications and consequences:
Questions about the question:

Activity 2: Replace the subject in the sample dialogue (global warming) with a subject listed below. Engage another instructor in a role playing activity utilizing Socratic Questioning and the dialogue sample as a guide. Rotate until all team members have served as both "teacher" and "student."

Skill Builder Plan

Suggested topics:
Does the death penalty have a negative impact on society?
What role does fear play in American culture?
Are stories more important than reality (Fiction v non-fiction)?
What are the pros and cons of technology today?
What's more important, cooperation or competition?
What is the role of government?

<div align="center">

ANSWER SHEET

</div>

Activity 1: Can you identify the six Socratic questioning strategies used in this dialogue? Identify examples from the text (and reference the sentence number) and record your answers below.

Initiating Question: What is happening to our global climate?

Conceptual clarification questions:
Are you saying that you learned about global warming from newscasters? (7)
How long do you think scientists have been doing this? (11)
Can we hypothesize why? (20)

Probing assumptions:
Are you assuming they know that global warming is occurring? (7)
What are you assuming when you say that pollution is the cause for the temperatures to rise? (22)

Probing rationale, reasons and evidence:
 How do you know it's getting warmer? (3)
What evidence do you have to support your answer? (3)
How did you know that? (16)

Questioning viewpoints and perspectives:
 Has anyone else heard of this kind of news? (5)
If that is the case and the scientists are telling the newscasters, how do the scientists know? (9)
Probe implications and consequences:
So, looking at the last 100 year's climate on this graph, what can we say about the earth's climate? (18)

Questions about the question:
Can we hypothesize why? (20)

Do you think it is important to ask questions about climate change?

Who should be asking the questions?

What other questions should we be asking?

Activity 2: Replace the subject in the sample dialogue (global warming) with a subject listed below. Engage another instructor in a role playing activity utilizing Socratic Questioning and the dialogue sample as a guide. Rotate until all team members have served as both "teacher" and "student."

Suggested topics: Does the death penalty have a negative impact on society? What role does fear play in American culture? Are stories more important than reality (Fiction v non-fiction)? What are the pros and cons of technology today? What's more important, cooperation or competition? What is the role of government?

SHREVE GED ACADEMY
Skill Builder Plan

It's Not 20 Questions

Subject: **Language Arts/Writing** Unit/Skill: **Writing Essays/<u>Concise Language</u> and Sentence Structure (Part 1)**
Standard: **GED W.2/CCSS.ELA-Literacy. CCRA.W2: Write informative/explanatory tests to examine and convey complex ideas and information clearly and accurately through the <u>effective selection</u>, organization, and analysis of <u>content</u>.**
Behavioral Objectives:

        TLWBAT identify the difference between "concise" and "wordy" verbiage from pre-selected samples.

        TLWBAT select concise verbiage and substitute it for "wordy" verbiage from pre-selected samples.

        TLWBAT reconstruct a sentence using his/her own concise verbiage vocabulary.

        TLWBAT construct an original sentence using his/her own concise verbiage vocabulary from one or more pre-selected prompts.

Pre-learning Assessment Module:
I am going to demonstrate an example of the type of pre-learning (<u>knowledge and/or skill pre-requisite</u>)
Assessment Module (commonly referred to as "anticipatory set") which I have been witnessing in your lessons:

- -

(Say) Consider the following word:
Logorrhea (lȯ-gə-ˈrē-ə, ˌlä-) (Write on board)

1. Who can tell me what this word means? Anybody?
2. Does anybody know what this word means? Anybody?

- -

These types of questions are Conversation Stoppers!!!!

        How did you feel when I asked these questions? (Confused, nervous, irritated)

        What are some of the physical impulses you might have experienced (shake my head, leave, sneer)

These types of questions are Learning Stoppers!!!!

        Consider what the questions were actually asking and therefore measuring!

        "WHO can tell me what this word means?" This question asks WHO not WHAT. So the class must be able to identify WHO might know what the word means not WHAT the word means. So if they KNOW the meaning, the answer would be "me." If they don't know the meaning, they have to "guess" who might know the answer.

        - First of all, it isn't really important to single out any particular individual in the class who knows the meaning of the word but to insure that by the time the session is over the ENTIRE class knows what the word means.

        - Secondly, the question implies that someone should know the answer and if you don't know the answer, you have already failed within the first 10 minutes of class.

