



Table of Contents

Orientation Tasks

- Task 1 - Essential Skills Wall Chart
- Task 2 - Essential Skills Checklist
- Task 3 - Essential Skills Profile Review
- Task 4 - Giving and Receiving Feedback
- Task 5 - Using the Internet
- Task 6 - Scanning
- Task 7 – Ontario Skills Passport

Safety Tasks

- Task 1 - Material Safety Data Sheets
 - Task 1 – MSDS File
- Task 2 - Safety Checklists
- Task 3 - Web Search
- Task 4 - Workplace Health and Safety

Initial Stage Tasks

- Task 1 - Progress Evaluation
- Task 2 - Present your Work Daily
- Task 3 – Jewellery Making Videos
- Task 4 – Jewellery Making Definitions
- Task 5 – Discussion – Working in a Team
- Task 6 – Colour Theory
- Task 7 – Printing a File
 - Conversion File
- Task 8 – Heating Metal
- Task 9 - Multitasking
- Task 10 - Planning
- Task 11 – Research Assignment



Mid Stage Tasks

- Task 1 – Rounding Decimals
- Task 2 – Imperial to Metric
- Task 3 – Reading a Ruler
- Task 4 – Ordering Decimals
- Task 5 – Fractions to Decimals
- Task 6 – Home Studio
- Task 7 – Found Items
- Task 8 – Machine vs. Hand Made
- Task 9 – Metals Research
- Task 10 – Gauge to Millimeters

Final Stage Tasks

- Task 1 - Pricing Items
- Task 2 – Problem Solving
- Task 3 – Pricing the Project
- Task 4 – Commission Work
- Task 5 - Technical Skills
- Task 6 - Essential Skills Identification
- Task 7 - Top Three Essential Skills
- Task 8 - Career Research Assignment
- Task 9 – Finding Information
- Task 10 - Building your Résumé
- Task 11 - Group Wrap-Up



ESSENTIAL SKILLS WALL CHART



Document Use, Oral Communication

Thinking Skills: Decision Making, Critical Thinking

You will find the Essential Skills Wall Chart on the wall in the group room/classroom.

TASK STEPS

YOU WILL NEED:

- ✓ the Essential Skills Wall Chart
- ✓ a non-permanent marker

During the Orientation:

- Work as a group
- Scan the Wall Chart
- Discuss the nine Essential Skills
 - Information about Essential Skills can be found in your Student Notes
 - Use the Table of Contents to help you find the Essential Skills section
- Identify one Essential Skill you demonstrated in the Orientation
- Explain to the group why you selected this skill

At the End of Each Class:

- Work as a group
- Scan the Wall Chart
- Identify the most important Essential Skill you demonstrated or developed in class today
- Explain to the group why you selected this skill



Essential Skills provide the foundation that makes it possible for people to learn all other skills. These are the skills that will help you find and keep a job and manage change at work.



ESSENTIAL SKILLS CHECKLIST



Reading Text, Document Use, Writing

Thinking Skills: Decision Making, Critical Thinking

As mentioned in your Student Notes, you will have time at the end of each class to identify the Essential Skills you used during the class. You will be asked to work individually to complete your own checklist.

We recommend keeping your checklist at the front or back of your Student Notes so that it will be easy to find.

TASK STEPS

YOU WILL NEED:

- ✓ a pen/pencil
- ✓ a copy of your individual Essential Skills Checklist

- Work independently
- Review your own Essential Skills Checklist
- Assess all of the Essential Skills you demonstrated in class today
- Complete the checklist



Essential Skills provide the foundation that makes it possible for people to learn all other skills. These are the skills that will help you find and keep a job and manage change at work.



Orientation Task 2 – Essential Skills Checklist

Reading Text – Read sentences or paragraphs. Scan for information, skim for overall meaning and read a full text to understand, learn, critique or evaluate

Read Student Notes

Find information using the Table of Contents and/or scan your notes for information and answers to questions

Read and follow the step-by-step instructions in a task

Task #: _____ Task #: _____ Task #: _____ Task #: _____

Task #: _____ Task #: _____ Task #: _____ Task #: _____

Task #: _____ Task #: _____ Task #: _____ Task #: _____

Read material from other books, manuals and websites - identify those resources below.

Other, please list:



Orientation Task 2 – Essential Skills Checklist

Document Use – Read signs, labels or lists, interpret information on graphs or charts and enter information on forms

Complete an attendance/sign-in sheet

Read bulleted lists in your Student Notes and in the tasks

Read and understand a document

Material Safety Data Sheets (MSDS):

_____ _____

Other Documents:

_____ _____

Read and understand labels on product containers

Product: _____ Product: _____

Product: _____ Product: _____

Read and understand a chart

Avoiding Injuries Summary Transfer Method Chart

Burn Summary Safety Checklist

Imperial and Metric Reference Chart

Weld Direction Summary Chart

Bead and Penetration Summary Chart

Joint Summary Chart

Other _____

Complete a chart

Essential Skills Wall Chart

This Essential Skills Checklist:

Other Charts: _____ _____

Other, please list:



Orientation Task 2 – Essential Skills Checklist

Writing – Write text and fill in forms. Organize, record or document, inform or persuade and request information

Make notes in your Student Notes

Record notes to track your research

Record notes when you are completing a task

Record notes in a group discussion

Other, please list:

Numeracy – Use numbers and think in quantitative terms. Numerical estimation and numerical calculations including money math, scheduling or budgeting and accounting, measurement and calculation and data analysis.

Arrive on time and finish tasks on time

Move between SI (Metric) and Imperial measurements or Fahrenheit and Celsius

Use a ruler or tape measure

Use calipers

Measure metal wire and plates

Read measurements on a drawplate, mandrill or other tools



Orientation Task 2 – Essential Skills Checklist

Track time in minutes and/or hours <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Use a calculator <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Add two measurements e.g. 1 mm + 1 mm = 2 mm <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Other, please list:
Oral Communication – Use speech to give and exchange thoughts and information. Greet people, reassure, or persuade, seek or obtain information, resolve conflicts, facilitate or lead a group.	
Talk with others as you worked <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Present on behalf of your group <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Ask questions of the instructor and/or discuss your progress <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Work with a partner on a task <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Give or receive feedback (help, advice, ideas, opinions) <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Participate in group brainstorming activities and/or discussions <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Report an accident, spill, injury or problem with equipment <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Listen to and follow directions <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Other, please list:	



Orientation Task 2 – Essential Skills Checklist

Thinking Skills – A process of evaluating ideas or information to reach a rational decision. Problem solving, decision making, critical thinking, job task planning and organizing, significant use of memory, finding information (each Thinking Skill is outlined below)

Problem Solving (Thinking Skills) – A problem requires a solution

Your metal overheats

Your metal develops fire scale

A piece of metal is not the right length, thickness or diameter

You are not happy with your design

Your solder floods, balls, won't flow or flows unevenly

Other, please list:

Decision Making (Thinking Skills) – Make a choice among options

Select/ wear appropriate clothing for jewellery making

Decide on steps for completing a task

Make a group decision

Decide which project to work on

Decide on the tools you will use on your projects

Decide on the techniques you will use for a project



Orientation Task 2 – Essential Skills Checklist

Decide on a pattern, design, colours, finding, materials and/or finish for a piece <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Decide who to work with on a project or task <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Other, please list:	
Critical Thinking (Thinking Skills) – Evaluate ideas or information using a rational, logical, thought process and refer to objective criteria to reach a rational judgment about value or to identify strength and weakness (judge, assess, evaluate, consider, review)	
Assess your surroundings for safety and cleanliness before starting and ending your work <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Evaluate tools before using them <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Assess metal temperature and/or metal readiness for the next step <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Assess the job and select the tools and materials <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Assess your work and identify problems and strengths <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Evaluate your piece and assess your progress and skill development <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Assess the work of others <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Assess your techniques and make necessary adjustments <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Assess solder as it melts to determine when to remove heat <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Assess metal during filing, sanding and polishing to determine when its time to move to the next stage <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>



Orientation Task 2 – Essential Skills Checklist

Assess our pattern before you begin: do you like it, will it work, and do you have the skills and tools to do it?

Evaluate metal for each project: is it a good choice; is it the right size, and shape?

Other, please list:

Job Task Planning and Organizing (Thinking Skills) - Plan and organize your own job tasks.

Organize activities in your day, within the structure of the course

Identify an overall plan for completing a project

Have all tools, equipment and materials ready before you start

Schedule your work so you finish the project on time

Identify your next steps, after this course has ended

Other, please list:

Significant Use of Memory (Thinking Skills) - Over and above things you need to remember on a day-to-day basis

Remember solutions to common jewellery making problems

Remember the Essential Skills and Technical Skills you demonstrated in class



Orientation Task 2 – Essential Skills Checklist

Other, please list:

Finding Information (Thinking Skills) – Use a variety of sources for information

Find additional welding information and resources

Search for information required to complete the tasks

Find information to share with the others in the group

Other, please list:

Working with Others – Work independently, jointly with a partner, as a member of a team or as a supervisor or leader.

Work with others to solve problems

Work with others to generate a list through brainstorming

Work independently on your project

Work with one other person on a task or project

Work with others in small and large groups to complete tasks

Take a leadership role

Other, please list:



Orientation Task 2 – Essential Skills Checklist

Continuous Learning – Ongoing process of gaining new skills and knowledge through others, on the job or through formal training

Research and/or sign up for another course or workshop

Other, please list:

Computer Use – Use the internet, word processing software, email or create spreadsheets

Open a web browser

Enter a URL into the address bar on your computer

Use a search engine to find jewellery making information

Follow links to jewellery making websites

Watch online videos about jewellery making

Send an email to a friend, another student or the instructor about the class

Print information or a file

Other please list:



ESSENTIAL SKILLS PROFILE REVIEW



Reading Text, Document Use, Oral Communication

Thinking Skills: Decision Making, Critical Thinking

As mentioned in your Student Notes, there are nine Essential Skills needed for success in almost every job.

Essential Skills Include:

- Reading
- Document Use
- Numeracy
- Writing
- Oral Communication
- Working with Others
- Thinking Skills
 - Problem Solving, Decision Making, Critical Thinking, Job Task Planning and Organizing, Significant Use of Memory, Finding Information
- Continuous Learning
- Computer Skills



Note: We are not assuming that you will want to be a jewellery maker or that this course will prepare you to work as one.

Essential Skills web site:
http://srv108.services.gc.ca/english/general/home_e.shtml

TASK STEPS

YOU WILL NEED:

- ✓ pen/pencil or highlighter



STEP ONE:

- Work independently to scan the profile on the next few pages
- Decide which three of the nine Essential Skills you would consider to be the most important for someone in this field
- Use a pen/pencil or highlighter to mark your three choices

STEP TWO:

- Discuss the profile as a group
 - How could reading Essential Skills profiles help you with a career decision or help you with your job search?
- Discuss your three Essential Skills choices

The following information has been gathered from the Essential Skills Profile for Jewellers, Watch Repairers found at the Human Resources and Skills Development Canada website: <http://srv108.services.gc.ca/english/profiles/215.shtml>. This site has the full, detailed Jewellers, Watch Repairers profile as well as many other occupational profiles.

7344 Jewellers, Watch Repairers and Related Occupations



GIVING AND RECEIVING FEEDBACK



Document Use, Writing, Oral Communication

TASK STEPS

YOU WILL NEED:

- ✓ flipchart paper or a blank sheet of paper
- ✓ a marker

STEP ONE:

- Work as a group
- Discuss the difference between feedback and criticism

STEP TWO:

- Appoint a recorder for the group
 - The recorder will:
 - divide a piece of paper in half (flipchart paper or sheet of paper)
 - write “Giving” on one side of the page
 - write “Receiving” on the other side of the page
 - record the group discussions
- Brainstorm the things that you think are important to remember when giving feedback
- Brainstorm the things that you think are important to remember when receiving feedback
- Post the list you have created so you can use it throughout this course



Brainstorming: a technique where all ideas are listed before you move on to the critical thinking and decision making stages. Each member of the group shares their ideas. No idea is discussed or disregarded. It is usually done in a group but can be done independently.



USING THE INTERNET



Reading Text, Document Use, Computer Use

Thinking Skills: Decision Making, Finding Information

There may be times in this course when you want or need to use the internet to search for information about jewellery making. This task will introduce you to the basics of using a browser and a search engine to find information. However, before you complete the task, take a few minutes to read the following definitions.

Desktop: The screen you will see when you turn on your computer. You will see icons for the software programs you have on your computer. Double clicking on the icons will open the software program.

Desktop Icon: An image or graphic that provides a link to software, often called a Shortcut.

Web Browser: Software used to access information on the World Wide Web. Most people are familiar with the browser called Windows Internet Explorer; however Mozilla Firefox, Apple Safari, Google Chrome and Opera are examples of other web browsers you can use.

Log on: Connecting to the internet using a web browser.

Address Bar: This is the area at the top of your screen where you enter a URL or web site address.

URL: URL stands for Uniform Resource Locator. This is the address that tells your computer where to find the file on the internet. It usually starts with <http://www>.

Web Search Engine: A tool designed to help you search for information on the World Wide Web. When you enter the information you are searching for (e.g. a word, a term or a phrase) and click search, a list of related web sites will display on your screen. From there you can visit any web site that looks like it will provide you with the information you need.



Bookmarks: When you are visiting a web site that you want to return to at a later date you can bookmark the site. This allows you to store the URL on your computer. When you open the web browser in the future and click on “Bookmarks”, you will see all of your bookmarked sites. If you click on the site name you will return to the web site without having to complete another search or remember the URL.

Note: If you look at the menu at the top of the Firefox web browser you will see the word “Bookmarks” and in Internet Explorer you will see the word “Favorites”.

TASK STEPS

YOU WILL NEED:

- ✓ a computer
- ✓ access to a web browser
- ✓ a search engine

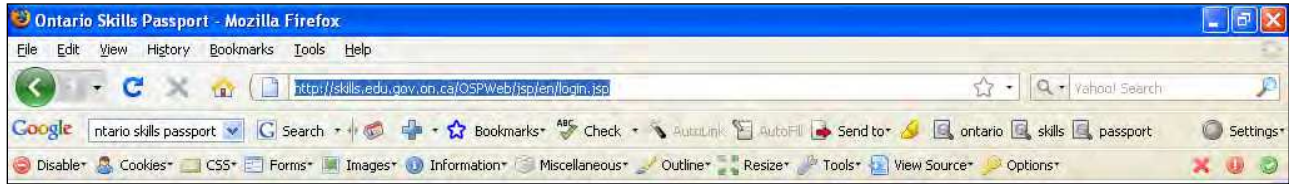
STEP ONE:

- Work independently to complete this task
 - You will need access to the classroom computer
 - You may also want to work on this task at home
- Log onto the internet using a web browser
- Locate the Address Bar at the top of the page of your web browser
- Enter the following URL into the Address Bar:
<http://skills.edu.gov.on.ca/OSPWeb/jsp/en/login.jsp>

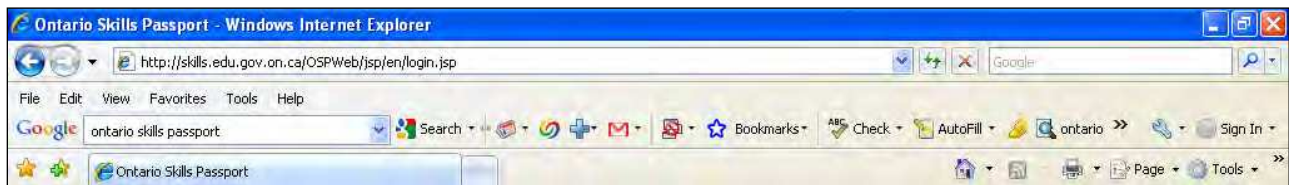


Orientation Task 5 – Using The Internet

Using Mozilla Firefox as your web browser your page will look similar to the image below:



Using Windows Internet Explorer as your browser your page will look similar to the image below:



Note: Once you have logged on, stayed logged on until you have completed all of the steps in this task.

