# Three-Story House
# (Costa's Levels of Thinking)

To better understand the content being presented in their core subject areas, it is essential for students to learn to think critically and to ask higher levels of questions. By asking higher levels of questions, students deepen their knowledge and create connections to the material being presented, which in turn prepares them for the inquiry that occurs in tutorials. Students need to be familiar with Costa's (and/or Bloom's) Levels of Thinking to assist them in formulating and identifying higher levels of questions.

**Directions:** Read the poem below and review the "Three-House Story" on the next page. Both set the stage for Costa's Levels of Thinking.

One- Two- Three-Story Intellect Poem

There are one-story intellects,
two-story intellects,
and three-story intellects with skylights.

All fact collectors who have
no aim beyond their facts
are one-story people.

Two-story people compare, reason,
generalize, using the labor of
fact collectors as their own.

Three-story people idealize,
imagine, predict—their best illumination
comes through the skylight.

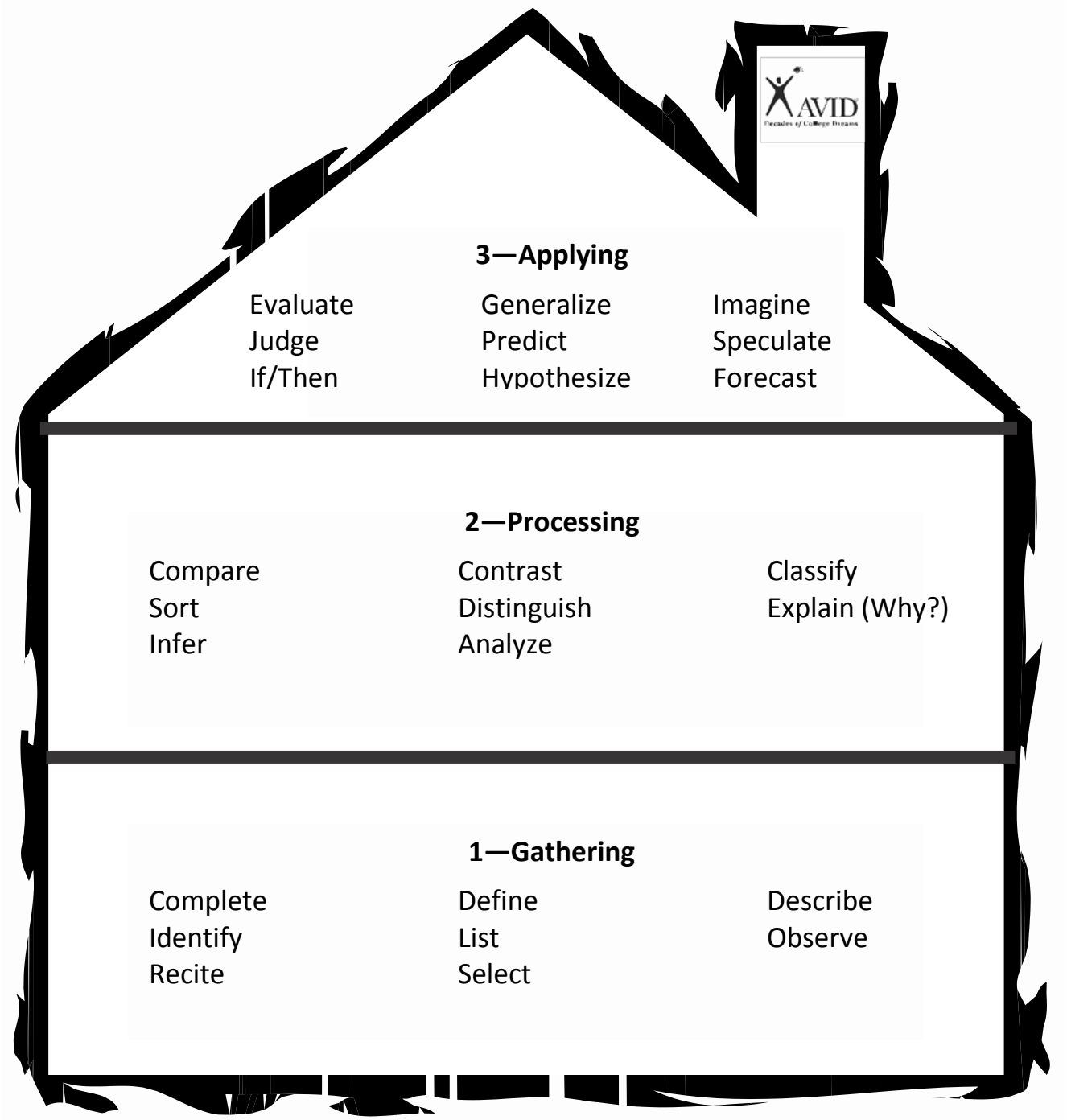
Adapted from a quotation by Oliver Wendell Holmes