DOES ANYBODY KNOW what this word means? Well, yes, somebody does, but not necessarily anyone in that class except, perhaps, the teacher. So this becomes the "Twenty Questions" or "Guess What I Am Thinking About" game which, unfortunately, is only appropriate on a long road trip.

<div align="center">So, let's try again.</div>

- -- - - - - - - - - -- - - - - - - - -

Logorrhea (lȯ-gə-ˈrē-ə, ˌlä-) (Write on board)
Here is a word with which you may not be familiar. (Pronounce word aloud).
Before we figure out what this word means, let's see if we can find some clues as to what this word MIGHT mean.

1) Look at the word in parts. How could we divide it which might provide some information as to the possible meanings?

   (Syllables, sound clusters; Divide the word on board)

2) Ok, how about logo/rrhea? What do these two words bring to mind?
   (logo=emblem, trademark, brand? Rrhea=sort of sounds like diarrhea?) (Write the possible meanings to the parts)

INPUT: logo comes from the GREEK word "logos" which actually means "word." (Write "logos" on the board). The word "logo" has come to mean "graphic mark, emblem, or symbol commonly used by commercial enterprises, organizations and even individuals to aid and promote instant public recognition. Logos are either purely graphic (symbols/icons) or are composed of the name of the organization (a logotype or wordmark)." However they are constructed, logos create "ideas of words" in our mind. Look at these two examples (Post printed examples):

What "words/ideas" come to mind when you see these? (shoes, sports, quality, cost/coffee, fancy, free-Wi-Fi, gift cards)
So putting the ideas together, the information we know and the information we guess, what could
"Logorrhea" possibly mean? ("word diarrhea" or "too many words) (Refer to board)

In fact, you are correct! "**Logorrhea" means e**xcessive and often incoherent talkativeness or wordiness (Write definition on board). The opposite of "logorrhea" is "concise." (Draw a line through "logorrhea" and write "concise." Today we are going to discuss ways in which to avoid "logorrhea" and instead use "concise" language and sentence structure when writing essays.

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This pre-learning assessment exercise thoroughly engaged and introduced the learners in and to the upcoming lesson by:

1) Catching their attention with a fun (and important) "word deciphering" process
2) Accessed the information they already knew (pre-learning)
3) Offered an opportunity to add new information to their old information to form a new understanding (Higher order thinking; preparing a supporting framework between old and upcoming new information)
4) Engaged the learners to the new information and new process in a "learner-friendly," COLLABORATIVE teaching strategy

SHREVE GED ACADEMY
Skill Builder Plan

Now let's look at how we would include this activity in the Skill Builder template (Print and display on the board).

Pre-Learning: **Hook: Logorrhea** (lȯ-gə-ˈrē-ə, ˌlä-) (Write on board/pronounce) Find <u>clues as to word meaning</u>: word parts, sounds like other familiar words (Capture student responses; include <u>emblem</u>, <u>diarrhea</u>).

Input: Logos=GK for "word" (write "logos" on board) currently means a symbol which evokes (creates) "ideas of words" in our mind. **Examples:** Nike Swoosh, StarBucks Logo (Display print copies); "What words come to mind?"

Validation: Direct student responses including "emblem" and "diarrhea" to form the definition "**means e**xcessive and often incoherent talkativeness or wordiness."

Connection to Learning Standard: The opposite of "logorrhea" is "concise." (Draw a line through "logorrhea" and write "concise.") Today we are going to discuss ways in which to avoid "logorrhea" and instead <u>apply "concise" language and sentence structure when writing essays</u>.

Rubrics

What is a rubric? (from *The Advantages of Rubric* *https://www.teachervision.com/teaching-methods-and-management/rubrics/4522.html?for_printing=1*

- A rubric is a scoring guide that seeks to evaluate a student's performance based on the sum of a full range of criteria rather than a single numerical score.
- A rubric is an authentic assessment tool used to measure students' work.
    - Authentic assessment is used to evaluate students' work by measuring the product according to real-life criteria. The same criteria used to judge a published author would be used to evaluate students' writing.
    - Although the same criteria are considered, expectations vary according to one's level of expertise. The performance level of a novice is expected be lower than that of an expert and would be reflected in different standards. For example, in evaluating a story, a first-grade author may not be expected to write a coherent paragraph to earn a high evaluation. A tenth grader would need to write coherent paragraphs in order to earn high marks.
- A rubric is a working guide for students and teachers, usually handed out before the assignment begins in order to get students to think about the criteria on which their work will be judged.
- A rubric enhances the quality of direct instruction.