STEP TWO:

- Enter the address of any search engine into the Address Bar at the top of your screen
 - Common search engines include:

www.google.com

www.yahoo.com

www.bing.com



Orientation Task 5 – Using The Internet

In the image below <http://www.google.ca> can be seen in the address bar. This has opened the Google Search Engine Page:



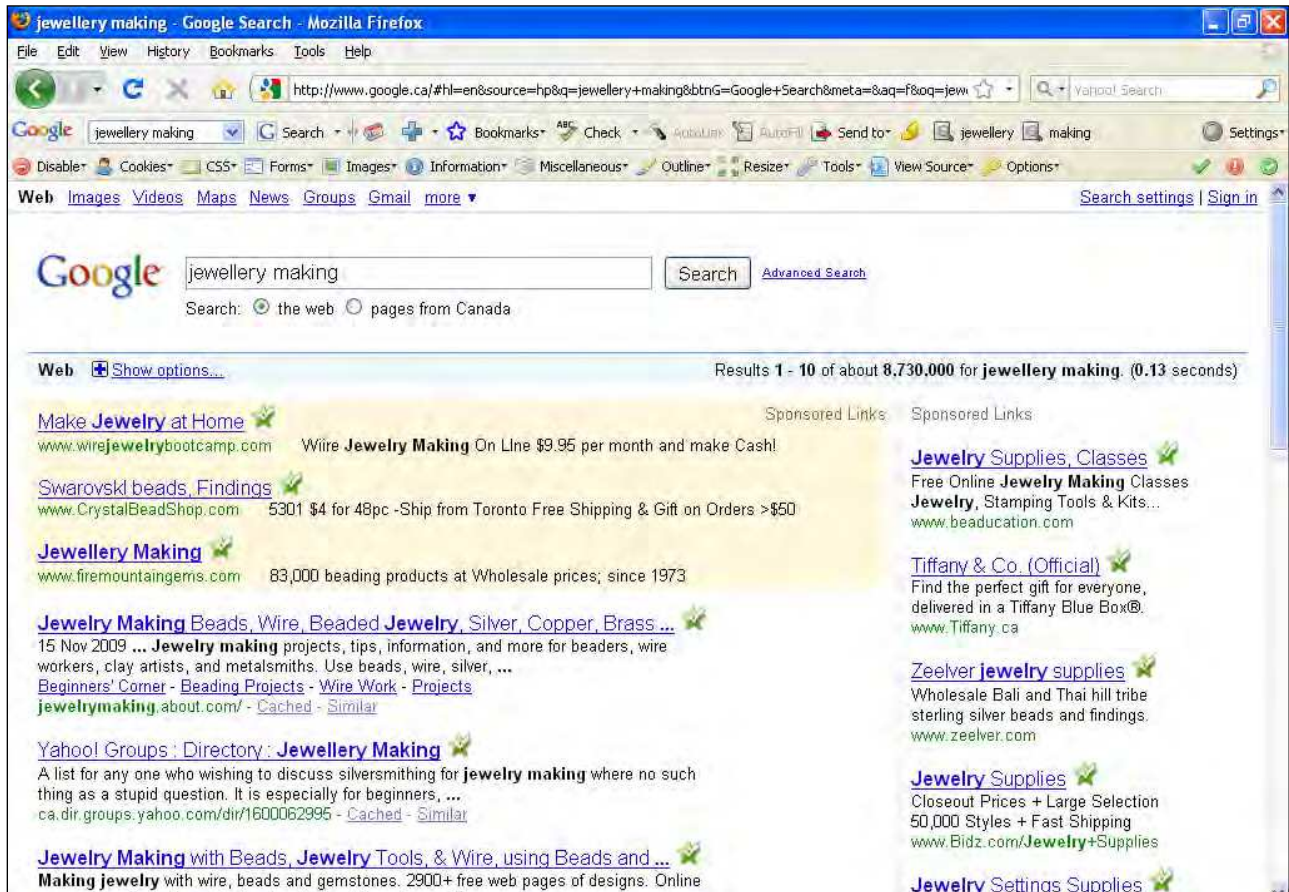
STEP THREE:

- Enter/type the word “Jewellery Making” into the search area, as shown in the image above
- Click “Search”
 - In the example above you would click “Google Search”
 - You can also select “pages from Canada”
- Click on one of the web sites listed (blue letters with a blue underline)
 - Visit a few sites before moving on to the next step

Note: Your screen will look similar to the one below.



Example of a page listing web sites you can choose to visit:



STEP FOUR:

- Find one site you would like to bookmark
- Look at the menu at the top of your screen and find the:
 - “Bookmark” menu if you are using Firefox
 - “Favorites” menu if you are using Internet Explorer
- Click the word “Bookmark” or “Favorites”
 - This will open a drop down menu
- Click:
 - “Bookmark this page” if you are using Firefox



- “Add to favorites” if you are using Internet Explorer

STEP FIVE:

- Look at the list of bookmarked sites on your computer
- Select one existing bookmarked site you would like to visit
- Click to open that site

Note: If you have an electronic file (e.g. a Word Document or PDF) that contains a link to a web site, you can access the site easily by completing the following steps:

- Open the file
- Find a web site address
 - The link will be blue and underlined
- Place your cursor over the link
- Hold the control - CTRL - key on your keyboard
- Use your cursor to click on the blue underlined URL
 - This will take you directly to the site



SCANNING



Reading Text,

The Essential Skill called Reading Text covers many different types of reading. Reading Text includes reading word for word in order to learn, scanning to find information or skimming to get the gist of the information being presented.

In this course you will be asked to read the Student Notes. This requires that you read the text in detail in order to learn about jewellery making. You will also be required to read the Essential Skills tasks presented in the course.

Some of the tasks in this course will ask you to scan for information. Scanning means that your eyes will run over the text looking for specific information rather than reading every word. It involves quickly locating keywords and finding specific information. If you are looking for information to help you complete the task or to help you make a decision, you are most likely scanning.

Note: There have been many studies done to track the eye movement of people looking at web sites. It has been found that most people scan rather than read web pages.





SCANNING AN ARTICLE



Reading Text, Document Use, Writing

Thinking Skills: Decision Making, Critical Thinking

The following article is the type of article you might scan if you were interested in learning more about jewellery making.

TASK STEPS

YOU WILL NEED:

- ✓ a pen/pencil/highlighter

STEP ONE:

- Work independently
- Complete the five questions below by scanning the “Handmade Silver Jewellery” article on the pages following this task
 - Try to complete this exercise by scanning the text only
 - Record your answers in the space available under each question or use a pen/pencil/highlighter to mark your answers directly in the article

QUESTIONS

1. Sterling silver is not 100% silver. What percentage of sterling silver is actually silver?
2. Who should wear silver?
3. How should you store your silver jewellery and why?
4. How does handcrafted jewellery preserve local traditions?
5. Why should you buy fair trade jewellery?

<http://worldofgood.ebay.com/shopping-guides/handmade-silver-jewelry/127>

Handmade Silver Jewelry

Handmade silver jewelry, especially when designed and created by artisans from around the world, adds equal pizzazz to a glamorous night out or a casual day in the sun. When a true artist or silversmith crafts a necklace, bracelet, ring, or any kind of jewelry from silver, gold, and a unique selection of stones, you know you're getting more than basic bling! You're purchasing a work of art, not just a piece of jewelry. And since the jewelry is made by hand, each piece is unique to you.

But first, a word about sterling silver

Pure silver isn't strong enough to be made into functional objects - and yes, jewelry counts as functional! So metalsmiths add a tiny bit of another metal such as copper to create an alloy called sterling silver. You'll see sterling rated as .925 or .950, which means it's either 92.5% or 95.0% silver. Silver plate is beautiful, too, but if getting the real thing is important to you, look for the "Sterling" mark on the metal.

Be sure to keep all your silver jewelry, whether it's sterling or silverplate, in soft fabric bags to minimize tarnish. Or if you're willing to drag out the silver polish whenever you want to wear one of your treasures, consider keeping them in a handcrafted silver jewelry box.



Who should wear silver?

Everyone!

The diversity of combinations is endless - from elegant necklaces or chokers to delicate earrings, as well as bracelets, cuffs, brooches, rings, ankle bracelets, and pins. For men, wide wrist cuffs make a special statement.



Individual artists tend to select different themes and materials for their jewelry, often characteristic of the designs from the artist's native country, which helps to preserve local traditions. Look for a ring or necklace with silver in a beautiful sculpted settings that shows off a single precious stone as the centerpiece. Some beautiful combinations are silver with mother of pearl, amazonite, emerald, ebony, or jade. Jewelry sets combine necklace and earrings, necklace and bracelet, or all three pieces so the wearer can mix and match to her heart's content. Some artists are even taking antique silver jewelry and recycling it into contemporary, chic designs.

Silver with a story

Sterling silver jewelry is made in many exotic international locales, with some of the finest coming from artists in Mexico and across the globe in the town of Celuk, which lies at the heart of Bali's silver industry. Silver jewelry also originates in a number of Asian countries and throughout South America - perhaps most notably in Peru and other localities where Andean silver can be found.

But no matter where your jewelry comes from, look for hand-crafted silver jewelry made in eco-friendly workshops by Fair Trade communities of silversmiths and jewelry designers. Fair Trade helps impoverished people worldwide who make products such as handmade jewelry to build a better life for their children, families, communities, and themselves. When you buy Fair Trade items you are directly helping the people who made them by ensuring that those workers and artisans receive a living wage for their labor.



ONTARIO SKILLS PASSPORT



Document Use, Oral Communication, Computer Use

Thinking Skills: Decision Making, Critical Thinking

TASK STEPS

YOU WILL NEED:

- ✓ pen/pencil
- ✓ computer and internet

STEP ONE:

- Log onto the internet using a web browser
- Locate the Address Bar in your web browser
- Enter the following URL into the Address Bar:
<http://skills.edu.gov.on.ca/OSPWeb/jsp/en/introduction.jsp>
- Spend 10 minutes exploring this site

STEP TWO:

- Remain logged onto the internet
- Enter the following URL into the Address Bar: <http://www.jobbank.gc.ca/>
- Find a job posting that identifies the Essential Skills necessary for the position

STEP THREE:

- Work as a group
- Discuss what you found in your search
 - How could you use the information in these sites?
 - How will your knowledge of Essential Skills help you with your job search?



MATERIAL SAFETY DATA SHEETS



Reading Text, Document Use, Oral Communication, Writing

Thinking Skills: Finding Information

Material Safety Data Sheets – MSDS are documents written for people who use hazardous materials. They contain information about the physical or chemical hazards associated with using the material. They outline the safe handling, storage and disposal as well as steps for dealing with emergencies, fires, spills and overexposure.

Any material covered by the Workplace Hazardous Materials Information System (WHMIS) must have an MSDS. This means that if you are working with a hazardous substance, you must have access to MSDS in your workplace and you should be trained to work with the material safely.

TASK STEPS

YOU WILL NEED:

- ✓ pen/pencil or highlighter
- ✓ Material Safety Data Sheet (MSDS) for Sodium Bisulfate

STEP ONE:

- Find a partner
- Scan the Material Safety Data Sheet (MSDS) for Sodium Bisulfate
- Work with your partner to find the answers to the questions on the following page
 - Record your answers in the space available under each question or use a pen/pencil/highlighter to mark your answers directly on the MSDS



Note: If your eyes are running over the text looking for specific information you are actually using a reading technique called scanning. Scanning involves glancing over the text quickly to locate keywords and find specific information.

Questions:

1. How is Sodium Bisulphate used in Jewellery Making?
2. How should you store Sodium Bisulphate?
3. What types of gloves should be worn when handling Sodium Bisulphate?
4. What would you do if you got Sodium Bisulphate on your hands or clothing?

STEP TWO:

- Work as a group
- Discuss MSDS and your experience using them at work
- Discuss your answers to the questions in this task
- Discuss your experience scanning for information

MATERIAL SAFETY DATA SHEET

Sodium Bisulphate

Section 01 - Chemical And Product And Company Information

Product Identifier Sodium bisulphate

Product Use Industrial pH adjuster; activating acid in formulated dry-acid cleaners, and metal cleaning compounds; disinfectant.

Supplier Name ClearTech Industries Inc.
2303 Hanselman Avenue
Saskatoon SK S7I 5Z3
Canada

Prepared By ClearTech Industries Inc. Technical Department
Phone: (306)664-2522

Preparation Date 04/22/04

24-Hour Emergency Phone 306-664-2522



Section 02 - Composition / Information on Ingredients

Hazardous Ingredients	Sodium Bisulphate	93.2%
	Sodium Sulphate	6.5%
	Water	0.3%
CAS Number	Sodium Bisulphate	7681-38-1
	Sodium Sulphate	7757-82-6
	Water	7732-18-5
Synonym (s)	Sodium bisulphate; sodium acid sulphate; GBS; Globular sodium bisulphate	



Section 03 - Hazard Identification

- Inhalation**..... Irritant. Dust or mist inhalation may irritate nose, throat, and lungs. Inhalation of dust will cause burns to the respiratory tract. May cause lung edema and subsequent loss of breathing.
- Skin Contact / Absorption**..... Moderate irritant. Prolonged contact may result in pain, severe redness and swelling, and chemical burns.
- Eye Contact**..... Corrosive. Corneal burns are possible if untreated. Blindness may result.
- Ingestion**..... Corrosive. Causes severe burns of mouth, throat, and stomach.
- Exposure Limits**..... No established limits. Treat as nuisance particulates. ACGIH-TLV = 10mg/m³ (total respirable dust)

Section 04 - First Aid Measures

- Inhalation**..... Remove victim to fresh air. Give artificial respiration only if breathing has stopped. If breathing is difficult, give oxygen. Seek immediate medical attention.
- Skin Contact / Absorption**..... Remove contaminated clothing. Wash affected area with soap and water. Seek medical attention if irritation occurs or persists
- Eye Contact**..... Flush immediately with water for at least 20 minutes. Forcibly hold eyelids apart to ensure complete irrigation of eye tissue. Seek immediate medical attention
- Ingestion**..... Do not induce vomiting. If vomiting occurs, lean victim forward to prevent breathing in vomitus. Give large amounts of milk or water. Follow with milk of magnesia, beaten eggs, or vegetable oil. Do not give anything by mouth to an unconscious or convulsing person. Seek immediate medical attention.
- Additional Information**..... Moderately corrosive agent which may burn any exposed tissues upon other than brief contact. Ophthalmologic consultation should be obtained for any corneal burns. Do not use chemical antidotes or neutralizing solutions. Dilute with water.