# The Three-Story House

**Level 1** (the lowest level) requires one to gather information.

**Level 2** (the middle level) requires one to process the information.

**Level 3** (the highest level) requires one to apply the information.



# Vocabulary: Costa's Levels of Thinking

## *LEVEL 1*

| | | | | |
|---|---|---|---|---|
| **Remember** | Define | List | Recall | Match |
| | Repeat | State | Memorize | Identify |
| | Name | Describe | Label | Record |
| **Show Understanding** | Give examples | Rewrite | Review | Tell |
| | Restate | Recognize | Locate | Extend |
| | Discuss | Explain | Find | Summarize |
| | Express | Report | Paraphrase | Generalize |

## *LEVEL 2*

| | | | | |
|---|---|---|---|---|
| **Use Understanding** | Dramatize | Use | Translate | Interpret |
| | Practice | Compute | Change | Prepare |
| | Operate | Schedule | Pretend | Demonstrate |
| | Imply | Relate | Discover | Infer |
| | Apply | Illustrate | Solve | |
| **Examine** | Diagram | Question | Analyze | Criticize |
| | Distinguish | Inventory | Differentiate | Experiment |
| | Compare | Categorize | Select | Break down |
| | Contrast | Outline | Separate | Discriminate |
| | Divide | Debate | Point out | |
| **Create** | Compose | Draw | Plan | |
| | Design | Arrange | Compile | |
| | Propose | Suppose | Revise | |
| | Combine | Formulate | Write | |
| | Construct | Organize | Devise | |

## *LEVEL 3*

| | | | | |
|---|---|---|---|---|
| **Decide** | Judge | Rate | Choose | Conclude |
| | Value | Justify | Assess | Summarize |
| | Predict | Decide | Select | |
| | Evaluate | Measure | Estimate | |
| **Supportive Evidence** | Prove your answer. Support your answer. | Give reasons for your answer. | Explain your answer. Why or why not? | Why do you feel that way? |

# Bloom's Taxonomy

Bloom's Taxonomy categorizes the types of thinking students do into seven categories. Evaluation and synthesis are the most complex types of thinking and questioning, and knowledge and comprehension questions and thinking are the most basic forms.

**Evaluation**—Judging Based on Criteria

| | | | |
|---|---|---|---|
| Assess | Test | Select | Support |
| Decide | Measure | Judge | Conclude |
| Rank | Recommend | Explain | Compare |
| Grade | Convince | Discriminate | Summarize |

**Synthesis**—Using Parts of New Information to Create Whole

| | | | |
|---|---|---|---|
| Combine | Substitute | Invent | Prepare |
| Integrate | Plan | What if? | Generalize |
| Modify | Create | Compose | Rewrite |
| Rearrange | Design | Formulate | |

**Analysis**—Seeing Parts and Relationships

| | | | |
|---|---|---|---|
| Analyze | Explain | Arrange | Select |
| Separate | Connect | Divide | Explain |
| Order | Classify | Compare | Infer |

**Comprehension**—Understanding Meaning

| | | | |
|---|---|---|---|
| Summarize | Associate | Contrast | Discuss |
| Describe | Distinguish | Predict | Extend |
| Interpret | Estimate | Differentiate | |

**Knowledge**—Recalling Information

| | | | |
|---|---|---|---|
| List | Identify | Examine | Who |
| Define | Show | Tabulate | When |
| Tell | Label | Quote | Where |
| Describe | Collect | Name | |

# Content-Specific Questions
# Costa's Levels of Thinking: Math

| LEVEL 1 | LEVEL 2 | LEVEL 3 |
|---|---|---|
| What information is given? | What additional information is needed to solve this problem? | Predict what will happen to _ as _____is changed. |
| What are you being asked to find? | Can you see other relationships that will help you find this information? | Using a math principle, how can we find...? |
| What formula would you use in this problem? | How can you put your data in graphic form? | Describe the events that might occur if... |
| What does _____ mean? | What occurs when...? | Design a scenario for... |
| What is the formula for...? | Does it make sense to...? | Pretend you are... |
| List the...<br>Name the... | Compare and contrast _____ to _____. | What would the world be like if...? |
| Where did...? | What was important about...? | How can you tell if your answer is reasonable? |
| What is...? | What prior research/formulas support your conclusions? | What would happen to _____ if _____ (variable) were increased/decreased? |
| When did...? | How else could you account for...? | How would repeated trials affect your data? |
| Explain the concept of... | Explain how you calculate... | What significance is this formula to the subject you're learning? |
| Give me an example of... | What equation can you write to solve the word problem? | What type of evidence is most compelling to you? |
| Describe in your own words what _____ means. | | |
| What mathematical concepts does this problem connect to? | | |
| Draw a diagram of... | | |
| Illustrate how _____ works. | | |