For adult education students, the advantages are even more relevant. By setting the standards prior to giving the assignment, the adult can make a conscious effort to MEET the standard rather than guessing what the standard will be. It also allows for multilevel classroom instruction in that the "beginning" student may not reach the "delicious" stage at first try but certainly understands what kind of work it will take to reach it.

Rubrics can be created for any content area including math, science, history, writing, foreign languages, drama, art, music, and even cooking! Once developed, they can be modified easily for various grade levels. The following rubric was created by a group of postgraduate education students at the University of San Francisco, but could be developed easily by a group of elementary students.

SHREVE GED ACADEMY
Skill Builder Plan

Chocolate chip cookie rubric: The cookie elements the students chose to judge were:
- Number of chocolate chips
- Texture
- Color
- Taste

Richness (flavor)

4 - Delicious:
Chocolate chip in every bite
Chewy
Golden brown
Home-baked taste
Rich, creamy, high-fat flavor

3 - Good:
Chocolate chips in about 75 percent of the bites taken
Chewy in the middle, but crispy on the edges
Either brown from overcooking, or light from being 25 percent raw
Quality store-bought taste Medium fat content

2 - Needs Improvement:
Chocolate chips in 50 percent of the bites taken
Texture is either crispy/crunchy from overcooking or doesn't hold together because it is at least 50 percent uncooked
Either dark brown from overcooking or light from undercooking
Tasteless
Low-fat content

1 - Poor:

Too few or too many chocolate chips
Texture resembles a dog biscuit
Burned
Store-bought flavor with a preservative aftertaste – stale, hard, chalky Non-fat contents

Here's how the table looks:

	Delicious	Good	Needs Improvement	Poor
Number of Chips	Chocolate chip in every bite	Chips in about 75% of bites	Chocolate in 50% of bites	Too few or too many chips
Texture	Chewy	Chewy in middle, crisp on edges	Texture either crispy/crunchy or 50% uncooked	Texture resembles a dog biscuit
Color	Golden brown	Either light from overcooking or light from being 25% raw	Either dark brown from overcooking or light from undercooking	Burned
Taste	Home-baked taste	Quality store-bought taste	Tasteless	Store-bought flavor, preservative aftertaste – stale, hard, chalky
Richness	Rich, creamy, high-fat flavor	Medium fat contents	Low-fat contents	Nonfat contents

Here is a ONE STOP site which offer guidelines and ready-made/customizable rubrics and checklists for any subject:

Teacher Planet *http://www.rubrics4teachers.com/understanding.php*

SHREVE GED ACADEMY
Skill Builder Plan

Check for Understanding Options
http://daretodifferentiate.wikispaces.com/file/view/strategies.pdf

Check For Understanding Strategy	Description
3-2-1/ Fist to Five/ Thumbs Up, Thumbs Down	Students communicate their level of understanding to teacher using their fingers
4-3-2-1 Scoring Scale	A posted scale that can be used either as a quick check with hand or a numerical value for students to self-assess on a written assignment
ABCD Whisper	Students should get in groups of four where one student is A, the next is B, etc. Each student will be asked to reflect on a concept and draw a visual of his/her interpretation. Then they will share their answer with each other in a zigzag pattern within their group.
Capacity Matrix	The capacity matrix is a charting technique used to break down topic areas into steps for achieving a specific result. It identifies tasks, knowledge levels, and understanding of the topic area.
Circle, Triangle, Square	(Circle) Something that is still going around in your head (Triangle) Something pointed that stood out in your mind (Square) Something that "Squared" or agreed with your thinking.
Clickers	Electronic surveying devices that give instant feedback and data
Decisions, Decisions (Philosophical Chairs)	Given a prompt, class goes to the side that corresponds to their opinion on the topic, side share out reasoning, and students are allowed to change sides after discussion
Entrance/Exit ticket	Each student will be given a ticket to complete before leaving the room answering: What is the most important thing I learned today? What questions do I still have? These tickets can be given to the teacher when exiting the room or upon entering the next day. The teacher uses this information to guide the instruction.
Every Pupil Response	Each student receives a pink and yellow card. Each color represents a specific response. Students raise the card to provide the correct response to a teacher directed question.
Example/Non-Example	Given a concept, students sort or write various examples/non-examples
Example/Non-Example	Given examples/non-examples, students determine concept
Fill In Your Thoughts	Written check for understanding strategy where students fill the blank. (Another term for rate of change is _____ or _____.)