Section 05 - Fire Fighting

- Conditions of Flammability**..... Non-flammable
- Means of Extinction**..... Product does not burn. Use appropriate extinguishing media for material that is supplying the fuel to the fire.



- Flash Point**..... Not applicable
- Auto-ignition Temperature**..... Not applicable
- Upper Flammable Limit** Not applicable
- Lower Flammable Limit**..... Not applicable
- Hazardous Combustible Products.** When heated to decomposition at 299°C, oxides of sulphur are formed.
- Special Fire Fighting Procedures**.... Wear NIOSH-approved self-contained breathing apparatus and protective clothing.
- Explosion Hazards**..... None

Section 06 - Accidental Release Measures

- Leak / Spill**..... Wear appropriate personal protective equipment. Ventilate area. Only enter area with PPE. Stop or reduce leak if safe to do so. Prevent material from entering sewers.
- Deactivating Materials**..... Bases such as sodium carbonate, sodium hydroxide, and soda ash.

Section 07 - Handling and Storage

- Handling Procedures**..... Use proper equipment for lifting and transporting all containers. Use sensible industrial hygiene and housekeeping practices. Wash thoroughly after handling. Avoid all situations that could lead to harmful exposure.
- Storage Requirements**..... Store in a cool, dry, well-ventilated place. Keep container tightly closed, and away from incompatible materials.

Section 08 - Personal Protection and Exposure Controls

Protective Equipment

- Eyes**..... Chemical goggles, full-face shield, or a full-face respirator is to be worn at all times when product is handled. Contact lenses should not be worn; they may contribute to severe eye injury.
- Respiratory**..... NIOSH-approved respirator for dust with an acid cartridge should be worn, if dust is in the air.



- Gloves**..... Impervious gloves of chemically resistant material (rubber or PVC) should be worn at all times. Wash contaminated clothing with soap and water, dry thoroughly before reuse.
- Clothing**..... Body suits, aprons, and/or coveralls of chemical resistant material should be worn at all times. Wash contaminated clothing with soap and water, dry thoroughly before reuse.
- Footwear**..... Impervious boots of chemically resistant material should be worn at all times.

Engineering Controls

- Ventilation Requirements**..... Mechanical ventilation (dilution or local exhaust), process or personnel enclosure, and control of process conditions. Supply sufficient replacement air to make up for air removed by exhaust systems.
- Other**..... Not available

Section 09 - Physical and Chemical Properties

- Physical State**..... Solid
- Odor and Appearance**..... Off-white powder with acidic odour
- Odor Threshold**..... Not available
- Specific Gravity (Water=1)**..... 2.435
- Vapor Pressure (mm Hg, 20C)**..... ~0
- Vapor Density (Air=1)**..... Not applicable
- Evaporation Rate**..... ~0
- Boiling Point**..... Decomposes
- Freeze/Melting Point**..... >315°C
- pH**..... 1.4(1.4% solution)
- Water/Oil Distribution Coefficient**... Not available
- Bulk Density**..... 1.32-1.35 kg/m³
- % Volatiles by Volume**..... ~0



Solubility in Water..... 670g/L
Molecular Formula..... NaHSO_4
Molecular Weight..... 120.06

Section 10 - Stability and Reactivity

Stability..... Stable under normal conditions. Avoid conditions of moisture.

Incompatibility..... Incompatible with bases, hypochlorites, and ammonium compounds.

Hazardous Products of Decomposition Will dissolve in water to form a weak sulphuric solution. Upon decomposition due to extreme heating, oxides of sulphur may form. Reacts with strong bases to evolve heat. Reacts with hypochlorites to form poisonous chlorine gas.

Polymerization..... Will not occur

Section 11 - Toxicological Information

Irritancy..... Mild irritant

Sensitization..... Data not available

Chronic/Acute Effects..... Chronic exposure may result in lung irritation, tracheal bronchitis, persistent coughing, and corrosion of teeth.

Synergistic Materials..... Data not available

Animal Toxicity Data..... LD_{50} (oral,rat) = 2800mg/kg
 LD_{50} (intraperitoneal,mouse) = 193mg/kg

Carcinogenicity..... Not considered to be carcinogenic by IARC and ACGIH.

Reproductive Toxicity..... Not available

Teratogenicity..... Not available

Mutagenicity..... Not available



Section 12 - Ecological Information

Fish Toxicity..... Not available
Biodegradability..... Not available
Environmental Effects..... Not available

Section 13 - Disposal Consideration

Waste Disposal..... Dispose in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.

Section 14 - Transportation Information

TDG Classification

Class..... Not regulated
Group..... Not regulated
PIN Number..... Not regulated
Other..... Secure containers (full and/or empty) with suitable hold down devises during shipment.

Section 15 - Regulatory Information

WHMIS Classification.....E

NOTE: THE PRODUCT LISTED ON THIS MSDS HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CANADIAN CONTROLLED PRODUCTS REGULATIONS. THIS MSDS CONTAINS ALL INFORMATION REQUIRED BY THOSE REGULATIONS

Section 16 - Other Information

Note: The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations.



ClearTech Industries Inc. - Locations
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Corporate Head Office: 2302 Hanselman Avenue, Saskatoon, SK, S7L 5Z3

Phone: 306-664-2522

Fax: 306-665-6216

www.ClearTech.ca

Location	Address	Postal Code	Phone Number	Fax Number
Richmond BC	12431 Horseshoe way	V7A 4X6	604-272-4000	604-272-4596
Calgary AB	5516E - 40 th St. S.E.	T2C 2A1	403-279-1096	403-236-0989
Edmonton AB	11750 - 180 th Street	T5S 1N7	780-452-6000	780-452-4600
Saskatoon SK	2302 Hanselman Avenue	S7L 5Z3	306-933-0177	306-933-3282
Regina SK	555 Henderson Drive	S42 5X2	306-721-7737	306-721-8611
Winnipeg MB	340 Saulteaux Crescent	R3J 3T2	204-987-9777	204-987-9770
Mississauga ON	7480 Bath Road	L4T 1L2	905-612-0566	905-612-0575

24 Hour Emergency Number - All Locations - 306-664-2522



SAFETY CHECKLISTS



Reading Text, Document Use, Oral Communication

Thinking Skills: Critical Thinking, Finding Information

When you start a new job you may be asked to read information such as Material Safety Data Sheets, Policies and Procedures, and safety information. Some employers will have you complete a checklist to ensure you have received all the information you need to work safely.

Please complete the following safety checklist. This checklist has been designed for this course. If you are unable to check a box on this page, please refer back to your notes on safety or ask your instructor.

Check if you have:

- found appropriate clothing to wear to class - For example: long pants and shirt
- read the example Material Safety Data Sheet
- read any MSDS for products you will be using in class
- learned about common injuries related to jewellery making and how to avoid them

Check if you know:

- when to report accidents
- when to report equipment damage
- how to use jewellery making equipment and tools safely
- how to lift properly

Check if you can:

- locate the First Aid Kit
- locate the Fire Extinguisher
- identify the various tools and equipment used in jewellery making
- identify general safety rules for working with metal and heat
- maintain a clean, safe work area



WEB SEARCH



Reading Text, Document Use, Computer Use

Thinking Skills: Decision Making, Finding Information

If you have access to the internet and would like more information about Material Safety Data Sheets, jewellery making safety or workplace safety in general, you can use a search engine to find more information on these topics.

TASK STEPS

YOU WILL NEED:

- ✓ access to a computer with internet

- Log onto the internet using a web browser
- Open a search engine
- Enter any of the following:
 - Material Safety Data Sheets (MSDS)
 - Safety and jewellery making
 - Workplace Health and Safety
 - Workplace Safety and Insurance Board





WORKPLACE HEALTH AND SAFETY



Reading Text, Document Use, Computer Use

Thinking Skills: Finding Information

The Workplace Safety and Insurance Board (WSIB) have designed a web site to provide workplace health and safety information to workers between the ages of 16 and 24. We have included this site in this task because the information is useful, regardless of your age.

TASK STEPS

YOU WILL NEED:

- ✓ access to a computer with internet

- Log onto the internet using a web browser
- Locate the Address Bar in your web browser
- Enter the following URL into the Address Bar: www.hs101.ca
- Enter the site and select Launch High Speed or Launch Low Speed
- Complete the Modules - Safety Matters, Safety Roles, Work Hazards and Staying Safe



PROGRESS EVALUATION



Document Use, Oral Communication, Computer Use

Thinking Skills: Decision Making, Critical Thinking, Finding Information

TASK STEPS

STEP ONE:

- Evaluate the progress you are making on your jewellery project
- Discuss your progress with your instructor
 - Work with your instructor to identify the steps you will need to take to complete your project on time
 - Set goals for the completion of your project
- Continue working on your project, keeping your timelines in mind

STEP TWO:

- Work on any of the following if you have time or need a break from your project
 - Read the Student Notes that have been assigned
 - Research future projects
 - Search for and watch online jewellery videos
 - Complete or revisit any of the assigned tasks





PRESENT YOUR WORK DAILY



Reading Text, Document Use, Oral Communication

Thinking Skills: Decision Making, Critical Thinking

As mentioned in your Student Notes, you will have the opportunity to present your work at the end of each day. After you present an evaluation of your own jewellery project you will receive feedback from the others in your class. You will also have a chance to provide feedback to the other group members after they present their work.

TASK STEPS

STEP ONE:

- Present your jewellery project
- Think about the following questions as you present your work:
 - How do you feel about your work to date?
 - What do you like the most about your work so far?
 - What has been the most important thing you've learned?
 - If you were doing it over again, what would you do the same and what would you do differently?
 - How would it be different if you had made other choices?
 - What are your plans for the next class?
 - Your next steps
- Ask the others in the group for feedback on your work

STEP TWO:

- Listen to the other members of the class as they present their work
- Offer them both positive and constructive feedback



JEWELLERY MAKING VIDEOS



Reading Text, Document Use, Writing, Oral Communication, Computer Use

Thinking Skills: Decision Making, Finding Information

In this task you will be asked to watch jewellery making video demonstrations online. You can work on your own or with one or two other members of your class. You may also want to watch these videos on your home computer.

TASK STEPS

YOU WILL NEED:

- ✓ a computer with access to the internet
- ✓ speakers/headset
- ✓ a pen/pencil and paper

STEP ONE:

- Log onto the internet using a web browser
- Locate the Address Bar
- Enter the following URL into the Address Bar: <http://www.youtube.com/>
- Search topics such as:
 - Silver jewellery making, jump ring making, silver ring making
- Scan the list of video options
- Find, select and watch at least three videos
- Take notes of the information or record questions that come up as you watch the videos
 - Talk with your instructor if you have any questions
 - Recommend videos and share information with the others in your class



These videos may show jewellery makers using techniques that differ from the ones you learned in class. Please ask your instructor if you have any questions.

Some videos will actually show people making mistakes. Please discuss these with your instructor.



JEWELLERY MAKING DEFINITIONS



Reading Text, Document Use, Writing, Oral Communication, Computer Use

Thinking Skills: Decision Making, Finding Information

When you start a new job it's possible that you will come across words or techniques that are unfamiliar. It is important to ask questions and ask for clarification at work. However, it is also important to know how to search for information and find answers to your questions using the internet.

TASK STEPS

YOU WILL NEED:

- ✓ a computer with access to the internet
- ✓ a pen/pencil
- ✓ paper or printer



STEP ONE:

- Work independently
- Log onto the internet using a web browser
- Select and open a search engine
- Search “Jewellery Making Definitions”
- Visit the websites that display until you find one to use to complete this task.
 - As an alternative you can enter the address of one of the following sites:

<http://www.wigjig.com/jewelry-making/dictionary/dictionary.htm>

<http://www.asia-gems.com/jewelry-definitions.php>



STEP TWO:

- Scan the words and definitions
- Pick a word you don't already know
- Print the page or write out the word and the definition
- Talk with your instructor to arrange a time to present your word and definition to the group

STEP THREE: In Class Presentation:

- Present your word, with the definition to the other members of your class
- Write the word for the group
 - Use a whiteboard or flipchart
 - As an alternative, you can share a printed version of the word and definition
- Read the definition to the group





DISCUSSION – WORKING IN A TEAM



Reading Text, Document Use, Oral Communication

Thinking Skills: Decision Making, Critical Thinking

It is likely that you will be working as a member of a team in the workplace. You may also be asked to work with others on the tasks in this course. Therefore, it is important to think about and learn from your past experiences. Take some time now to talk to the others in your group about your past experience as a member of a team.

TASK STEPS

- Tell the group about a time you participated as a member of a team
 - What was the team?
 - What role did you play?
 - What did you like about teamwork?
 - What was your least favorite thing about the team experience?
- Discuss whether you have been working independently, with a partner/helper or as a member of a team in this class
 - One of the Essential Skills is called “Working with Others” which describes employees working with others to carry out their tasks
- Tell the group about the things that are important to you when you are working with others. For example:
 - “It is important to me that we listen to each other.”



COLOUR THEORY



Reading Text, Document Use, Oral Communication

Thinking Skills: Critical Thinking

Colour is important to think about when you are doing any type of art work. Although you can create jewellery without studying colour theory, a basic understanding of colour will help you make decisions.

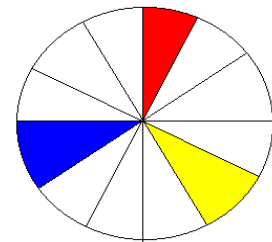
The following is an introduction to colour. There is no need to memorize the specific details but you may want to refer back to this task if you are having trouble deciding on which colours to use for a piece of jewellery you are creating.

Primary Colours

There are three primary colours: Red, Blue and Yellow

Primary colours cannot be created by combining other colours.

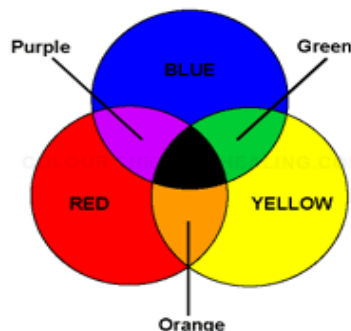
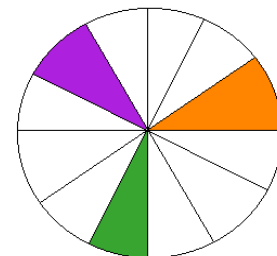
However, if the three primary colours are combined, the resulting colour is black.



Secondary Colours

There are three secondary colours: Orange, Purple and Green

When two of the three primary colours overlap or are combined equally you will end up with one of the three secondary colours.



Red + Yellow = Orange

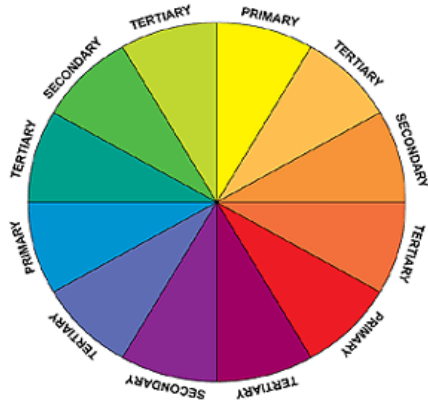
Red + Blue = Purple

Blue + Yellow = Green



Tertiary Colours

If you mix one primary colour (red, yellow or blue) with one secondary colour (orange, purple or green), you get one of the six tertiary colours: Red-Orange, Yellow-Orange, Yellow-Green, Blue-Green, Blue Violet and Red-Violet



Tertiary: means third in degree, order or place.