# Costa's Levels of Thinking: Science

| LEVEL 1 | LEVEL 2 | LEVEL 3 |
|---|---|---|
| What information is given? | What additional information is needed to solve this problem? | Design a lab to show... |
| What are you being asked to find? | Can you see other relationships that will help you find this information? | Predict what will happen to _____ as _____ is changed. |
| What formula would you use in this problem? | How can you put your data in graphic form? | Using a science principle, how can we find...? |
| What does _____ mean? | How would you change your procedures to get better results? | Describe the events that might occur if... |
| What is the formula for...? | What method would you use to...? | Design a scenario for... |
| List the... | Compare and contrast _____ to _____. | Pretend you are... |
| Name the... | Which errors most affected your results? | What would the world be like if...? |
| Where did...? | What were some sources of variability? | What would happen to _____ if _____ (variable) were increased/decreased? |
| What is...? | How do your conclusions support your hypothesis? | How would repeated trials affect your data? |
| When did...? | What prior research/ formulas support your conclusions? | What significance is this experiment to the subject you're learning? |
| Describe in your own words what _____ means. | How else could you account for...? | What type of evidence is most compelling to you? |
| What science concepts does this problem connect to? | Explain the concept of... | Do you feel _____ (experiment) is ethical? |
| Draw a diagram of... | Give me an example of... | Are your results biased? |
| Illustrate how _____ works. | | |

# Costa's Levels of Thinking: English

| LEVEL 1 | LEVEL 2 | LEVEL 3 |
|---|---|---|
| What information is given? | What would happen to you if...? | Design a _____ to show... |
| Locate in the story where... | Would you have done the same thing as...? | Predict what will happen to _____ as _____ is changed. |
| When did the event take place? | What occurs when...? | Write a new ending to the story (event)... |
| Point to the... | Compare and contrast _____ to _____. | Describe the events that might occur if... |
| List the... Name the... Where did...? What is...? | What other ways could _____ be interpreted? | Add something new on your own that was not in the story... |
| Who was/were...? | What is the main idea of the story (event)? | Pretend you are... |
| Illustrate the part of the story that... | What information supports your explanation? | What would the world be like if...? |
| Make a map of... | What was the message in this piece (event)? | Pretend you are a character in the story. Rewrite the episode from your point of view. |
| What is the origin of the word_____? | Give me an example of... | What do you think will happen to _____? Why? |
| What events led to _____? | Describe in your own words what _____ means. | What is most compelling to you in this _____? Why? |
| | What does _____ suggest about _____'s character? | Could this story have really happened? Why or why not? |
| | What lines of the poem express the poet's feelings about _____? | If you were there, would you...? |
| | What is the author trying to prove? What evidence does he present? | How would you solve this problem in your life? |

# Costa's Levels of Thinking: Social Studies

| LEVEL 1 | LEVEL 2 | LEVEL 3 |
|---|---|---|
| What information is given? | What would happen to you if...? | Design a _____ to show... |
| What are you being asked to find? | Can you see other relationships that will help you find this information? | Predict what will happen to _____ as _____ is changed. |
| When did the event take place? | Would you have done the same thing as...? | What would it be like to live...? |
| Point to the... | What occurs when...? | Write a new ending to the event. |
| List the... | If you were there, would you...? | Describe the events that might occur if...? |
| Name the... | How would you solve this problem in your life? | Pretend you are... |
| Where did...? | Compare and contrast _____ to _____. | What would the world be like if...? |
| What is...? | What other ways could _____ be interpreted? | How can you tell if your analysis is reasonable? |
| Who was/were...? | What things would you have used to...? | What do you think will happen to _____? Why? |
| Make a map of... | What is the main idea in this piece (event)? | What significance is this event in the global perspective? |
| | What information supports your explanation? | What is most compelling to you in this _____? Why? |
| | What was the message in this event? | Do you feel _____ is ethical? Why or why not? |
| | Explain the concept of... | |
| | Give me an example of... | |
| | Describe in your own words what _____ means. | |

