**Grade 10 Science (SNC 2L) Exam Review**

**Unit 1 Review – Let’s Safety Dance**

1. **List 5 safety guidelines for the classroom**
   1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. **What does WHMIS stand for?**

W\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ H\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ M\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

I\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ S\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. **Sketch the symbols for the following WHMIS and household hazardous products.**
   1. Biohazardous
   2. Danger Poison
   3. Compressed Gas
   4. Caution Corrosive
   5. Toxic
   6. Oxidizing
   7. Flammable
   8. Reactive
2. What are the **4 main sections** of a **WHMIS** label**?**
   1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ b) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ d) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. a) What does **MSDS** stand for?

**M\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ S\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ D\_\_\_\_\_\_\_\_\_\_ S\_\_\_\_\_\_\_\_\_\_\_\_**

b) Where are MSDSs **found/used**? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Find the following information using the **attached MSDS sheet.**
   1. What is the **product name**? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. Name **3** chemicals that this product is **composed of**.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* 1. What is this product’s **boiling point**? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  2. List **3 types of fire extinguishers** that should be used if there is a fire with this product.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* 1. What is this product **incompatible** with? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  2. What steps are to be taken in case it is **spilled**? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. For each of the following rooms in your house, list **2 potentially harmful chemicals** that may be found there.
   1. Kitchen \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. Bathroom \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Unit 2 Review – Media**

**1. Match each of the media vocabulary words with its definition.**

\_\_\_\_\_ Media a) Experiment carried out under controlled condition to ensure accuracy.

\_\_\_\_\_ Claim b) A factor in an experiment that **stays the same**.

\_\_\_\_\_ Fair Test c) Forms of mass communication (e.g. magazines, billboards, radio, TV)

\_\_\_\_\_ Control d) Saying that something is true or factual.

\_\_\_\_\_ Variable e) A factor in an experiment that **changes**.

**2. Dissect the attached ad by answering the following questions.**

a. What **product or service** is being advertised? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b. What **claim** is being made? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c. **Design a fair test** to determine if the claim is true.

d. What is the ad’s **target audience**? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. **Bar Graphs – Design a bar graph to display this information.**

**\*\* Remember to use a ruler!**

To test the claim that more **people prefer Pepsi to any other flavour of pop**, a

survey of 100 people was done.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Favorite Flavour of Pop** | Pepsi | Coke | Sprite | 7-up | Dr. Pepper | Other |
| **# of People** | 35 | 20 | 10 | 12 | 15 | 8 |

According to the information gathered, is the claim that more people prefer Pepsi to any other pop **true**? \_\_\_\_\_\_

**4. Use the circle graph to answer the following questions**.

Top Video Game System among Teenage Boys

a) Which video game system is the **#1 choice** of

teenage boys according to this survey?

b) If the survey was completed with **200** boys, how

many said that they didn’t want any of the video

game systems?

c) Which **video game system** would most likely use

this circle graph in their advertisements?

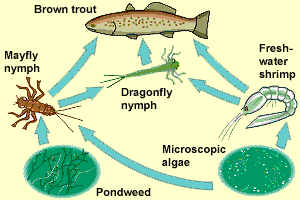
**Unit 3 Review - Population Ecology**

**1. Match each of the following ecology terms with its definition.**

1. Carrying capacity A consumer that eats only other animals \_\_\_\_\_
2. Coexistence Relating to living things \_\_\_\_\_
3. Species Maximum number a habitat can support \_\_\_\_\_
4. Decomposer Things we need to live \_\_\_\_\_
5. Population Able to reproduce \_\_\_\_\_
6. Resources Where an organism lives \_\_\_\_\_
7. Habitat Advantages for a organisms survival \_\_\_\_\_
8. Biotic To live together happily \_\_\_\_\_
9. Carnivore Number of a species in a certain area \_\_\_\_\_
10. Producer An organism that makes its own food \_\_\_\_\_
11. Resource Organism that feeds off dead matter \_\_\_\_\_
12. Herbivore Organism that eats plants \_\_\_\_\_

**2. Draw a simple food chain using 4 animals. Label each member of the food chain: Producer, Herbivore, Carnivore, and Decomposer.**