Bead Colours:



<http://www.beadsuperstore.com/fire-polished/bead-colours-colors.html>



Additional Colour Definitions:

Complementary Colours

Complementary colours are the colours that are found opposite each other on the colour wheel. Yellow and purple are examples of complementary colours. When they are placed together they can create a very powerful effect. They will make your jewellery stand out. Because they are so powerful they can be overdone, so use them with caution.

Related Colours

Related colours are the colours that you will find side-by-side on the colour wheel; for example, yellow and orange. They share a common base and work in harmony with each other. They can work very well side-by-side in a piece of jewellery.

Neutral Colours

These colours are not found on the colour wheel. They include black, gray and white. These colours don't compete with each other. They are safe to combine with other colours.

Accent Colours

These are colours used to add contrast and make your jewellery more interesting. Accents are often small but strong, bright colours. You may have heard them referred to as a “splash of colour”; for example, a red bead surrounded by black beads.

Colour and Mood

You can use colour to create a mood. For example, bright yellow is often considered to be a happy colour. Black is a more serious colour and red more passionate.

Colour and Season

The colours red, orange and yellow are described as warm colours. These are ideal colours to use when you are creating jewellery to sell at a fall craft show. Blues, greens and purples are



considered cool colours. This means they are ideal choices for jewellery you plan to sell at a summer craft fair.

TASK STEPS

YOU WILL NEED:

- ✓ a selection of beads

STEP ONE:

- Work as a group
- Discuss colour
- What is your favorite colour?
- Is your favourite colour a primary, secondary or tertiary colour?
 - Why do you think this colour is your favorite?

STEP TWO:

- Experiment with different colour combinations
 - Use the beads available in the class
- Select a combination of two, three or four bead colours
- Evaluate the colour combinations
 - Where are they on the colour wheel?
 - Are they complementary colours or related colours
- Present your combination to the group
- Discuss as a group



PRINTING A FILE



Reading Text, Document Use, Oral Communication, Computer Use

Thinking Skills: Finding Information

You may need to print a file as part of this course. You may also need to print information at home or on the job.

If you have used computer software, you have probably already noticed that there is usually more than one way to do the same thing. The people who design software realize that everyone learns differently so they try to provide options for the end users. This task will outline several ways to print a file.

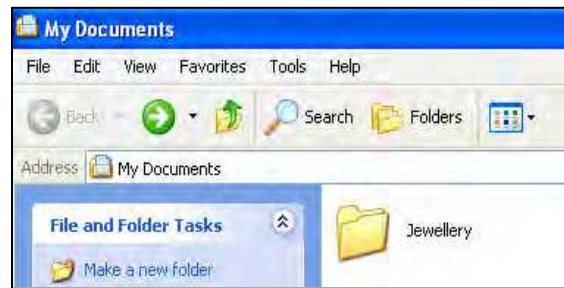
TASK STEPS

YOU WILL NEED:

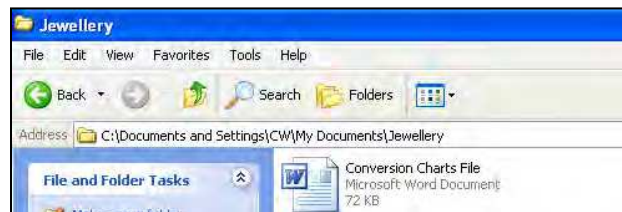
- ✓ a computer
- ✓ printer
- ✓ a word processing program (for example, Microsoft Word, WordPerfect or Open Office)

STEP ONE:


- Work as a group, along with your instructor
- Search the Desktop for a icon called “My Documents”
- Double click the “My Documents” icon
 - This will open a screen that looks like the one in the image below:



- Scan the screen to locate the Folder called “Jewellery”
- Double click to open it
- Scan the Folder to find the File called “Conversion Charts”
- Double click the File. This File will open and become an active document



STEP TWO:

- Find the print icon on the menu at the top of your screen 
- Click on this icon to print the document

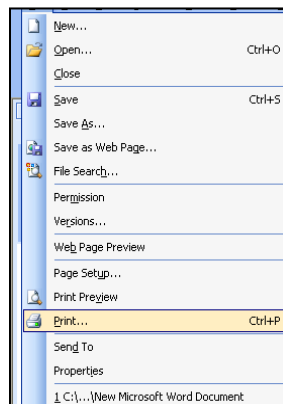
STEP THREE:

You can also print this document by opening the “File” menu available in the top left hand corner of your screen

- Click on the word “File” in the menu at the top of your screen
 - This will open a drop down menu of options



- Scroll down until the word Print is highlighted and click
 - You will notice Ctrl+P beside the word Print (CTRL is short for Control). Ctrl + P is another option for printing. Hold the Control key and strike the letter P



With this print menu open you can make changes to the way your document prints. Spend some time as a group reviewing your print options.

- For example, you can:
 - print all (the whole document) or you can print the current page only
 - print a range of pages. For example, if your document is 10 pages long, you may only want to print pages 1 to 3
 - select a printer
 - print multiple copies of the document
- Click OK to print the document or click cancel to close this window

STEP FOUR:

With your document still open:

- Find the word “Help” on the menu bar at the top of your screen



Initial Stage Task 7 – Printing a File

- The “Help” menu allows you to search for answers to your questions
- Use the “Help” feature in any Microsoft program

- Click on the word “Help” to open a drop down menu
- Click “Microsoft Office Word Help”
 - This will open another menu, this time on the side of your screen
- Enter the word “Printing” in the area of the menu that begins with “Search for”
- Click the green arrow or hit enter
- Use your mouse to select and open one of the topics listed
 - Topics are identified with a blue question mark and blue lettering
- Read the information that displays
- Click the red X to close this information box
- Click the small black X to close the “Search Results” menu
 - You will be back at your main document

STEP FIVE:

- Close the entire document by clicking the red X in the top right hand corner of your screen
- Point your cursor to the “Task 7 Conversion Charts” document without clicking
- Right click your mouse
 - Another menu will open - Context Sensitive menu
 - Using this method you can print the document without opening it
- Click Print to print a copy of the “Conversion Charts” document

STEP SIX:

- Read the summary below



- Ask your instructor if you have any questions

SUMMARY

This task shows the many different ways you can print a file.

In jewellery making there will be more than one way to achieve the same result when creating a piece. If you watch an online jewellery making video, read something about jewellery making in a book or read a jewellery making “how to” web site you will likely find ways of doing things differently than the way you learned in this course.

You are building a foundation by taking this course. The first step in learning any new skill is to learn the basic rules. However, once you have a solid foundation you can start to experiment.

Printable Metric Conversion Chart and Table

Length

1 centimeter (cm)	=	10 millimeters (mm)
1 inch	=	2.54 centimeters (cm)
1 foot	=	0.3048 meters (m)
1 foot	=	12 inches
1 yard	=	3 feet
1 meter (m)	=	100 centimeters (cm)
1 meter (m)	≈	3.280839895 feet
1 furlong	=	660 feet
1 kilometer (km)	=	1000 meters (m)
1 kilometer (km)	≈	0.62137119 miles
1 mile	=	5280 ft
1 mile	=	1.609344 kilometers (km)
1 nautical mile	=	1.852 kilometers meters (km)

Weight

1 milligram (mg)	=	0.001 grams (g)
1 gram (g)	=	0.001 kilograms (kg)
1 gram (g)	≈	0.035273962 ounces
1 ounce	=	28.34952312 grams (g)
1 ounce	=	0.0625 pounds
1 pound (lb)	=	16 ounces
1 pound (lb)	=	0.45359237 kilograms (kg)
1 kilogram (kg)	=	1000 grams
1 kilogram (kg)	≈	35.273962 ounces
1 kilogram (kg)	≈	2.20462262 pounds (lb)
1 stone	=	14 pounds
1 short ton	=	2000 pounds
1 metric ton	=	1000 kilograms (kg)



HEATING METAL



Reading Text, Document Use, Oral Communication

Thinking Skills: Decision Making, Critical Thinking, Finding Information

As you heat metal, it is possible to estimate the temperature by watching the colour changes. In this course you will use heat to melt solder and to anneal the silver. It is important to watch the silver carefully as it's heated. Overheating metal will cause it to become brittle.

TASK STEPS

YOU WILL NEED:

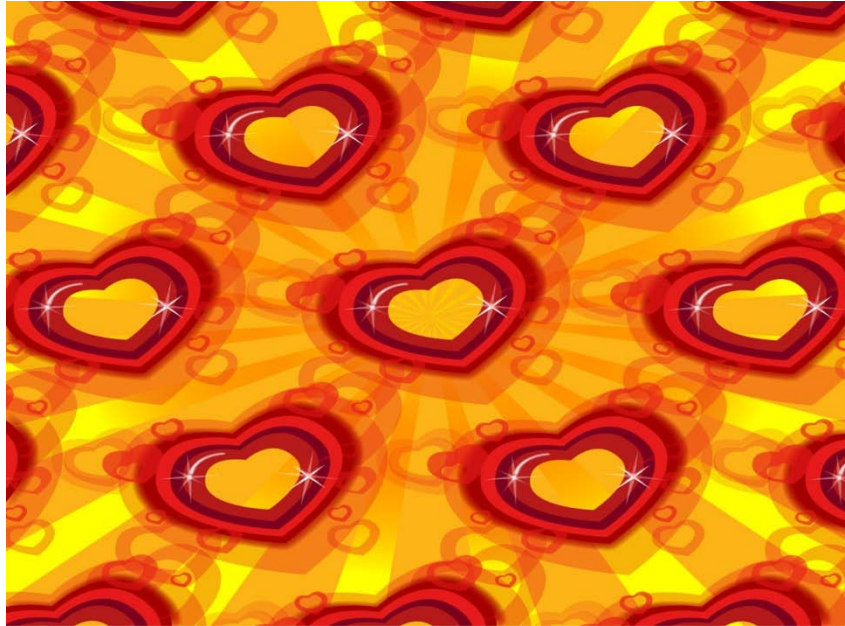
- ✓ pen/pencil

STEP ONE:

- Work independently
- Find the **temperature chart** in your Student Notes

STEP TWO:

- Look at the picture on the following page
- Put the colours in order from 1 (coolest) to 6 (hottest)
 - Use the **temperature chart** from your Student Notes to help you with this step
- Place a checkmark and record the temperature beside the colour you will look for when heating your silver piece
 - Refer to your student notes if you are unsure of the colour you are looking for



- Light Red
- White
- Orange
- Straw Yellow
- Dark Red
- Cherry Red



MULTITASKING



Reading Text, Document Use, Writing, Oral Communication, Numeracy

Multitasking is a term used to describe the activities of a person who is doing more than one thing at a time; for example, typing an email, while talking on the phone. There have been many studies examining our ability to multitask. Some studies have found multitasking to be dangerous (driving and texting); other studies say that the more we multitask the better we get. Finally there are studies that seem to show that we can't actually multitask because we are incapable of focusing on more than one thing at a time.

Overall, we seem to do better if we focus on one task at a time. Multitasking may actually make us less efficient. However some jobs seem to require that people do more than one thing at a time. For example, a cook appears to crack eggs, flip pancakes, fry bacon and take new orders all at the same time.

People often multitask when they are working on their computer. It is not uncommon to have an email program open while typing a letter and listening to music. Programs like Microsoft Outlook are helpful because they have a built in timer. If you are doing several things at once an appointment reminder popping up onto the screen can be very helpful.

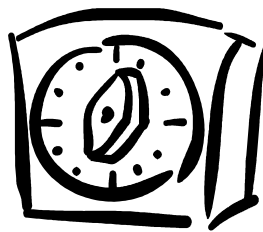
We also use timers in other parts of our lives. You will have the opportunity to use a timer to measure some of your activities in class. For example, you will need to place your silver piece in a pickle solution for approximately five minutes. A timer can be helpful with this step.



Five minutes is a long time to stand around and wait so most people like to do something else during that time. However, there is always a risk that you will get lost in the other things you are doing and forget about the piece in the pickle solution. Even people, who have been making jewellery for a long time can get distracted and lose track of time.

As you know, in this course you will be using equipment that can cause serious injury if you are not paying attention. The following tips will help you work safely.

- Use a timer
- Stay focused on the job at hand
- Schedule your activities for a time when you are not distracted by other things
 - For example, don't start soldering when you only have a few minutes before you need to focus on something else
- Let people around you know you need to focus on a task that requires uninterrupted time



Note: If you are sharing a timer with others in the class try to coordinate your activities. If you have an alarm on your watch you could use that or you could also try using a clock.



MULTITASKING AND USING A TIMER



Reading Text, Document Use, Writing, Oral Communication, Numeracy

TASK STEPS

YOU WILL NEED:

- ✓ computer with internet access
- ✓ timer
- ✓ a watch

STEP ONE:

- Work independently
- Visit the following web sites

<http://www.freeworldgroup.com/games8/gameindex/multitaskgame.htm>

<http://well.blogs.nytimes.com/2009/07/20/test-your-ability-to-multitask/>

- Play the games at these sites

STEP TWO:

- Meet as a group
- Set the timer for five minutes
- Discuss your experience with these games and with multitasking in general
 - Continue until the timer goes off



Use a search engine to search “multitasking games” if you would like to find some additional games to play.



STEP THREE:

- Work independently
- Imagine you are interviewing for a job as a Watch Repairer
- Answer the interview question “What are your strengths for this position?”

STEP FOUR:

- Find a partner
- Divide up the roles
 - One person will be the timekeeper
 - The other person will answer the interview question
- Use a watch with a second hand to time the answer
- Present your answer to the interview question “What are your strengths for this position?”
 - The listener will time your answer
 - The listener will record the time it took to present the answer
- Switch roles and repeat these steps

STEP FIVE:

- Work as a group
- Discuss the results
 - How long was your answer?
 - How long did it feel?
- How long do you think an interview answer should be in a real interview situation?



PLANNING



Reading Text, Document Use, Oral Communication

Thinking Skills: Decision Making, Critical Thinking

Aliens have made contact with earth and they want to learn as much as they can about us.

Your group has been assigned the task of preparing a recipe to send them, along with the ingredients and the tools they need to make the meal.

You must give them detailed instructions for making a cheese and mushroom omelet for 4 people. You can include written words, lists and/or drawings.

TASK STEPS

YOU WILL NEED:

- ✓ pen/pencil
- ✓ flipchart paper/white board

STEP ONE:

- Work as a group
- Complete the chart at the end of this task by providing the following
 - List of ingredients
 - List of tools
 - Step-by-step instructions

STEP TWO:

- Compare your results with a checklist provided by your instructor
 - Was anything missing?



STEP THREE:

- Discuss the results
- What did you find challenging?
- Would sketches help/did sketches help?
- How would planning skills help you on the job?
- How will planning skills help you in jewellery making?

Record all the information the aliens will need in order to make the omelet.

List of Ingredients	List of Tools
Step by Step Instructions: Preparing, mixing, cooking, serving	

RESEARCH ASSIGNMENT



Reading Text

When you start a new job it is possible that you will come across unfamiliar words or techniques. It is important to ask questions and ask for clarification at work. However, it is also important to know how to search for this information using the internet.

If you decide to pursue jewellery making as either a career or a hobby, you will need to learn more about the craft. This task will introduce you to the steps for gathering this type of information.