SHREVE GED ACADEMY
Skill Builder Plan

Check For Understanding Strategy	Description
Flag It	Students use this strategy to help them remember information that is important to them. They will "flag" their ideas on a sticky note or flag die cut…
Function Aerobics	Students demonstrate their knowledge of transformations of functions by physically moving their arms and body
Give One, Get One	Cooperative activity where the students write response to a prompt, meet up with another student and share ideas so that each leaves with something to add to their list
Handprint	Draw your handprint. In each finger, write one thing you learned today.
Human Graph	A kinesthetic activity where students in the class physically move to create a histogram, where each student represents a data point rating their view
Interlocking Paper Plates	Two color plates used for students to provide feedback to teacher by sliding the two color sections to show level of understanding
Onion Ring	Students form an inner and outer circle facing a partner. The teacher asks a question and the students are given time to respond to their partner. Next, the inner circle rotates one person to the left. The teacher asks another question and the cycle repeats itself.
Pop It (Bubble Wrap)	Students write what they want to know about a topic on a dot sticker. Place each sticker on the bubble wrap. When a topic is covered, the student pops the bubble.
Project Study Group	Analyzing incorrect responses in multiple choice questions
Quick Writes	A timed writing in response to a question or prompt (can be used before, during, or after instruction)
Rubric	A scoring guide using subjective assessments that is generally composed of dimensions for judging student performance.
Say Something	Students take turns leading discussions in a cooperative group on sections of a reading or video
Slap It	Students are divided into two teams to identify correct answers to questions given by the teacher. Students use a fly swatter to slap the correct response posted on the wall.
Student Data Notebooks	A tool for students to track their learning: Where am I going? Where am I now? How will I get there?

Check For Understanding Strategy	Description
Take and Pass	Cooperative group activity used to share or collect information from each member of the group; students write a response, then pass to the right, add their response to next paper, continue until they get their paper back, then group debriefs.
Timed Pair Share	Given a prompt, students pair up and share their perspective for a given amount of time, taking turns (A talks, B listens, then B talks, A listens)
Triangular Prism (Red, Yellow, Green)	Students give feedback to teacher by displaying the color that corresponds to their level of understanding
Word Sort	Given a set of vocabulary terms, students sort in to given categories or create their own categories for sorting
Whip Around	Teacher poses a question and students list three items. All students stand. Teacher randomly calls students to share, if their topic is called they sit. Teacher continues til all students are sitting.

Other CFU Resources:

http://www.edutopia.org/blog/dipsticks-to-check-for-understanding-todd-finley

http://www.edutopia.org/pdfs/blogs/edutopia-finley-53ways-check-for-understanding.pdf

http://elschools.org/node/36967

SHREVE GED ACADEMY
Skill Builder Plan

Complete Sample Skill Builder Plan Page 1

SHREVE GED ACADEMY SKILL BUILDER

Subject: MATHEMATICS   Unit MATHEMATICS REASONING   Topic: QUANTITATIVE PROBLEM SOLVING WITH RATIONAL NUMBERS   Targeted Skill: APPLY NUMBER SENSE CONCEPTS TO RATIONAL NUMBERS

Level ___X___ 4-6   ___X___ 7-9   _____ 10-12   _____ Fast Track   Contributor(s) DEBRA KAVANAUGH

DATES IMPLEMENTED: 1-5-2015			# OF MINUTES: 90	

OBJECTIVE(S): TLWBAT

Behavioral Verb	Condition / Situation	Degree: How well?	E/A
DOK 1: Create common numerators and denominators	between positive unlike fractions	as a small group activity to 75% accuracy	✓
DOK 1,2: Compare unlike fractions	by creating common denominators or numerators	as a small group activity to 75% accuracy	✓
DOK 1,2: Record the results of comparing positive unlike fractions with symbols >, =, or <	by creating common numerators and denominators	as a small group activity to 75% accuracy	✓
DOK 2: Justify the conclusion of some of the results from the exercises above	by representing the comparison with a visual fraction model	as a small group activity to 75% accuracy	✓
DOK 1,2: Order the results of comparing unlike positive fractions	on a number line using benchmark fractions such as ½	as a small group activity to 75% accuracy	✓

STANDARDS: GED 2014: Q. 1.α: Order fractions and decimals, including ordering on a number line.