**3. In the food web below which animals are: Producer P; Herbivores H; Carnivores C**

**Brown Trout:** **\_\_\_\_**

**Mayfly nymph: \_\_\_\_**

**Pondweed: \_\_\_\_\_**

**Algae: \_\_\_\_\_**

**Shrimp: \_\_\_\_\_**

**Dragonfly nymph: \_\_\_\_\_**

**4. Below is a chart showing the population trends of Lynx (predator of Showshoe Rabbits) and Snowshoe Rabbits (eaten by Lynx).**

|  |  |  |
| --- | --- | --- |
| Time elapsed years | Population of snowshoe hare (thousands) | Population of lynx (hundreds) |
| 0 | 20 | 10 |
| 2 | 55 | 15 |
| 4 | 65 | 55 |
| 6 | 95 | 60 |
| 8 | 55 | 20 |
| 10 | 5 | 15 |
| 12 | 15 | 10 |
| 14 | 50 | 60 |
| 16 | 75 | 60 |
| 18 | 20 | 10 |
| 20 | 25 | 5 |
| 22 | 50 | 25 |
| 24 | 70 | 40 |
| 26 | 30 | 25 |
| 28 | 15 | 5 |

1. On **graph paper** make a line graph of the population or LYNX and SNOWSHOES for the 28 year period show in the table.

2. List a time period when the LYNX population decreased. From \_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_.

3. Suggest **2 reasons why** the SNOWSHOE population **decreased** during that time period.

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. Suggest **2 reasons why** the LYNX population **increased** from year 2 - 6

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. What **effect does the LYNX population** size have on the number of Snowshoes?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Unit 4 Review - Chemistry**

**1. In the space below fill in whether it is a pure substance (PS), solution (S) or**

**heterogeneous mixture (HM)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1. salt water \_\_\_\_\_ | | 2. pond water \_\_\_\_\_ | 3. chocolate chip cookie \_\_\_\_\_ | |
| 4. salad \_\_\_\_\_ | | 5. oxygen \_\_\_\_\_ | 6. cherry pie \_\_\_\_\_ | |
| 7. carbon dioxide \_\_\_\_\_ | | 8. beach sand \_\_\_\_\_ | 9. fresh orange juice \_\_\_\_\_ | |
| 10. salt \_\_\_\_\_ | 11. steel \_\_\_\_\_ | | | 12. gold \_\_\_\_\_ |
| 13. pop \_\_\_\_\_ | 14. distilled water \_\_\_\_\_\_ | | | 15. vegetable soup \_\_\_\_\_\_ |
| 16. diamond \_\_\_\_\_ | 17. 24K Gold \_\_\_\_\_ | | | 16. CO2 \_\_\_\_\_\_\_\_ |

**2. Physical Properties – Give an example for each of the following properties**

1. Clarity - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Luster - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Colour - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Size - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. Solubility - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. Magnetism - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
7. Density - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
8. State - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
9. Evaporation Point - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
10. Hardness - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**3. Mixtures - Match each Mixture with the best separation method.**

|  |  |
| --- | --- |
| A. Settling | \_\_\_\_\_ Muddy water |
| B. Evaporation | \_\_\_\_\_ An oil spill |
| C. Distillation | \_\_\_\_\_ Iron filings and sand |
| D. Magnetism | \_\_\_\_\_ Salt Water |
| E. Filtration | \_\_\_\_\_ Sawdust in water |
|  | \_\_\_\_\_ Crude Oil |
|  | \_\_\_\_\_ Coffee Grinds |
|  |  |

**4. Match the terms by placing the letter of the matching definition in the blanks.**

|  |  |
| --- | --- |
|  |  |
| Solutions \_\_\_\_\_ | A. This mixture consists of two liquids that do not mix. These will settle into layers when they are left standing undisturbed. |
| Colloid \_\_\_\_\_ | B. Mixtures made by mixing a solute and a solvent. The solute is the substance that dissolves. The solvent is the substance that does the dissolving. |
| Suspension \_\_\_\_\_ | C. Do not settle when left standing undisturbed for a period of time. Has characteristics part way between a solution and a suspension. |
| Emulsions \_\_\_\_\_ | D. Mixture of a solid and a liquid in which the solid does not dissolve and will settle when left standing undisturbed |
| Heterogeneous \_\_\_\_\_ | E. Used to describe substances that look the same throughout. Have one phase and uniform composition. |
| Homogeneous \_\_\_\_\_ | F. Used to describe substances in which you can see more than one color or type of matter. Has more than one phase and a non-uniform composition. |

**5. Fill in the chart below with the correct examples of the 4 types of mixtures.**

KOOL-AID ALCOHOL&WATER SALTWATER MUDDY WATER MAYONNAISE OIL&VINEGAR DRESSING OIL&WATER GASOLINE&WATER ORANGE JUICE VEGETABLE SOUP ASPHALT GLUE

|  |  |  |  |
| --- | --- | --- | --- |
| **Solutions** | **Suspensions** | **Emulsions** | **Colloids** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

Give one more example of each below.