You can save your group members a lot of research time if you share the information you find. Therefore we ask that you make a short 1-2 minute presentation to the other group members after you have finished your research.



Note: You will be asked to make a one or two minute presentation so you won't need to do hours of research.



Developing your oral communication skills will also be helpful if you decide to pursue jewellery making as a career. Jewellery makers regularly present information to customers.

Note: You will need to complete part of this task outside of class time.



RESEARCH AND PRESENTATION



Reading Text, Document Use, Oral Communication, Writing, Computer Use

Thinking Skills: Decision Making, Critical Thinking

TASK STEPS

YOU WILL NEED:

- ✓ pen/pencil
- ✓ computer with internet access
- ✓ printer

STEP ONE:

- Work as a group
- Discuss this research assignment
- Find a recorder for the group
- Brainstorm a list of possible research topics related to Jewellery making

STEP TWO:

- Review the list your group has developed
- Decide who will research which topic
 - The goal is to have each person present a different topic
 - You may need to negotiate with other group members

STEP THREE:

- Brainstorm a list of possible research methods



STEP FOUR:

- Work independently to complete the following for your research
 - Find at least two resources
 - Assess the information you find by asking yourself:
 - is it accurate?
 - is it consistent?
 - is it from a reliable source?
 - Consider who you will be sharing this information with
 - What information will they find helpful?
 - Decide how you will present the information

STEP FIVE:

- Work independently
- Talk with your instructor and schedule a time to present your research
- Work on your own and if you need assistance talk to your instructor
- Write or type a few notes to help you with your presentation

STEP SIX: In Class Presentation

- Present your research to the class
 - Tell the group what you found
 - Tell them about resources you would recommend
 - Show images or present printed information
 - Which research method did you use

Area

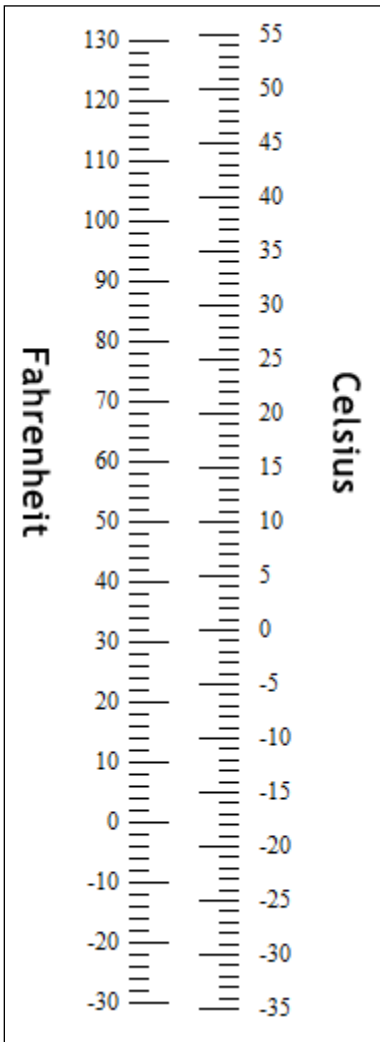
1 square foot	=	144 square inches
1 square foot	=	929.0304 square centimeters
1 square yard	=	9 square feet
1 square meter	≈	10.7639104 square feet
1 acre	=	43,560 square feet
1 hectare	=	10,000 square meters
1 hectare	≈	2.4710538 acres
1 square kilometer	=	100 hectares
1 square mile	≈	2.58998811 square kilometers
1 square mile	=	640 acres

Speed

1 mile per hour (mph)	≈	1.46666667 feet per second (fps)
1 mile per hour (mph)	=	1.609344 kilometers per hour
1 knot	≈	1.150779448 miles per hour
1 foot per second	≈	0.68181818 miles per hour (mph)
1 kilometer per hour	≈	0.62137119 miles per hour (mph)

Volume

1 US tablespoon	=	3 US teaspoons
1 US fluid ounce	≈	29.57353 milliliters (ml)
1 US cup	=	16 US tablespoons
1 US cup	=	8 US fluid ounces
1 US pint	=	2 US cups
1 US pint	=	16 US fluid ounces
1 liter (l)	≈	33.8140227 US fluid ounces
1 liter (l)	=	1000 milliliters (ml)
1 US quart	=	2 US pints
1 US gallon	=	4 US quarts
1 US gallon	=	3.78541178 liters





ORDERING DECIMALS

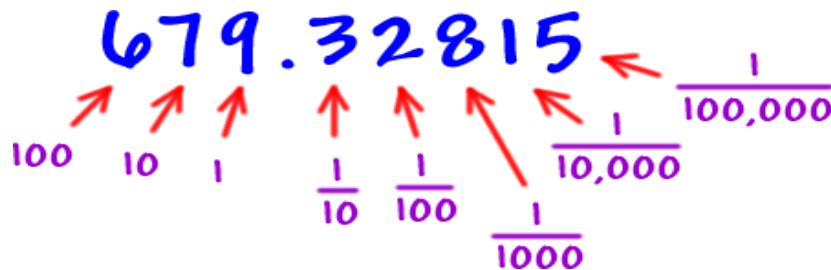


Reading Text, Document Use, Numeracy, Oral Communication

A decimal is a dot in a number that looks like a period.

A decimal point separates whole numbers from numbers that are only a part of a whole number (less than 1). Therefore, decimals allow you to write numbers that fall between two whole numbers. For example the number 3.6 is larger than 3, but smaller than 4.

Numbers to the left of the decimal increase in size as you move to the left. The numbers on the right of the decimal point decrease in size as you move to the right.



<http://www.coolmath.com/decimals/01-decimals-place-value.html>

In the image above you will notice that decimals show another way of writing a fraction. You will also notice decimals are based on the unit 10. The word "Decimal" is actually Latin for "A Tenth Part".



Which Decimal Is Larger?

It can be difficult to determine which number is larger when you are comparing decimals. For example which is the largest number in the list below?

4.500, 4.050, 4.60, 4.01

It helps to have an equal number of digits after each decimal point. For example, it should be easier to tell which number below is the largest now that there are two numbers after each decimal point.

4.50, 4.05, 4.60, 4.01

Note: Adding and removing zeros at the end of a number that follows a decimal does not change the value of the number. For example 4.5 and 4.50 are equal.

Look at the numbers below. Which number is larger?

5.50, 5.05, 5.205

Adding zeros makes it easier to see that

5.500 is larger than **5.205**

5.205 is larger than **5.050**



Table for Ordering Decimals:

Using a table also makes it easier to order numbers from largest to smallest. The following table orders the following list of numbers:

0.419, 0.88, 0.450, 6.4, 2.570

Whole#	Decimal	Tenths	Hundredths	Thousandths
6	.	4	0	0
2	.	5	7	0
0	.	8	8	0
0	.	4	5	0
0	.	4	1	9

Explanation:

- The whole number **6** is larger than the whole number **2** so **6.4** is larger than **2.570**
- **2** is the only other whole number so it comes second
- Starting in the tenths column, **8** is larger than **4** so **0.88** is next
- There are two number **4's** in the tenths column so the number in the hundredths column must be used. **5** is larger than **1**, therefore **0.450** is larger than **0.419**



Greater Than/Less Than Chart

The following chart identifies whether the number on the left is “Larger Than”, “Smaller Than” or “Equal to” the number on the right

Example: Greater Than /Less Than /Equal to:

	Greater than > Less than < Equal to =	
0.406	Less than <	0.709
13.468	Less than <	13.58
0.987	Equal to =	0.9870
0.678	Greater than >	0.43
0.087	Greater than >	0.07
0.24	Equal to =	0.2400



TASK STEPS

YOU WILL NEED:

- ✓ a pen or pencil

STEP ONE:

- Find a partner
- Work together to complete the table below
- Enter the following list of sizes from the largest to smallest
 - It will help if you cross out the numbers as you place them in the chart

0.71

1.7

0.500

0.76

1.5

0.369

Whole #	Decimal Point	Tenths	Hundredths	Thousandths
	.			
	.			
	.			
	.			
	.			
	.			



STEP TWO:

- Work with your partner
- Complete the following chart
 - Identify whether the number on the left is “Larger Than”, “Smaller Than” or “Equal to” the number on the right

	Greater than > Less than < Equal to =	
3.5		3.50
6.5		6.67
0.88		0.445
0.867		0.944
0.766		0.7660
1.339		1.39

STEP THREE:

- Work as a group
- Discuss your answers for all the steps in this task
- Discuss examples of when you would use decimals in jewellery making?



IMPERIAL TO METRIC



Reading Text, Document Use, Numeracy, Computer Use

Imperial System

The Imperial System of measurement (e.g. feet, ounces) was developed in the United Kingdom and was used extensively until the 1960's.

Système International d'Unités (International System of Units)

Over 200 years ago the French developed an alternative measurement system called the SI or Système International d'Unités (International System of Units). This system is commonly known as the Metric System.

The SI system of measurement uses an internationally agreed upon set of units and has replaced the Imperial System in most countries. Today the United States is the only industrialized country that continues to use the Imperial System as their main system of measurement. The British converted in the 1960's followed by Canada in the 1970's.

The Imperial System continues to survive around the world, in large part due to the United States' extensive import/export business.

Fahrenheit and Celsius

The United States also uses Fahrenheit to measure temperature. Fahrenheit was developed in the early 1700's by physicist Daniel Fahrenheit. In most countries this system has also been replaced by the Celsius scale.



	Fahrenheit	Celsius
Boiling point of water	212°	100°
Freezing point of water	32°	0°
Absolute zero	-459.67°	-273.15°
The same when the temperature is:	-40°	-40°

Conversions

The SI uses units of 10; therefore many people find it easier to use than the Imperial System. The challenge for most people is converting between the Imperial System and SI.

Jewellery makers may need to convert between inches/feet and millimetres/centimetres.

Products, tools, books and patterns that come from the United States will use the Imperial system of measurement.

If you have access to a computer it is easy to find conversion tools that will do the math for you. For example, if you enter the Imperial System measurement 5 inches, the program does the conversion to SI for you providing the number 12.7 centimetres.

Many workplaces have conversion charts posted and some workers keep small conversion charts in their toolboxes.

If you don't have access to a computer it will be helpful to know how to do some basic conversions on your own. The following task will help you develop the skills to do these conversions with and without technology.



Example conversion site:
<http://www.worldwidemetric.com/metcal.htm>

Example conversion tables:
http://vulcan.wr.usgs.gov/Miscellaneous/ConversionTables/conversion_table.html



This chart can be used as a guide for this task or you can keep it for future reference.

Symbol:			
mm = millimetre cm = centimetre m = metre km = kilometre			
SI to Imperial: some common conversions			
1 millimetre	.039 inches		
1 centimetre	10 millimetres	.39 inches	
1 metre	100 centimetres	39.37 inches	1.09 yards
1 kilometre	1000 metres	1093 yards	.62 miles
Imperial to SI: some common conversions			
1 inch	25.4 millimetres	2.54 centimetres	.0254 metres
1 foot	12 inches	.30 metres	30.48 cm
1 yard	3 feet	.91 metres	91 cm
1 mile	1760 yards	1.61 kilometres	

TASK STEPS

YOU WILL NEED:

- ✓ a pen or pencil
- ✓ calculator (optional)
- ✓ computer

STEP ONE:

- Select a partner
- Review the “**Example Calculation**” on the following page



- Complete the “**Conversion Problems: (Imperial / SI)**”
- **Round your answers to one decimal place**

Example Calculation:

Problem:

You have a piece of glass 5 feet long.

How many metres is that?

Formula:

Feet x 0.30 = metres

- This formula can be found in the “**Formulas for Converting Between SI and Imperial**” chart - when you know feet and need to find metres

Calculation:

5 feet x 0.30 = 1.5 metres

The piece of glass is 1.5 metres long

Conversion Problems: (Imperial / SI)

1. You want your substrate to be 30.5 x 38 centimetres.
How many inches is that?
2. How many centimetres is a 4 inch piece of glass?
3. When you are making a cut you need to place your cutter 0.06 inches from the edge of the glass. How many millimetres is that?
4. Calculate the number of centimetres in a piece of glass that measures 6 feet 3 inches.



Formulas for Converting Between SI and Imperial:

When You Know	Multiply by:	To Find
Inches	25.4	Millimetres
Inches	2.54	Centimetres
Feet	30.48	Centimetres
Feet	0.30	Metres
Centimetres	0.39	Inches
Millimetres	0.039	Inches
Centimetres	0.03	Feet
Metres	3.3	Feet

STEP TWO:

- Work as a group
- Log onto the internet using a web browser
- Enter the following URL into the address bar

<http://www.worldwidemetric.com/metcal.htm>

STEP THREE

- Using this online conversion tool, complete the same 4 “**Conversion Problems: (Imperial / SI)**”
- Record your answers beside your first set of answers
 - Did you notice any differences in your answers?
 - What would cause those differences?
 - Discuss your results as a group



TASK STEPS

YOU WILL NEED:

- ✓ a pen or pencil
- ✓ calculator (optional)
- ✓ computer

STEP ONE:

- Work with your partner
- Complete the “**Find the Missing Measurement**” chart on the following page
 - Use the measurements in the chart to calculate the missing measurements
- Use the “**Imperial and Metric Reference Chart**” at the end of this task or the formulas in the “**Formulas for Converting Between SI and Imperial**” chart on the previous page
- Record your answers in the largest Imperial number
 - For example, if the answer is 16/16 record the answer as 1

Note: The first line of the chart has been done as an example – when you know 8/16 inch. The calculations are shown in the following two examples “**Find the Missing Measurement – Centimetres**” and “**Find the Missing Measurement - Millimetres**”



Example: Find the Missing Measurement - Centimetres:

Problem:

Convert this fraction (**8/16"**) to a decimal

Formula:

Divide the numerator by the denominator

Numerator is the top number 8

Denominator is the bottom number 16

Calculate:

Divide 8 by 16 = 0.5 inch

Problem:

Find centimetres for **0.5** inch

Use the “**Formulas for Converting Between SI and Imperial**”
chart

Formula:

inches x 2.54 = centimetres

Calculate:

0.5 inches x 2.54 = 1.27 centimetres

1.27 centimetres is the missing measurement



Example: Find the Missing Measurement - Millimetres:

Problem
Convert this fraction (8/16“) to a decimal

Formula:
Divide the numerator by the denominator

Calculate:
Divide 8 by 16 = 0.5 inch

Problem
Find millimetres for 0.5 inch

Use the “**Formulas for Converting Between SI and Imperial**”
chart

Formula:
inches x 25.4 = millimetres

Calculate:
0.5 inches x 25.4 = 12.7 millimetres **12.7 millimetres** is the
missing measurement

Note: Round your answers to three decimal places.