CCSS: Math.Content.4. NF.A.2: Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fractions such as ½. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g. by using a visual fraction model.

OTHER

PRE-LEARNING

Number Dating Service Game! (Finding multiples) Review of factoring and using the numbers to find "common multiples" for different numbers. A precursor to finding common numerators and denominators in fractions.

Application: Students are each assigned a number. They are to identify all possible factors. Then students find all possible "matches" (dates) with other students based on their "common multiples."

INPUT

When comparing unlike fractions you cannot compare the fractions directly because they have different denominators. This means that the "whole" part to which the fractions refer are different from one another. Therefore you must change them to reflect a common "whole." Review the information presented in the websites:

Wiki How http://www.wikihow.com/Find-the-Least-Common-Denominator

Help with Fractions: http://www.helpwithfractions.com/math-homework-helper/least-common-denominator/ and *Learn Zillion* https://learnzillion.com/lessonsets/220-compare-fractions-by-creating-common-denominators-or-numerators-2

Fractional Clothesline http://illuminations.nctm.org/Lesson.aspx?id=2867

Terms to emphasize:
1. Listing Multiples
2. Primes
3. Least common denominator (LCD)
4. Symbols >, =, or <
5. Visual fraction model
6. Number line/order

CFU: Alternately throwing out a term or definition and asking "volunteers"

MODELING (TEACHER DRIVEN)

For each step in INPUT (1-6), demonstrate the process using multiple examples:
1. Listing Multiples
2. Primes
3. Least common denominator
4. Symbols >, =, or <
5. Visual fraction model
6. Number line/order

Examples for #1-3 are provided on the websites. Additional examples can be teacher made or taken from Foundations Mathematics pgs. 136 and Pre-GED Skill Workbooks Mathematics 2 p. 10

Examples for #4 are teacher made
#5 Visual fraction model: http://www.visualfractions.com/worksheets/numeratoranddenominator/numeratoranddenominator.pdf
#6 Number line model: http://www.mathisfun.com/numbers/fraction-number-line.html and teacher created number line

CFU: Choral Response

SHREVE GED ACADEMY SKILL BUILDER

GUIDED PRACTICE (STUDENT DRIVEN)
For each step in INPUT (1-6), ask student volunteers to solve for sample problems:
1. Listing Multiples
2. Primes
3. Least common denominator
4. Symbols >, =, or <
5. Visual fraction model
6. Number line/order

Use additional examples from the materials used in Guided Practice. Remind students to "talk" their way through aloud as they solve the samples for the benefits of other students.

CFU: Ask the "audience" to verify the answers and to "assist" student volunteers who get stumped.

INDEPENDENT PRACTICE [STUDENT(S) ONLY]
Groups: Break into groups of 3 or 4. Distribute teacher-made unlike fractions sheets. Ask students, as a group to go through steps 1-5 (show ALL work) in order to prepare the original fractions appropriately on the number line.

Individual: Each student in the group selects set of fractions and goes through steps 1-5 (show ALL work) and then explain his/her answer to the group in order to prepare the original fractions appropriately on the number line.

Groups display original fractions on number line. Be sure EACH student has an opportunity to post a fraction on the number line and is prepared to be "challenged."

CFU: As a class, verify answers. Allow students to "challenge" a fraction placement. Ask student volunteers to "remedy" and explain any wrong answers.

CLOSURE
Grape Fraction Project: Divide class into three groups. Display Grapefruit cut into sections. Distribute the following products, one to each group:
Grapes
Box of raisins
Grapenut Flakes (in a box) and cups

As groups, compare ¼, 1/3, 3/5 of each of the fruits to one another.

Ask the groups to create an (approximate) equivalent portions for:
½ grapefruit
1/3 grapefruit
3/5 grapefruit

Create equivalent fractions for the portions using grapefruit as the "whole."

Ask students to speculate, using the information above, as to why it is important to refer to the same "whole" when managing fractions. (Answer: A fraction refers to a portion of the whole but doesn't designate the size of the whole.)