# Bloom's Taxonomy: Science and Math

| 1. KNOWLEDGE—recalling information | 2. COMPREHENSION—understanding meaning | 3. APPLICATION—using learning in new situations |
|---|---|---|
| What information is given?<br>What are you being asked to find?<br>What formula would you use in this problem?<br>What does _____ mean?<br>What is the formula for...?<br>List the...<br>Name the...<br>Where did...?<br>What is...?<br>Who was/were...?<br>When did...? | What are you being asked to find?<br>Explain the concept of...<br>Give me an example of...<br>Describe in your own words what _____ means.<br>What (science or math) concepts does this problem connect to?<br>Draw a diagram of...<br>Illustrate how _____ works.<br>Explain how you calculate... | What additional information is needed to solve this problem?<br>Can you see other relationships that will help you find this information?<br>How can you put your data in graphic form?<br>What occurs when...?<br>How would you change your procedures to get better results?<br>What method would you use to...?<br>Does it make sense to...? |
| **4. ANALYSIS—ability to see parts and relationships** | **5. SYNTHESIS—parts of information to create a new whole** | **6. EVALUATION—judgment based on criteria** |
| Compare and contrast _____ to _____.<br>What was important about...?<br>Which errors most affected your results?<br>What were some sources of variability?<br>How do your conclusions support your hypothesis?<br>What prior research/formulas support your conclusions?<br>How else could you account for...? | Design a lab to show...<br>Predict what will happen to _____ as _____is changed.<br>Using a principle of (science or math), how can we find...?<br>Describe the events that might occur if...<br>Design a scenario for...<br>Pretend you are...<br>What would the world be like if...? | How can you tell if your answer is reasonable?<br>What would happen to _____ if _____ (variable) were increased/decreased?<br>How would repeated trials affect your data?<br>What significance is this experiment/formula to the subject you're learning?<br>What type of evidence is most compelling to you?<br>Do you feel ____ experiment is ethical?<br>Are your results biased? |

# Bloom's Taxonomy: English and Social Science

| 1. KNOWLEDGE—recalling information | 2. COMPREHENSION—understanding meaning | 3. APPLICATION—using learning in new situations |
|---|---|---|
| What information is given?<br>What are you being asked to find?<br>Locate in the story where...<br>When did the event take place?<br>Point to the...<br>List the...<br>Name the...<br>Where did...? What is...?<br>Who was/were...? | What are you being asked to find?<br>Explain the concept of...<br>Give me an example of...<br>Describe in your own words what _____ means.<br>Illustrate the part of the story that...<br>Make a map of...<br>This event led to...<br>Describe the scenario... | What would happen to you if...?<br>Can you see other relationships that will help you find this information?<br>Would you have done the same thing as...?<br>What occurs when... ?<br>If you were there, would you...?<br>How would you solve this problem in your life?<br>In the library (on the Web), find info about... |
| **4. ANALYSIS—ability to see parts and relationships** | **5. SYNTHESIS—parts of information to create a new whole** | **6. EVALUATION—judgment based on criteria** |
| Compare and contrast _____ to _____.<br>What was important about...?<br>What other ways could _____ be interpreted?<br>What things would you have used to...?<br>What is the main idea of the story (event)?<br>What information supports your explanation?<br>What was the message in this piece (event)...? | Design a _____ to show...<br>Predict what will happen to _____ as _____ is changed.<br>What would it be like to live...?<br>Write a new ending to the story (event).<br>Describe the events that might occur if...<br>Add a new thing on your own that was not in the story.<br>Pretend you are...<br>What would the world be like if...? | How can you tell if your analysis is reasonable?<br>Would you recommend this _____ to a friend? Why?<br>What do you think will happen to? Why?<br>What significance is this event in the global perspective?<br>What is most compelling to you in this _____? Why?<br>Do you feel _____ is ethical?<br>Why or why not?<br>Could this story have really happened? Why or why not? |

# Moving On Up:
# Writing Higher-Level Questions

***Directions:*** Complete the table below by writing Level 2 and 3 questions that correspond to each Level 1 question provided for the fairy tale "Cinderella." The first set has been completed for you as an example.

| Level 1 | Level 2 | Level 3 |
|---|---|---|
| 1. What are the names of the three stepsisters? | 1. Compare and contrast Cinderella to one of her stepsisters. | 1. Justify the reasons why Cinderella's stepsisters are so undesirable to the prince. |
| 2. Who is the person that grants Cinderella her wish of attending the ball? | | |
| 3. What was Cinderella's coach made out of? | | |
| 4. What happened at midnight? | | |
| 5. Who found Cinderella's glass slipper? | | |
| 6. After Cinderella and the prince were married, how did they live? | | |
| 7. What was the slipper made of? | | |
| 8. What changes happened as a result of the fairy godmother's magic? | | |
| 9. How did Cinderella get her name? | | |
| 10. Describe the ball at the palace. | | |

# More Higher-Level Questions

| Level 1 | Level 2 | Level 3 |
|---|---|---|
| | | |
| | | |
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| | | |
| | | |

**Extension Activities**

1. Students may answer these questions by providing them with the fairy tale to have a text-based discussion.
2. Have students repeat this activity with a different fairy tale, subject, novel, or content area material.
3. Have students generate three level 1 questions, three level 2 questions, and three level 3 questions and fill in questions for the corresponding levels.
4. Use this activity to have students generate questions with content level material to prepare for a test.
5. Refer to this activity when students bring lower level questions during tutorials.

# Writing Higher-Level Questions Flowchart