Find the Missing Measurement:

Inches (Imperial)	Centimetres (Metric/SI)	Millimetres (Metric/SI)
8/16 inches	1.27 cm	12.7 mm
	0.635 cm	
	2.540 cm	
2/4 inches		
		19.050 mm
1/16 inches		
1 ½ inch		
		3500 mm



Imperial and SI (Metric) Reference Chart:

Imperial		Metric	
<i>Inches</i>	<i>Decimal</i>	<i>Centimetres</i>	<i>Millimetres</i>
1/16"	0.062	0.157	1.575
2/16 = 1/8"	0.125	0.318	3.175
3/16"	0.187	0.475	4.750
4/16 = 1/4"	0.250	0.635	6.350
5/16"	0.312	0.792	7.925
6/16 = 3/8"	0.375	0.953	9.525
7/16"	0.437	1.110	11.100
8/16 = 1/2"	0.500	1.270	12.700
9/16"	0.562	1.427	14.275
10/16 = 5/8"	0.625	1.588	15.875
11/16"	0.687	1.745	17.450
12/16 = 3/4"	0.750	1.905	19.050
13/16"	0.812	2.062	20.625
14/16 = 7/8"	0.875	2.223	22.225
15/16"	0.937	2.380	23.800
16/16 = 1"	1.000	2.540	25.400



READING A RULER



Reading Text, Document Use, Oral Communication, Numeracy

A ruler is a straight edged tool used to measure distances. It is also used as an aid for drawing straight lines. A tape measure is a flexible form of a ruler.

In this jewellery making course you will need to use a ruler and/or tape measure. You may need to measure, read and recognize measurements including length, width and depth.

Imperial or English Rulers

Imperial rulers are divided into inches. Each inch on the ruler is subdivided further by a series of long and short lines. The longer the line, the larger the unit of measurement.

For example:

- Each foot is divided into 12 inches
 - Each inch is marked with a whole number e.g. 1 to 12
- The longest line subdividing one inch is the $\frac{1}{2}$ inch mark
- The $\frac{1}{4}$ inch mark is a shorter line. It divides the inch into 4 quarters
- The inch can also be divided into $\frac{1}{8}$'s
- In some cases the ruler will have lines dividing the inch into $\frac{1}{16}$'s

You will have noticed that Imperial measurements divide inches into fractions ($\frac{1}{4}$ and $\frac{1}{2}$). This can make it a difficult system to learn.

$$\frac{1}{2} \text{ inch} \times 2 = 1 \text{ inch}$$

$$\frac{1}{4} \text{ inch} \times 4 = 1 \text{ inch}$$

$$\frac{1}{8} \text{ inch} \times 8 = 1 \text{ inch}$$

$$\frac{1}{16} \text{ inch} \times 16 = 1 \text{ inch}$$



Mid Stage Task 3 – Reading a Ruler



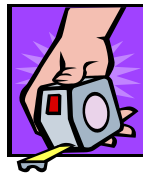
The smallest line on this example ruler is 1/16 of an inch. If you look between the 1 and 2 inch markers you should be able to count 16 smaller lines.



When you see measurements written you will notice that the numbers are followed by an apostrophe. This is the symbol for feet. The quote symbol is used to represent inches.

For example:

- 6' is that same as 6 feet
- 7" is the same as seven inches
- 6'7" is six feet, seven inches



SI Measurement (SI - International System of Units) – Commonly referred to as Metric

Most people find metric rulers easier to use because they contain only centimeters and millimeters. A centimeter is divided into 10 millimeters. The larger, numbered lines represent centimeters and the smaller lines represent millimeters. If you look between the 1 and 2 centimeter numbers you should be able to count 10 lines or 10 millimeters. A tape measure will include meters. One meter = 100 centimeters

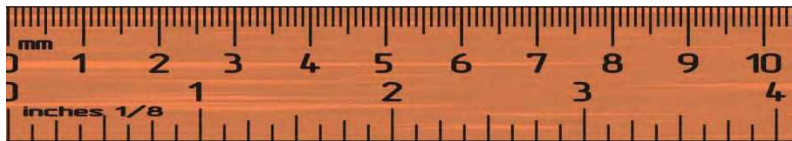


Decimals are also in units of 10; therefore 7 millimeters can be written as 0.7 centimeters.



Tips for Jewellery Makers

- If you need to make precise measurements avoid tape measures with hooks. Hooks on the end of a tape measure will bend which can make your measurement inaccurate
- Whenever possible, start your measurement at 1 rather than 0, especially if you are using a ruler. If the end of the ruler is worn down, your measurements won't be accurate
- If you are working with small detailed measurements make sure you can see the lines on the ruler/tape measure
 - If you can't see the lines clearly, ask someone to help you
- Check the ruler or tape measure against another ruler or tape measure
 - They are not always printed accurately



If you are writing down a measurement, record the whole number first. This number represents the number of inches. Leave a space then record the fraction of an inch. For example, 1 ½”.



TASK STEPS

YOU WILL NEED:

- ✓ a pen/pencil
- ✓ tape measure and/or a ruler (you will need both Imperial and SI measurements)

STEP ONE:

- Work as a group
- Brainstorm a list of jobs where you would need to use a ruler or tape measure
 - When do you use a ruler or tape measure at home?
 - When will you use a ruler/tape measure in jewellery making?
 - Do you prefer the Imperial or SI (Metric) system?

STEP TWO:

- Select a partner
- Find a tape measure or a ruler
- Pick three things to measure
- Record your measurements using both Imperial and SI/Metric measurements

Item Measured	Imperial (feet or inches)	SI/Metric (centimeters or millimeters)



STEP THREE:

Using the SI/Metric ruler image below:

- Place an x above the 3 centimeter line
- Extend the $\frac{1}{2}$ inch line to the bottom of the ruler
- Place an x under 4.5 centimeters



STEP FOUR:

Using the Imperial ruler image below:

- Place an x above the 3 inch line
- Extend the $\frac{1}{2}$ inch line to the bottom of the ruler
- Place an x under 4 $\frac{1}{2}$ inches



STEP FIVE:

- Use your ruler to identify which measurement is longer and circle that number
 - 10 mm or 10 cm
 - 75 mm or 5 cm
 - 100 mm or 12 cm
 - $\frac{1}{4}$ inch or $\frac{3}{8}$ inch
 - $\frac{1}{3}$ inch or $\frac{1}{6}$ inch
 - $\frac{8}{16}$ inch or $\frac{3}{4}$ inch



ORDERING DECIMALS

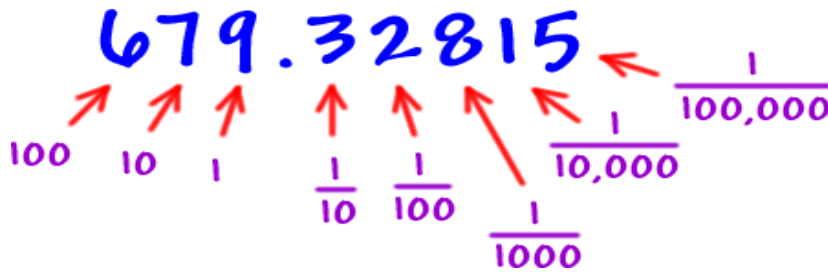


Reading Text, Document Use, Numeracy

A decimal is a dot in a number that looks like a period.

A decimal point separates whole numbers from numbers that are only a part of a whole number (less than 1). Therefore, decimals allow you to write numbers that fall between two whole numbers. For example, the number 3.6 is larger than 3, but smaller than 4.

Numbers to the left of the decimal increase in size as you move to the left. The numbers on the right of the decimal point decrease in size as you move to the right.



<http://www.coolmath.com/decimals/01-decimals-place-value.html>

In the image above you will notice that decimals show another way of writing a fraction. You will also notice decimals are based on the unit 10. The word "Decimal" is actually Latin for "A Tenth Part."



Which Decimal Is Larger?

It can be difficult to determine which number is larger when you are comparing decimals. For example which is the largest number in the list below?

4.500, 4.050, 4.60, 4.01

It helps to have an equal number of numbers after each decimal point. For example, it should be easier to tell which number below is the largest now that there are two numbers after each decimal point.

4.50, 4.05, 4.60, 4.01

Note: Adding and removing zeros at the end of a number that follows a decimal does not change the value of the number. For example 4.5 and 4.50 are equal.

Look at the numbers below. Which number is larger?

5.50, 5.05, 5.205

Adding zeros makes it easier to see that

5.500 is larger than 5.205

5.205 is larger than 5.050



Table for Ordering Decimals:

Using a table also makes it easier to order numbers from largest to smallest. The following table orders the following list of numbers:

0.419, 0.88, 0.450, 6.4, 2.570

Whole#	Decimal	Tenths	Hundredths	Thousandths
6	.	4	0	0
2	.	5	7	0
0	.	8	8	0
0	.	4	5	0
0	.	4	1	9

Explanation:

The whole number **6** is larger than the whole number **2** so **6.4** is larger than **2.570**

2 is the only other whole number so it comes second

Starting in the tenths column, **8** is larger than **4** so **0.88** is next

There are two number **4's** in the tenths column so the number in the hundredths column must be used. **5** is larger than **1**, therefore **0.450** is larger than **0.419**



Greater Than/Less Than Chart

The following chart identifies whether the number on the left is “Larger Than”, “Smaller Than” or “Equal to” the number on the right

Example: Greater Than /Less Than /Equal to:

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0.678	Greater than >	0.43
0.087	Greater than >	0.07
0.24	Equal to =	0.2400



TASK STEPS

YOU WILL NEED:

- ✓ a pen or pencil

STEP ONE:

- Find a partner
- Work together to complete the table below
- Enter the following list of wire sizes from the largest to smallest
 - It will help if you cross out the numbers as you place them in the chart

Wire Size in Millimeters:

7.3 **0.4**
0.36 **0.2**
2.05 **0.9**

Whole#	Decimal	Tenths	Hundredths	Thousandths
	.			
	.			
	.			
	.			
	.			

STEP TWO:

If you need to use the smallest available wire for a project, which wire measurement would you select?

- Circle the correct wire measurement
 - Your choices are measured in millimeters

2.9, 4.12, 0.8, 0.90, 1.6, 2.9, 0.36, 0.58



STEP THREE:

- Work with your partner
- Complete the following chart
 - Identify whether the wire on the left is “Larger Than”, “Smaller Than” or “Equal to” the wire on the right

	Greater than > Less than < Equal to =	
2.6 mm		2.60 mm
3.3 mm		2.9 mm
0.0403 inch		0.032 inch
0.057 inch		0.072 inch
5.827 mm		5.189 mm
.925 silver		.950 silver

STEP FOUR:

- Work as a group
- Discuss your answers for all the steps in this task
- Discuss examples of when you would use decimals in jewellery making?



FRACTIONS TO DECIMALS

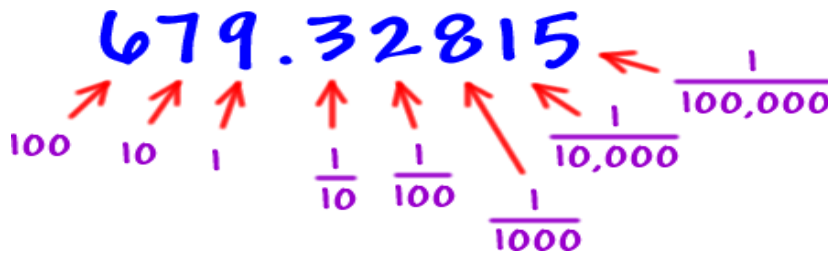


Reading Text, Document Use, Numeracy, Oral Communication

A decimal is a dot in a number that looks like a period.

A decimal point separates whole numbers from numbers that are only a part of a whole number (less than 1). Therefore, decimals allow you to write numbers that fall between two whole numbers. For example, the number 3.6 is larger than 3, but smaller than 4.

Numbers to the left of the decimal increase in size as you move to the left. The numbers on the right of the decimal point decrease in size as you move to the right.



<http://www.coolmath.com/decimals/01-decimals-place-value.html>

In the image above you will notice that decimals show another way of writing a fraction. You will also notice decimals are based on the unit 10. The word "Decimal" is actually Latin for "A Tenth Part".





FRACTIONS TO DECIMALS - FRACTIONS



Reading Text, Document Use

A fraction is like a decimal because it identifies part of a whole. A fraction is made up of a numerator and a denominator.

Numerator:

The top number of a fraction is called a numerator; it refers to the parts you do have.

Denominator:

The bottom number of a fraction is called a denominator; it refers to the number of parts the whole is divided into. (It may help to think “D” for down)

For example:

- $\frac{1}{2}$ tells you that you have one part of something that has been divided into **2** parts
- $\frac{2}{16}$ tells you that you have two parts of something that has been divided into **16** parts



DECIMALS TO FRACTIONS AND FRACTIONS TO DECIMALS



Reading Text, Document Use, Numeracy

As a jewellery maker you may need to move back and forth between fractions and decimals. This is common if you are converting measurements from Imperial to SI (Metric). For example: $\frac{1}{2}$ inch to **0.5** inch to **12.7** millimeters to **1.27** centimeters.

Decimals to Fractions

As mentioned, a decimal has a denominator that is a power of 10. Therefore, if you are converting a decimal to a fraction, you can use the number of digits to the right of the decimal point to determine the number of zeros in the denominator. For example:

- The decimal **0.576** can be written as $\frac{576}{1000}$
 - There are three digits after the decimal, therefore there needs to be three zeros in the denominator

Fractions to Decimals

There are two methods for changing a fraction to a decimal.

Method One:

- Convert the fraction **3/5** denominator to a power of **10** number
- the denominator is **5**
 - Find a number that 5 can be multiplied by to make a power of **10** number (**10**, **100**, **1000** etc)
5 x 2 = 10



- Multiply the numerator **3** by the same number as the denominator **5** was multiplied by

If you multiplied the denominator by **2** you must multiply the numerator by **2**

$$3 \times 2 = 6$$

- The fraction now looks like **6/10**
- Write down the numerator only - **6**
- Count the number of zeros in the denominator - **1 zero**
- Place the decimal one place from the right for every zero in the bottom number, adding zeros if necessary. For example:

$$6/10 = 0.6$$

0.6 is the decimal for the fraction **3/5**

Formula: Fractions to Decimals

Convert $\frac{3}{4}$ inch to a decimal

$$4 \times 25 = 100$$

- Denominator x **25** to reach a power of **10** number

$$3 \times 25 = 75$$

- The numerator must also be x **25**

75/100 inch

- New numerator, new dominator

0.75 inch

- Numerator written with two decimal points (to match the **2** zeros in the denominator)



Method Two:

You can use this next method when you need to change any fraction to a decimal; however this method is necessary when you have a denominator that can't be multiplied by another number to reach a power **10**. **1/3** is a good example. It is not possible to multiply three into a power of **10** number.

This second method involves moving from a fraction to a decimal by dividing the numerator by the denominator.

Formula:

1/3 inch

$$1 \div 3 = 0.333$$

- Numerator divided by the denominator



TASK STEPS

YOU WILL NEED:

- ✓ a pen/pencil
- ✓ ruler/tape measure
- ✓ a calculator and/or computer

Round your answers to two decimal places.