TYPE OF SKILL BUILDER
X Informational X Developmental X Application
☐ Drill/Review ☐ Appreciation ☐ Discovery
☐ Assessment ☐ Event ☐ Other:____

INSTRUCTIONAL SETTING
X Whole Class ☐ Team X Group ☐ Pair
☐ Individual ☐ Other:____

TEACHING METHODS
X Questions X Explanation X Demonstration
X Collaboration ☐ Multimedia ☐ Discovery
☐ Other:____

LEARNING STYLES
X Visual X Auditory
X Kinesthetic/Tactile ☐ Read / Write
☐ Other:____ ☐ Other:____

COMPUTER / A.V. EQUIPMENT
X Computer (D or L) X USB Port/USB Drive X Internet Connection
X Digital Camera (P or V) X White/Chalk Board
X LCD Projector/Screen

DIGITAL RESOURCES
X Websites: Wiki How http://www.wikihow.com/Find-the-Least-Common-Denominator; Help with Fractions: http://www.helpwithfractions.com/math-homework-helper/least-common-denominator/
Learn Zillion https://learnzillion.com/lessonsets/220-compare-fractions-by-creating-common-denominators-or-numerators-2
Fractional Clothesline http://illuminations.nctm.org/Lesson.aspx?id=2867
Visual fraction model: http://www.visualfractions.com/worksheets/numeratoranddenominator/numeratoranddenominator.pdf; Number line model: http://www.mathisfun.com/numbers/fraction-number-line.html

OTHER RESOURCES
X Print Contemporary Foundations Math p. 136
X Print NRP Pre-Skill Workbook Mathematics 2 p. 10-11
X Teacher-made Number Dating Game, Timeline Clothesline, Grape Fraction Game,
X Student-made Visual Fraction Model

EVALUATION/ASSESSMENT TOOLS
X Observation (determine if class is ready to move on)
☐ Demonstration
☐ Presentation
☐ Project / Portfolio
☐ Interview
☐ Survey
☐ Journal
☐ Writing Sample
☐ Graphic Organizer
☐ All/Choral Response
☐ Rubric
☐ Checklist
☐ Standardized Test
☐ Teacher Made Test
☐ Other:____
☐ Other:____

Observations were used as a formal assessment will follow after all related skills have been taught/practiced

SHREVE GED ACADEMY SKILL BUILDER

COMPUTER LAB ASSIGNMENT (OPTIONAL)	SKILL BUILDER EVALUATION (Rate 1-5; 5 as excellent, 1 as	NOTES
Students will work on assignment during lab	unsatisfactory)	For several new students, I will have to set up a review of fraction basics
Fractions Booster Activity	5 Ease of presentation of information.	between now and the next math class.
http://www.bgfl.org/bgfl/custom/resources_ftp/client	3 Ease of information acquisition and application by students.	
ftp/ks2/maths/fractions/level4.htm	4 Did the SKILL BUILDER meet the stated objectives/standards?	
	5 Can the SKILL BUILDER be readily and satisfactorily duplicated?	
	_X_ Comments: I am not sure if the Closure Activity was sufficiently	
EXTENDED ASSIGNMENT (OPTIONAL)	managed to satisfy the objective "Recognize that comparisons are valid	
	only when the two fractions	
NONE	refer to the same whole." I will follow this up in a forthcoming lesson.	

_____ Copy submitted to Adult Education Department Coordinator _____ Copy filed at _____ Branch Shreve Memorial Library

You can see that the original template "expanded" to three pages and that some selections in the boxes were eliminated as they were not used in this lesson. Coupling these two features together allows the Skill Builders to retain fewer pages and, thus, more manageable for storage and usage.

One quick, important note: Some instructors feel that teaching from the Skill Builder is difficult in that there are that it is difficult to read with all the information crammed together. Skill Builders are not to teach from---they are to plan with. You may use whatever outline or structure you wish in the classroom (often called "teacher notes"). The template is intended as a building tool only.