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
|  |  |  |  |

1. **List 5 factors that can speed up or slow down a chemical reaction.**

|  |  |
| --- | --- |
| **Factor** | **Explain how it affects the rate of reaction** |
| *Temperature* | *A higher temperature = A faster reaction* |
|  |  |
|  |  |
|  |  |
|  |  |

**7. Use the attached metal activity table to answer the following questions.**

a**.** Which metal is **more** reactive? (circle)

Iron or Sodium

Lead or Copper

Zinc or Aluminum

Platinum or Mercury

b. Which metals can **replace sodium**? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**8. Answer the following questions about corrosion.**

* 1. What is **corrosion**? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  2. Name the 4 gases that **cause** corrosion.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* 1. What **colour** do the following metals turn when they **corrode**?
     1. Copper turns \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (think – Statue of Liberty or penny)
     2. Iron turns \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (think – a metal fence or a nail)
  2. Name 3 ways to prevent **corrosion**. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  3. List 2 compounds that **do not** corrode.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

f. What are the 3 major metals that form **protective coats**?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**9. Use the periodic table provided to complete the following chart:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Element** | **Symbol** | **Atomic #** | **# of Protons** | **Period** | **Group** |
| Carbon |  |  |  |  |  |
| Oxygen |  |  |  |  |  |
| Magnesium |  |  |  |  |  |
| Gold |  |  |  |  |  |

1. **Acid/Base: Fill in the blanks with the correct term.**

**Blue 0 7 14 Red Pink Clear**

1. Acids turn litmus paper \_\_\_\_\_\_\_\_.
2. Bases turn litmus paper \_\_\_\_\_\_\_\_.
3. Phenolphthalein turns \_\_\_\_\_\_\_ when an acid is added and \_\_\_\_\_\_\_\_\_ when a base is added.
4. And acid is \_\_\_\_ to \_\_\_\_\_ on the pH scale.
5. Bases are \_\_\_\_ to \_\_\_\_\_ on the pH scale.

**11.** Are they a **base** or **acid**?

1. Vinegar \_\_\_\_\_\_\_
2. Baking Soda \_\_\_\_\_\_\_\_
3. Soap \_\_\_\_\_\_\_
4. Distilled Water (tricky) \_\_\_\_\_\_\_\_\_\_\_\_
5. Lemon juice \_\_\_\_\_\_\_\_\_\_

**Unit 5: Energy and Electricity**

**1. Match the terms with their definitions.**

|  |  |  |
| --- | --- | --- |
| **Term** | **Definition** | |
| 1. \_\_\_\_\_ Energy | A. The energy associated with electrical charges and their  movement. | |
| 2. \_\_\_\_\_ Electrical Energy | B. Nothing uses 100% of the electricity it is powered by. Devices such as compact florescent lights improve this. | |
| 3. \_\_\_\_\_ Watt | C. A metric unit of power. Gives the rate at which work is done or energy used. | |
| 4. \_\_\_\_ Alternating Current | D. The rate at which energy is transferred. | |
| 5. \_\_\_\_\_ Direct Current | E. Conductors through which electric current flows. | |
| 6. \_\_\_\_\_ Circuit | F. Electric current that flows in one direction only, as from a battery. | |
| 7. \_\_\_\_\_ Power | G. The ability to do work or the ability to move an object. | |
| 8. \_\_\_\_\_ Energy Efficiency | | H. Electrical energy that reverses its direction at regular intervals. Used to power appliance. |
| 9. \_\_\_\_\_ Solar | | I. Energy from the heat below the earth’s crust. |
| 10. \_\_\_\_\_ Wind | | J. Responsible from air pollution and acid rain |
| 11. \_\_\_\_\_ Coal | | K. Due to the uneven heating of the earth. Is a renewable energy source. |
| 12. \_\_\_\_\_ Geothermal | | L. Energy generated with photovoltaic cells. |