STEP ONE:

- You are asked to use silver that is $\frac{3}{16}$ inch wide:
 - Find **$\frac{3}{16}$** inch on your ruler
 - Convert **$\frac{3}{16}$** inch to a decimal using one of the two formulas in this task
_____ inch

Optional:

- Convert this decimal to millimeters (Inches to Millimeters)
_____ millimeters
- Find this answer on your ruler

- You are asked to “use a piece of sterling silver that is $\frac{3}{4}$ inch thick”:
 - Find **$\frac{3}{4}$** inch on your ruler
 - Convert $\frac{3}{4}$ inch to a decimal using one of the two formulas in this task
_____ inch

Optional:

- Rewrite the directions using millimeters (Inches to Millimeters)
Use a piece of sterling silver that is _____ mm thick
- Find this answer on your ruler



Mid Stage Task 5 – Fractions to Decimals

- You are asked to reduce a ring size by **1/16** inch:
 - Find **1/16** on your ruler
 - Convert **1/16** inch to a decimal using one of the two formulas in this task
_____ inch

Optional

- Rewrite these instructions using millimeters (Inches to Millimeters)
Reduce your ring size by _____ millimeters
 - Find this answer on your ruler
-
- You are asked to “use wire with a diameter of 1/8 inch”:
 - Find **1/8** inch on your ruler
 - Convert **1/8** to a decimal using one of the two formulas in this task
_____ inch

Optional

- Rewrite these instructions using millimeters (Inches to Millimeters)
Use wire with a diameter of _____ millimeters
- Find this answer on your ruler

STEP TWO:

- Work as a group
- Discuss examples of when you will need to convert fractions to decimals in jewellery making
- Which was easier to use:
 - Inches (fraction or decimal)?
 - Millimeters?



Formulas for Converting Between SI and Imperial:

When You Know	Multiply by:	To Find
Inches	25.4	Millimetres
Inches	2.54	Centimetres
Feet	30.48	Centimetres
Feet	0.30	Metres
Centimeters	0.39	Inches
Millimeters	0.039	Inches
Centimeters	.03	Feet
Meters	3.3	Feet



HOME STUDIO



Reading Text, Document Use, Writing, Oral Communication, Computer Use

Thinking Skills: Decision Making, Critical Thinking, Finding Information

This task will assist you in identifying what you need to set up a jewellery making centre in your home. It will also assist you in researching products and prices.

Even if you do not plan to set up an area in your home to work on jewellery projects, it is important to the others in your group that you complete this exercise.

You will need to do some research outside of class time. You will be asked to present your findings to the group in a future class.

TASK STEPS

YOU WILL NEED:

- ✓ sign-up chart
- ✓ a pen/pencil
- ✓ a computer

STEP ONE:

- Review the “**Product Research**” sign-up chart that your instructor will provide
- Write your name in the space beside the item you would like to research



STEP TWO:

- Gather information about your item using resources such as:
 - your instructor
 - the internet
 - supply stores

- Collect information about the item including the:
 - price and size
 - locations (where the product can be purchased)
 - value – customer reviews
 - features – why is it better/different than other products

- Record your findings on the “**Product Comparison Chart**” found on the following page

- Compare a minimum of two makes/models/brands/companies
 - If you want to compare more than two you can print another copy of the “**Product Comparison Chart**”

- Select the product you think is best and prepare a presentation of your recommendations to the class



PRODUCT COMPARISON CHART

The Item:

Research	Results – Product A - Name:	Results – Product B – Name:
Price		
Size		
Location (where it can be purchased)		
Value – customer reviews etc.		
Features – what makes it better/different than the other products		
Other Information		



RESEARCH PRESENTATION – HOME STUDIO



Document Use, Writing, Oral Communication, Numeracy

Thinking Skills: Decision Making, Critical Thinking

TASK STEPS

YOU WILL NEED:

- ✓ your notes
- ✓ a pen/pencil

STEP ONE:

- Refer to the research notes you recorded on the “**Product Comparison Chart**”
- Tell the group about your research including:
 - the item you researched
 - the makes/models/brands/companies you researched
 - the techniques you used for doing your research e.g. internet
- Present the one product you would recommend for a home studio, including the:
 - company name
 - price and size
 - location (where can it be purchased)
 - value – customer reviews
 - features – what makes it better/different than the other products

STEP TWO:

- Listen to the others in your class as they present their research
- Record their results on the “**Group Presentations Results**” chart available at the end of this task



STEP THREE:

- Work together as a group to calculate the cost of setting up a home jewellery making studio
 - If information is missing, ask your instructor for help

GROUP PRESENTATIONS RESULTS

Product	Necessity	Make/Model/ Brand/Company	Product Details	Price
Jeweller's Saw and blades				
Pliers/Draw Tongs				
Files				
Draw Plate(s)				
Vice				
Steel Ruler / Measuring Tape				
Tweezers				
Vice				
Ring Mandrill				
Wire Cutters				
Planishing Hammer				
Raw Hide Mallet				
Centre Punch				



Mid Stage Task 4 – Fractions to Decimals

Drill / Drill Bits				
Soldering Block				
Torch				
Bench Pin				
Sandpaper				
Ultrasonic Cleaner				
Flux				
Pickle				
Polishing Compound and Buffs				
Buffing / Polishing Machine				
Total Costs				



FOUND ITEMS



Reading Text

Jewellery makers often use found items in their pieces. Artists use the term “found items” to refer to any item they use in their art that has had another purpose. For example, they may create a sculpture using pop cans.

Found items can be everyday items, or things that are broken or no longer needed. They can also be things that other people have thrown out. You may even find items at a dollar store or at a yard sale.

Looking at everyday items with an artistic eye gives you a new perspective. As you search for found items you will find yourself thinking about items for their form, texture and their ability to be cut and shaped. Artists often say that searching for found items can spark their creativity. Turning jewellery making into a treasure hunt can also be fun.

The possibilities are endless. You may even consider using something because it’s symbolic. For example, using pieces of your grandmother’s broken earrings to make a necklace. You may find some sea shells at a garage sale, or a broken watch lying around the house. Both of these items could be used in your next necklace.

Other examples include:

- Stones, bottle caps, children’s toys, old pieces of jewellery, buttons

Found objects can be a great way to save money, recycle and ensure that your finished piece is unique.

Note: You will need to complete part of this task outside of class time.



FOUND ITEM ASSIGNMENT



Reading Text, Document Use, Oral Communication

Thinking Skills: Critical Thinking, Decision Making

TASK STEPS

STEP ONE:

- Work as a group
- Brainstorm a list of places you might look for “found items”

STEP TWO: After Class

- Search for a “found item” that you could use in a future jewellery project
- Prepare it to bring to class
 - Avoid carrying sharp items
 - Wrap your “found item” so it doesn’t break
- Bring it to the next class

STEP THREE: In Class Presentation

- Present your found item to the group
- Think about the following questions as you present:
 - Where did you find the item?
 - Was there a cost?
 - How could you use it in a piece of jewellery?
 - Would you need to do anything to it before it can be used?
 - E.g. cut it or make any modifications?



MACHINE VS. HAND MADE



Reading Text, Document Use, Oral Communication, Writing

Imagine you have a booth at a Fine Art and Craft show. You are selling your hand crafted jewellery. A potential customer tells you that your rings were more expensive than the rings they can buy in a store. How would you explain the price difference?

Even though you may think that this customer is rude, they are still a customer. People do make comments like this so it is best to be prepared ahead of time with an answer.

Remember it is important to value the work you are doing, even when you are just starting out as a jewellery maker. It is also important to educate the public about handcrafted objects.

TASK STEPS

YOU WILL NEED:

- ✓ pen/pencil

STEP ONE:

- Why is handcrafted jewellery better than mass produced/machine made jewellery?
- Write out your response to this customer

STEP TWO:

- Present your response to the group
- Discuss all the advantages to handcrafted jewellery
- Discuss the value of providing good customer service



METALS RESEARCH



Reading Text, Document Use, Oral Communication, Writing, Computer Use

Thinking Skills: Decision Making, Critical Thinking

Platinum, silver and gold are precious metals used in jewellery production. All three are good choices for jewellery because they are chemically stable, durable and attractive. They are also scarce which adds to their value.

Silver and gold are better known because they have been used by jewellery makers for years. Platinum is not used as often because it is more expensive, heavier, harder to find and harder to work with than gold and silver.

Base metals are metals such as copper, nickel, aluminum, zinc and tin. These metals are more plentiful than precious metals, less expensive and easier to work with, however they are not as durable and they tarnish.

As a jewellery maker you will need to know about metals. Knowing the advantages and disadvantages of the different metals will help you decide on the best choice for each specific piece of jewellery you make.

Note: You will need to complete part of this task outside of class time. This task will ask you to do some research. You can use any source you would like including the internet, books in class or library books.

TASK STEPS

YOU WILL NEED:

- ✓ pen/pencil

STEP ONE:

- Move into Group One and Group Two
- Determine how much time you have to complete this assignment
 - Set a presentation date with your instructor



STEP TWO:

Group One

- Identify a note taker for the group
- Work together to search for information about gold
 - What are the advantages of using gold for jewellery making?
 - What are the disadvantages of using gold for jewellery making?
 - Find something interesting about gold
- Identify someone in your group to present a summary of your research

Group Two

- Identify a note taker for the group
- Work together to search for information about silver
 - What are the advantages of using silver for jewellery making?
 - What are the disadvantages of using silver for jewellery making?
 - Find something interesting about silver
- Identify someone in your group to present a summary of your research

STEP THREE: In Class Presentation:

- Present a summary of your research
 - Your group representative will present your findings, however, others in the group can also share information
- Discuss the findings of each group



GAUGE TO MILLIMETRES



Reading Text, Document Use, Numeracy, Oral Communication

You will need to know the size of the wire and the metal you are using. You will also need to know the size of wire and metal when you are placing an order.

You will likely come across the word gauge used in reference to diameter or thickness.

Gauge is written “g” For example. 12g

There are four systems of measurement used to identify the thickness of metal.

- AWG = American Wire Gauge
- B & S = Brown & Sharpe
- SWG = Imperial Standard Wire Gauge – used in the UK and Canada
- Millimeters



Charts, images and information about gauge:
<http://www.wscoral.com/Resource.aspx>

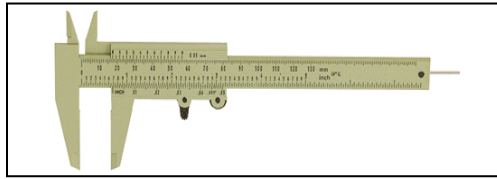
Conversion program:
<http://craft.ontheinternet.com.au/gauge.htm>

These systems of measurement are all different. It won't be possible to memorize all of these different measurements; however, it will be helpful to know how to use a chart to find the measurement you need for your project.

Note: We have included a chart at the end of this task that you may want to keep as a reference. We have also included web sites that will help you move between the different measurements.

As a general rule, it is best to work in millimetres. If your pattern calls for a specific wire gauge, use a chart or online calculator to find the measurement in millimeters.

You can also use a Vernier caliper to measure the diameter and thickness of a wire or sheet of metal. This tool makes it possible to take very precise measurements in millimeters



Wire

Wire gauge refers to the diameter of the wire. The larger the gauge number, the smaller the diameter.

Sheet Metal

Sheet metal describes any metal that you buy in thin, flat pieces less than 6 millimeters (0.25 inches). Anything over 6 mm is considered to be a plate.

Gauge can be used to measure the thickness of the sheet metal. The gauge of sheet metal usually ranges from about 8 to 30 gauge. The higher the gauge number, the thinner the metal.



Note: For this task use AWG Gauge measurement.

TASK STEPS

YOU WILL NEED:

- ✓ pen/pencil, ruler
- ✓ Vernier Caliper
- ✓ the Gauge Conversion Chart

STEP ONE:

- Work with a partner
- Rank the following wire from smallest to the largest diameter

30g, 2g, 26g, 22g, 16g

- Use the gauge chart at the end of this task to record the AWG (gauge) for the following:

1.291 mm _____

0.32 mm _____

5.189 mm _____

2.052 mm _____

- Use your ruler to find the following measurements

1.0 mm

5.0 mm



STEP THREE:

- Work with your partner
- Find the answers to the following questions using the gauge chart
 - You are working on a very delicate project that calls for 26 gauge wire. What would that wire measurement be in millimeters?
_____ mm
 - You need a medium heavy wire for an ear wire. You decide to use 20 gauge. What would that be in millimeters?
_____ mm
 - Your pattern calls for a “heavier look” and recommends wire that is 1.024 millimeters. What gauge is that?
_____ gauge

STEP FOUR:

- Using Vernier calipers measure three pieces of sheet metal
 - Record the sizes in millimeters
 -
 -
 -
 - Aproximately what gauge would they be?
 -
 -
 -

**GAUGE CONVERSION CHART**

S.W.G. Wire Number (Inches)	A.W.G. (Gauge)	or B&S (Inches)	A.W.G. Metric (MM)
0.300	1	0.289297	7.348
0.276	2	0.257627	6.543
0.252	3	0.229423	5.827
0.232	4	0.2043	5.189
0.2120	5	0.1819	4.621
0.1920	6	0.1620	4.115
0.1760	7	0.1443	3.665
0.1600	8	0.1285	3.264
0.1440	9	0.1144	2.906
0.1280	10	0.1019	2.588
0.1160	11	0.0907	2.304
0.1040	12	0.0808	2.052
0.0920	13	0.0720	1.829
0.0800	14	0.0641	1.628
0.0720	15	0.0571	1.450
0.0640	16	0.0508	1.291
0.0560	17	0.0453	1.150
0.0480	18	0.0403	1.024
0.0400	19	0.0359	0.9119
0.0360	20	0.0320	0.8128
0.0320	21	0.0285	0.7239
0.0280	22	0.6426	0.6426
0.0240	23	0.0226	0.5740
0.0220	24	0.0201	0.5106
0.0200	25	0.0179	0.4547
0.0180	26	0.0159	0.4038
0.0164	27	0.0142	0.3606
0.0148	28	0.0126	0.3200
0.0136	29	0.0113	0.2870
0.0124	30	0.0100	0.2540

<http://www.alchemyandice.com/wire-gauge-metric-conversion-chart.html>

PRICING ITEMS



Reading Text, Document Use, Numeracy, Oral Communication, Computer Use

Thinking Skills: Decision Making, Critical Thinking, Finding Information

You are working for a jewellery maker. You have been assigned the task of buying a new rolling mill and a new polishing machine. You have been given a budget of \$1,500. Your employer has asked you to find and present two options for each product and include your recommendations.

TASK STEPS

YOU WILL NEED:

- ✓ computer
- ✓ pen/pencil

STEP ONE:

- Work as a group
- Brainstorm a list of methods you would use to search for a new rolling mill and a polishing machine



Brainstorming: a technique where all ideas are listed before you move on to the critical thinking and decision making stages. Each member of the group shares their ideas. No idea is discussed or disregarded. It is usually done in a group but can be done independently.

Rolling mill: a machine used to shape metal. It can flatten metal sent between the two rollers.

Polishing machine: a machine used to polish soft metals. It is also called the Buffing Machine.



STEP TWO:

- Work as a group
- Find the information you need to complete the “**Product Charts**” that follow this task
 - For this task, you may want to use the internet and any other sources
- Identify at least two different polishing machines and two different rolling mills
 - Record prices on the charts
 - Check whether the prices are in Canadian or US dollars
 - Check that the product is available in Canada
 - Check shipping fees, if the product is not available locally

STEP THREE:

- Identify the polishing machine and rolling mill you would recommend to your employer
 - What is the total price for these two pieces of equipment?
 - Will you stay within your \$1,500 budget?
 - Why do you recommend these products?