Supportive Resources

Online

- ***2014 GED Test Curriculum Blueprint*** (*www.passged.com/media/pdf/educators/curriculum-blueprint.pdf*)
- ***The Assessment Guide for Educators*** (*http://www.gedtestingservice.com/uploads/files/8c13f2e71e85447c9c4caff12b4cf943.pdf*)
- ***Chapter XI. Types of Teaching*** (*http://encyclobooks.com/How-to-Teach-Religion/CHAPTER-XI-TYPES-TEACHING.htm*)
- ***Commission on Adult Basic Education Repository*** (*http://coabe.org/html/resourcerepository.html*) *this website is essential to accessing new resources and information vital to professional and student development. The site provides free reports and guides are incredibly helpful when tackling content specific topics and practical applications such as:* ***An Educator's Guide to the GED 2014 Social Studies Test; Don't Hate Math; Making Algebra More Meaningful: Hands-on Workshop for Exploring Algebraic Thinking and Graphing ; Using Visual Models to Build Conceptual Understanding; Tactile, Paper, and Tech: The Complete Math Experience 2014***
- ***Core Curriculum State Standards*** (*www.corestandards.org/ELA.Literacy/*)
- ***ETS HI SET*** (*http://hiset.ets.org/about/overview*)
- ***The GED: A Content Comparison between 2002 and 2014*** (*http://www.gedtestingservice.com/uploads/files/2487f6e1ca5659684cbe1f8b16f564d0.pdf*).
- ***GED Language Arts: Florida Department of Education*** (*http://www.fldoe.org/core/fileparse.php/7522/urlt/0061318-2014-ged-rla.pdf*)
- ***GED Science: Florida Department of Education*** (*http://www.fldoe.org/core/fileparse.php/7522/urlt/0061321-2014-ged-science.pdf*)
- ***GED Social Studies: Florida Department of Education*** (*http://www.fldoe.org/core/fileparse.php/7522/urlt/0061322-2014-ged-ss.pdf*)

- ***GED TESTING: The Wonderful World of GED Testing Technology*** *Another good computer skills resource.*
  (*http://www.gedtestingservice.com/uploads/files/cd8051220813946a8ca9faa2299425a1.pdf*)
- ***Handout Packet - Adult Basic Skills Professional Development***
  abspd.appstate.edu/.../Social%20Studies%20Safari%20Workbook.docx
- ***Instructor Guide: Computer Skills for the 2014 GED.*** *A really great source of study direction for the GED/HiSET student* (*http://www.csus.edu/coe/hep/instructional/assets/ged-instructor-guide-computer-skills-2014.pdf*)
- ***Instructional Scaffolding to Improve Learning*** (*http://www.edutopia.org/blog/scaffolding-lessons-six-strategies-rebecca-alber*)
- ***Spiral Learning***
  http://headrush.typepad.com/creating_passionate_users/2005/02/spiral_learning.htm
- ***Study Guides and Strategies*** (*http://www.studygs.net/*) ***everybody*** *should read and participate in these strategies—not just for studying!*
- ***Using Webb's Depth of Knowledge to Increase Rigor*** *http://www.edutopia.org/blog/webbs-depth-knowledge-increase-rigor-gerald-aungst*

Professional Shelf
The Art of Teaching: Best Practices from a Master Educator (DVD Series by Great Courses, 2010)
Easy Information Sources for ESL, Adult Learners, & New Readers by Rosemarie Riechel
Developing Adult Learners by Kathleen Taylor, et. Al
Developing Critical Thinkers by Stephen D. Brookfield
Discussion as a Way of Teaching by Stephen D. Brookfield and Stephen Preskill
Diversity & Motivation: Culturally Responsive Teaching by Raymond J. Wlodkowski and Margery B. Ginsberg
Effective Adult Literacy Programs by Renee S. Lerche
How the Way We Talk Can Change the Way We Work by Robert Kegan
Planning Programs for Adult Learners by Rosemary S. Caffarella
Power in Practice: Adult Education and the Struggle for Knowledge and Power in Society by Ronald M. Cervero, et. Al
Strategies that Work: Teaching Comprehension to Enhance Understanding by Stephanie Harvey and Anne Goudvis
Teaching Adults: A 2014 GED Test Resource Book   New Readers Press 2013
Transforming Information Literacy Instruction Using Learner-Centered Teaching by Joan R. Kaplowitz
Women as Learners by Elisabeth Hayes, et.al

National Resource Organizations

American Association for Adult and Continue Education *http://www.aaace.org/*
American Council on Education *http://www.acenet.edu/Pages/default.aspx*
Coalition of Lifelong Learning Organizations *http://thecollo.org/*
COABE Commission on Adult Basic Education *http://www.coabe.org/*
National Adult Education Professional Development Consortium *http://www.naepdc.org/*

Other resources have been identified throughout the body of this manual.