**2. Calculating Energy Use (kilowatts)**

**The formula for Energy is - E (in kWh) = \_\_\_ (kW) X \_\_\_ (h)**

1. A dryer with a rating of (**10 kW**) running for **2 hours**.
2. Turning the AC (**1 kW**) on for 90 **minutes**.

3. Watching TV (**15 kW**) for **30 minutes**.

4. Listening to your stereo (**5 kW**) for 5 hours.

**3. Energuide Label: Below is a typical EnerGuide Label.**

**#1 – #4 below explain the important information that it contains.**

|  |  |
| --- | --- |
| Energuide Label | 1. Estimated electricity consumption in kilowatt-hours per year. A lower number means lower energy cost.  2. EnerGuide rating scale compares annual energy consumption of different appliances in the same size and type categories. The most efficient models are ranked to the left on the scale, the least efficient models to the right. The relative position of the model being rated is shown by the indicator arrow above the scale.  3. Appliances of the same type and size are grouped then rated to ensure energy performance rankings of different models is valid and to make it easier to compare similar models on the rating scale.  4. The appliance model number assures you the right label is on the appliance. |

**Answer the following question about the label shown above.**

1. How much energy does this appliance use per year? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. The range of energy usage for this type of appliance is a low of \_\_\_\_\_ kWh to a high of \_\_\_\_\_\_ kWh.
3. Would you consider this an energy efficient appliance? **Yes/ No**

Explain why/why not? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. How much would it cost to run this appliance for one year? (cost of electricity =$0.20 kWh )

Cost =\_\_\_\_\_ kWh X $0.20 per kWh = $\_\_\_\_\_\_ per year

Cost for 10 year life of Appliance = \_\_\_\_\_\_ per year X 10 years = $\_\_\_\_\_\_\_\_\_

1. If you could save $100 on the same appliances but it’s energy rating was 2000 kWh per year, would you buy is? **Yes/No** Explain why/why

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. **Define the following terms:**

RENEWABLE ENERGY SOURCE –

NON-RENEWABLE ENERGY SOURCE –

1. **Classify the following sources of energy: (fill in the chart below)**

coal nuclear natural gas hydroelectric dam

tidal wind solar collector wind

|  |  |
| --- | --- |
| renewable | non-renewable |
|  |  |

**6. Electricity Generation: Complete the table for each type of electricity generation.**

**Hydroelectric Power (Dam)**

|  |  |  |
| --- | --- | --- |
| Show how it works below. | Advantages | Disadvantages |
|  |  |

**Fossil Fuel Power (Coal-fire Generation)**

|  |  |  |
| --- | --- | --- |
| Show how it works below. | Advantages | Disadvantages |
|  |  |

**Nuclear Power (CANDU Reactor Generation)**

|  |  |  |
| --- | --- | --- |
| Show how it works below. | Advantages | Disadvantages |
|  |  |

**Wind Energy**

|  |  |  |
| --- | --- | --- |
| Show how it works below. | Advantages | Disadvantages |
|  |  |

**7. List the sources of electricity in Ontario according to their importance:**

|  |  |
| --- | --- |
| Most 1.  2.  3.  4.  Least 5. Internal Combustion | **Examples of this source**  gasoline powered generators |

**8. Complete the table:**

|  |  |  |
| --- | --- | --- |
| **Form of Power** | **What is the original source of the energy?** | **What substance turns the turbines?** |
| hydroelectric (dam) |  |  |
| coal-fire | heat from burning coal | steam |
| nuclear | Uranium |  |
| wind |  |  |
| Solar |  |  |

1. **Complete the following chart on home wiring:**

|  |  |  |
| --- | --- | --- |
| **Colour of Wire** | **Colour of Screw** | **Polarity** |
| Black |  |  |
|  |  | Neutral |
|  | Green |  |

**10. What is the first thing you’d do before doing any work with the electrical equipment in your home** (e.g. replacing a light switch or fixing a receptacle)? **Why?**

1. **What is the purpose of the ground wire and where does it eventually lead?**
2. **What is a multimeter used to measure? When would you need to use it?**