Product Chart

Product Description	Company	Reviews	Price
<i>Rolling Mill #1:</i>			

Product Description	Company	Reviews	Price
<i>Rolling Mill #2</i>			



Product Description	Company	Reviews	Price
<i>Polishing Machine #1:</i>			

Product Description	Company	Reviews	Price
<i>Polishing Machine #2:</i>			



PROBLEM SOLVING IN JEWELLERY MAKING



Document Use, Writing, Oral Communication,

Thinking Skills: Problem Solving, Critical Thinking, Finding Information, Significant Use of Memory

TASK STEPS

YOU WILL NEED:

- ✓ pen/pencil

STEP ONE:

- Work on your own
- Complete the “**Problem Solving Chart**” on the following page

STEP TWO:

- Work as a group
- Discuss and identify the actual problems
- Identify and discuss the possible causes of these problems
- Discuss possible solution(s) to each of these problems
 - Discuss your experience solving these problems in the course
- Enter the solutions your group identifies in the space on the left side of the chart
- Discuss other problems you solved in this course



PROBLEM SOLVING CHART

Problem	Solution(s)
1. The solder won't flow.	
2. The solder balls up.	
3. There are gaps in the joint.	
4. The solder flows unevenly.	
5. You find a pattern you love but then you notice the copyright. ©	
6. Your ring is too large.	
7. The surface of your bracelet is rough.	
8. Your ring is too small.	
9. Your ring keeps falling over when you are soldering.	
10. You love jewellery making but you don't have the money to set up a home studio.	
11. You notice someone in the class is not working safely and you are worried for them and for yourself.	



PRICING THE PROJECT



Reading Text, Document Use, Numeracy, Oral Communication

Thinking Skills: Finding Information

It is important to be able to price your work so that you will know approximately how much it will cost to complete future projects. This will be important if you are making jewellery for yourself, for a friend, or as a gift. At some point you may even consider selling your work. If you sell your work, your ability to factor in the cost of materials, in addition to your time will be critical.

TASK STEPS

YOU WILL NEED:

- ✓ a finished jewellery piece
- ✓ a calculator
- ✓ a pen/pencil

STEP ONE:

- Work independently
- Use a piece of jewellery you have completed or are soon to complete
- Calculate the amount of materials you used and enter the information on the “**Materials Pricing Chart**”
 - This will be an estimate
 - You may need help from the instructor to estimate the amounts you used
 - Your instructor can also help you with prices
- Complete the calculations on the chart to determine the total costs for materials



MATERIALS PRICING CHART

Product	Unit	Price per Unit	Amount You Used	Calculations	Total Cost
Sterling Silver					
Solder					
Flux					
Pickle					
Beads / Stones					
				Total:	

TASK STEPS

YOU WILL NEED:

- ✓ the totals from the first chart
- ✓ a calculator
- ✓ a pen/pencil

STEP ONE:

- Complete the “**Pricing the Project**” chart on the following page
 - Transfer the totals from the “**Materials Pricing Chart**”



STEP TWO:

- Add the cost of your labour to the chart
 - Calculation: total hours on this project x the hourly rate
 - Use \$10 per hour if you are unsure
 - It is difficult to put a price on the time invested, however it is a good exercise to provide you with a reference point
 - Estimate, if you have not been tracking your hours

STEP THREE:

- Calculate the tax

STEP FOUR:

- Work as a group
- Discuss material costs and labour costs

PRICING THE PROJECT

Category	Totals
Materials (the total from Materials Pricing Chart)	\$
Labour – (total hours x \$ per hour)	
Sub Total	\$
Taxes	
Grand Total (Sub total + taxes)	\$



COMMISSION WORK



Document Use, Oral Communication

Thinking Skills: Decision Making, Critical Thinking

Commissioned work is when someone asks you to make a specific piece of jewellery just for them. They want something personalized; a one of a kind piece.

If you decide to take on commission work it will be important that you are able to work with people and have the ability to communicate clearly. It requires you to listen to what the customer wants, confirm that you have heard them correctly, respond to their questions and requests and handle their concerns.

Before saying yes:

- get to know the person
- get to know what they want, what their expectations are
- make sure they have seen examples of your work
- ask them a lot of questions
- outline what you can do for them
- have them confirm the design before you begin

If you have doubts or concerns consider declining the work. If you decide to go ahead, you will want a signed agreement outlining:

- what you are making for them
- the completion date
- payment schedule including late payment fees
- terms of delivery – pick up, shipped and costs

Most artists ask for an advance anywhere from $\frac{1}{3}$ to $\frac{1}{2}$ of the total cost of the commission.



For each project you will want to keep your own notes so that each time you take on another commission piece you will have information that will help you estimate your costs and timelines accurately.

For example, track:

- the product (describe the product including size and materials)
- consulting time (time with the client gathering information)
- design time (how long it took you to design the piece for the client)
- production time (how long it took you to produce the piece)
- material costs
- problems

TASK STEPS

YOU WILL NEED:

- ✓ pen/pencil

STEP ONE:

- Find a partner
- Decide who will be the artist and who will be the customer

STEP TWO:

- Complete the following form together
 - The artist will gather and record the information
 - The customer will provide the information and assist with the design



STEP THREE:

- Work as a group
- Discuss the challenges of this task
- Discuss potential problems with commission work



Commission Agreement			
Business Name:		Telephone:	
Address:		Email:	
Customer Name:		Home Phone:	
Address:		Business Phone:	
Email:			
Order Date		Order Details	
Estimated Completion Date:			
Total Cost:			
Payment Schedule			
Delivery Terms			
Design		Sketch	
Product Description			
Size			
Beads/Stones/Found Items etc.			
Metals			
Colours			



TECHNICAL SKILLS IN JEWELLERY MAKING



Reading Text, Document Use, Oral Communication, Numeracy, Writing

Thinking Skills: Critical Thinking

Employers and supervisors will often ask their employees to rate their own skills and skill improvement as part of their yearly evaluations. The ratings are done to show improvement and help identify areas that still need to be improved. This task gives you an opportunity to rate your own skills development in this course.

YOU WILL NEED:

- ✓ pen/pencil

STEP ONE:

- Read the list of technical skills on the left side of the “Technical Skills” chart available on the following page
 - Add any skills that are missing in the blank space provided
- Rate each skill based on an estimate of your skill level at the start of this course
- Rate your current skill level now that you have almost completed this jewellery making course
- Compare the two scores for each of the skills listed
 - Did your skills improve?

STEP TWO:

- Work as a group
- Brainstorm jobs that may require these same skills
- Record the job titles the group identifies
 - Use the final column on the chart to keep your own notes



Final Stage Task 5 – Technical Skills in Jewellery Making

Rating your Technical Skills				
1 = Low and 5 = High				
Skill	Starting Skill		Current Skill	Jobs Using the Same Skill
Soldering	1 2 3 4 5		1 2 3 4 5	
Using an acetylene torch	1 2 3 4 5		1 2 3 4 5	
Using tools (pliers, files, side cutters, vice, etc.)	1 2 3 4 5		1 2 3 4 5	
Measuring using a ruler or tape measure	1 2 3 4 5		1 2 3 4 5	
Converting from Imperial to Metric (SI)	1 2 3 4 5		1 2 3 4 5	
Using a Jewellers saw	1 2 3 4 5		1 2 3 4 5	
Use of safety equipment and working safely	1 2 3 4 5		1 2 3 4 5	
Motor coordination / manual dexterity	1 2 3 4 5		1 2 3 4 5	
Sanding / Polishing and buffing	1 2 3 4 5		1 2 3 4 5	



ESSENTIAL SKILLS IDENTIFICATION



Document Use, Oral Communication, Writing

Thinking Skills: Decision Making, Critical Thinking, Significant Use of Memory

TASK STEPS

YOU WILL NEED:

- ✓ pen/pencil

STEP ONE:

- Work with your group to complete the **Essential Skills Identification** Charts on the following pages
 - You will be assigned to either Group 1 or Group 2
 - Your group will be assigned one of the two pages that follow this task

STEP TWO:

- List 1- 4 examples of the Essential Skills you have demonstrated in this course for each of the Essential Skills categories on the page your group has been assigned
 - Record your groups responses on your copy
 - Complete this exercise without looking back in your notes
- Find a volunteer to present the group findings

STEP THREE:

- Work as a whole group
- Have the presenter, report your group responses
 - When the other group is presenting, record their results on your sheet



STEP FOUR:

If you have completed the Essential Skills Checklist at the end of each class:

- Work independently
- Read over your checklist as a review of the skills you have developed



ESSENTIAL SKILLS IDENTIFICATION - GROUP 1

Reading Text

Reading materials in the form of sentences or paragraphs

Document Use

Tasks that involve a variety of information displays in which words, numbers, symbols and other visual characteristics (e.g. lines, colours or shapes) are given meaning by their spatial arrangements (including charts)

Numeracy

Using numbers and thinking in quantitative terms to complete tasks

Writing

Writing text and writing in documents, such as filling in forms, and non-paper-based writing such as typing on a computer

Oral Communication

Using speech to give and exchange thoughts and information

Working with Others

Employees working with others to carry out their tasks



ESSENTIAL SKILLS IDENTIFICATION - GROUP 2

Thinking Skills

Problem Solving

addressing problems that require solutions

Decision Making

deciding between options

Critical Thinking

assessing, evaluating ideas or information to reach a rational judgment of value

Job Task Planning and Organizing

planning and organizing tasks

Significant Use of Memory

memorization of procedures, codes, numbers, remembering information, learning from an experience

Finding Information

using text, people, databases or systems to find information

Continuous Learning

Workers participating in an ongoing process of acquiring skills and knowledge

Computer Use

Using different kinds of computer applications and other related technical tools



TOP THREE ESSENTIAL SKILLS



Document Use, Oral Communication

Thinking Skills: Decision Making, Critical Thinking

TASK STEPS

YOU WILL NEED:

- ✓ pen/pencil

STEP ONE:

- Work independently
- Review the nine Essential Skills in the list below
- Circle the top three Essential Skills you think someone would need to be successful as a jewellery maker

Nine Essential Skills:

Reading

Writing

Continuous Learning

Document Use

Oral Communication

Computer Skills

Numeracy

Working with Others

Thinking Skills:

Problem Solving, Decision Making, Critical Thinking, Job Task Planning
and Organizing, Significant Use of Memory, Finding Information

STEP TWO:

- Present your choices for the top three Essential Skills in jewellery making
- Discuss with the group



CAREER RESEARCH ASSIGNMENT



Reading Text, Document Use, Writing, Oral Communication, Computer Use

Thinking Skills: Decision Making, Critical Thinking, Finding Information

In this task you will:

- research a website to learn more about jewellery making as a career
- research a website to learn more about apprenticeships and trades
- research a website to learn more about a career you are interested in

This assignment is to be done independently; however, the Essential Skills instructor is always available to help. You can work on this task at home or in class.

TASK STEPS

YOU WILL NEED:

- ✓ pen/pencil or
- ✓ computer/printer and paper

STEP ONE:

- Talk with your instructor to arrange a time to present to the class
- Work independently
- Visit the sites listed at the end of this task or search for other apprenticeship, trade or career related sites
- Bookmark the sites you want to use to complete this task or write down the URL's
- Have a pen and paper available to record your notes
 - You can also use a computer and printer to type and print the notes for your presentation
 - Space is also provided in this task for your notes



- Record at least one thing you found interesting when you researched:
 - Jewellery making as a career
 - Apprenticeships and trades
 - A career you are interested in

STEP TWO: In Class Presentation

- Present the websites you searched
- Present information you found interesting about each of the topics you researched
- Present your plan for any further research

Record your notes here:

- Jewellery making as a career

- Apprenticeships and trades

- Your career research



WEB SITES

Jewellery and Watch Repairer

http://www.ilc.org/cfm/CM/Careers/cm_career.cfm?career_id=89 –

<http://www.ganoksin.com/borisat/nenam/career.htm> - Careers in the jewellery and metal field
- Canadian article

<http://www.jaitc.org.uk/default.asp/pages/p.10033/ecombuilder.html> - Careers in the
jewellery and metal field UK article

<http://www.studyincanada.com/english/careers/interview.asp?Interview=29> interview

Theatre, Fashion, Exhibit and Other Creative Designers

<http://www.jobfutures.ca/noc/5243.shtml>

Essential Skills Web Site

http://srv108.services.gc.ca/english/general/home_e.shtml -

Service Canada Career Exploration

http://www.jobsetc.gc.ca/categories.jsp?category_id=12&lang=e –

Service Canada Apprenticeship Page of Links – select one of the links

<http://142.236.54.114/eng/on/lmi/eaid/occinfo/apprent.shtml> -

National Occupational Classifications (NOC)

<http://www5.hrsdc.gc.ca/NOC/English/NOC/2006/OccupationIndex.aspx> -

Ministry of Training, Colleges and Universities (MTCU) - Pathway to Apprenticeship

<http://www.edu.gov.on.ca/eng/training/apprenticeship/appren.html> -

Apprenticeship Search Ontario

<http://www.apprenticesearch.com/default.asp> -



Trends in Apprenticeship in Canada

<http://www.statecan.gc.ca/pub/81-004-x/2006002/9250-eng.htm> -

Ministry of Training, Colleges and Universities (MTCU) - What is an Apprenticeship?

http://www.hrsdc.gc.ca/eng/workplaceskills/trades_apprenticeship/index.shtml -

Canadian Apprenticeship Forum

<http://www.caf-fca.org/en/> -



FINDING INFORMATION



Reading Text, Document Use, Writing, Oral Communication

Thinking Skills: Decision Making, Finding Information

You have finished this course and would like to continue developing your skills and learning about jewellery making; however you don't have a home workshop. Where would you start looking for possible options? What steps could you take to find out more about your options?

TASK STEPS

YOU WILL NEED:

- ✓ a pen/pencil

STEP ONE:

- Work as a group
- Brainstorm a list of places you could look to learn more about your options for developing your jewellery making skills
 - For example: you could look in the yellow pages

List at least four other research options:



STEP TWO:

- Work as a group
- Brainstorm a list of some options you could consider
 - For example, you could sign up for another jewellery making course

List at least two additional options you might consider:



BUILDING YOUR RESUME



Document Use, Oral Communication, Writing

Thinking Skills: Decision Making, Critical Thinking

TASK STEPS

YOU WILL NEED:

- ✓ pen/pencil/highlighter

STEP ONE: *Complete only if you used the Essential Skills Checklist*

- Review the individual Essential Skills checklist you completed at the end of each class
- Circle or highlight any skill you could now add to your résumé

STEP TWO:

- Use the information you selected in Step One and write a line that you could include on your résumé
 - If you have time, continue writing points for your résumé
 - Ask your instructor for assistance



Note: We are not assuming that you will want to be a jewellery maker however, many of the skills you developed are transferable to other jobs.

Essential Skills Website:

http://srv108.services.gc.ca/english/general/home_e.shtml

STEP THREE:

- Work as a group
- Present what you have written to the others in your class
- Discuss any other skills you may consider adding to your résumé



GROUP WRAP UP



Document Use, Oral Communication

Thinking Skills: Decision Making, Critical Thinking

TASK STEPS

YOU WILL NEED:

- ✓ your finished project(s)

STEP ONE:

- Present your finished project(s) to the group and tell the group about your experiences
 - Were you confident in your skills?
 - What do you like most about jewellery making?
 - Are you happy with the results?
 - What would you do differently next time?
 - What problems did you solve?
- Present the most important Essential Skill you learned/developed?
- Present the challenge are you most proud of overcoming?
- Discuss your overall experience in this jewellery making course

STEP TWO:

- Present your plans to the group:
 - Ongoing courses in jewellery making
 - Ongoing courses in other areas
 - Job search
 - Setting up an area at home to work