**Science 9 – Daily Science Review Questions for Exam – ANSWER BELOW OR ON OWN PAPER**

**NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ JANUARY 2017**

**REPRODUCTION**

**Part 1**

1. What is the name of the four parts of the cell cycle?
2. Name the two parts of cell division?
3. Name (in the proper order) are the four phases of mitosis?

**Part 2**

1. Name the structure of the cell responsible for regulating what enters or exits the cell.
2. What is the function of the cell wall?
3. What organelles make an animal cell different from a plant cell?
4. What structure is responsible of the making of proteins?

**Part 3**

1. This type of reproduction involves the union of sex cells to produce an organism.
2. Name the three parts of the cell theory.
3. What is a zygote?
4. What are changes in the genetic code called?

**Part 4**

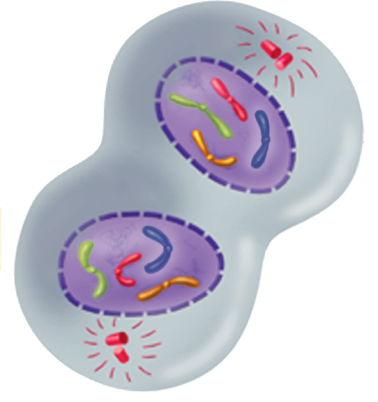
1. During which phase of mitosis are chromosomes visible?
2. During which phase of mitosis are chromosomes aligned at the center of the cell?
3. How is cytokinesis different in animal and plant cells? Diagram

**Part 5**

1. What is another name for cell membrane?
2. What is the cell membrane composed of?
3. What is the nucleus composed of?
4. What is the function of the nucleus?

**Part 6**

1. What are chromosomes composed of?
2. DNA replication takes place during this phase of the cell cycle.
3. Answer the following questions based on the events of a cell during telophase.



1. What structures reaches the opposite end of the poles?
2. Where are the newly formed chromatids located?
3. What structure is reappearing?
4. What type of cell is represented in the diagram?
5. Cytokinesis begins and the **\_\_\_\_\_\_\_\_\_\_\_** and **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** separate.
6. What is the final product of cytokinesis?

**Part 7**

1. What is the cytoplasm of the cell?
2. TRUE OR FALSE: Most of the life processes takes place within the cytoplasm of the cell.
3. Indicate the function of the following organelles:
4. Mitochondria
5. Endoplasmic reticulum
6. Vacuole
7. Ribosomes
8. Centrioles

**Part 8**

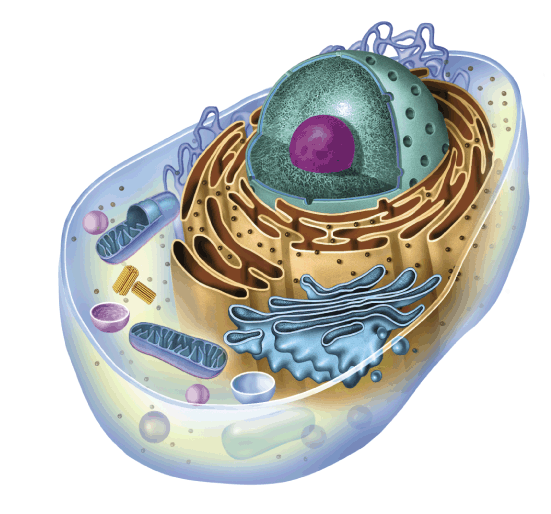
1. Name any three types of asexual reproduction (page 160) of textbook.
2. Name two specialized cells that contain genetic information to produce a new organism.
3. Is it possible for organisms to reproduce asexually and sexually? Give an example
4. Name any two characteristics about cancer cells.
5. A substance or energy that causes mutation is called a **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**.
6. Name three carcinogens.

**Part 9**

1. What occurs during the G1 or First Growth Phase of the cell cycle?
2. At the end of which phase of the cell cycle is the cell ready to start cell division?
3. Interphase includes what three phases of the cell cycle?
4. The series of events that cells go through as they grow and divide is called the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
5. All of the following statements are false. What word(s) need to be changed to make the statements true?
6. DNA replication takes place during the M phase (cell division) of the cell cycle.
7. Cytokinesis usually occurs during anaphase of mitosis.
8. During mitosis, sister chromatids separate from one another during metaphase.
9. The two major stages of cell division include G2 and prophase.

**Part 10**

1. Name structures only found in animal cells and plant cells.
2. These structures contain the green pigment chlorophyll.
3. Plant cell walls are composed of a tough fiber called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
4. Name the structures (A to E) labeled below.



**C**

**D**

**E**

**B**

**A**

1. What are organelles?

**CHEMISTRY**

**Part 1**

1. Name the three parts of an atom.
2. Name four types of power generating plants in New Brunswick.
3. What is the name of the basic particle that carriers one unit of a negative charge?
4. TRUE OR FALSE: Heat; light, sound, and electricity are all examples of the force that makes things move or change.

**Part 2**

1. Name any two physical properties of water.
2. What is invisible, state is a gas, and has no particular shape or volume?
3. Name two categories of substances and give an example of each.
4. When two pure substances are mixed together and they mix smoothly, the mixture is called a **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** an example of a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ mixture.
5. If particles do not mix well together then the mixture is described as a **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**mixture.

**Part 3 (\*\*Use Periodic Table)**

1. What element am I (name and/or symbol)?
2. My neutron number is 51. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. My atomic mass is 192. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. My symbol is Ba. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. My electron number is 19. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. My proton number is 87. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
7. Complete the following table by filling in the blanks. Use the periodic table to assist you.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Element** | **Symbol** | **Atomic Number** | **Atomic Mass** | **Number of Protons** | **Number of Electrons** | **Number of Neutrons** |
|  |  | 13 |  |  |  |  |
| Silver |  |  |  |  |  |  |
|  |  |  |  | 50 |  |  |
|  |  |  |  |  |  | 120 |
|  | Zn |  |  |  |  |  |

1. Construct a Bohr Diagram for the following elements:
2. F or Fluorine
3. K or Potassium

**Part 4**

1. Indicate how energy (temperature) affects the phases of matter of water
2. **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** properties are the characteristics of a substance that you can observe with your senses. Give an example. **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
3. What is the physical property of iron (with respects to shape and volume)?
4. How does a gas differ from a liquid?
5. How is a gas the same as a liquid?
6. How does a gas differ from a solid?
7. How is a gas the same as a solid?
8. Name a chemical property of rubbing alcohol.

**Part 5**

1. Identify the following symbols using the word list below:

WORD LIST:

Biohazardous Corrosive Flammable Compressed Gas

Oxidizing Poisonous Toxic Dangerously Reactive

1. What are (five examples each) of the “do’s” and “don’ts” with respects to lab safety?
2. What is wafting?
3. What does WHMIS stands for?

**Part 6**

1. Which of the following is an example of a pure substance and which are examples of a mixture?
2. Pizza - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Oreo cookie - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Distilled water \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. Brass - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. Solid brass - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
7. Identify the following as a homogenous mixture or a heterogenous mixture.
8. Tea - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
9. Salt and pepper - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
10. Donair - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
11. Milk - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
12. Nails and screws - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
13. Identify following as either a physical change or a chemical change.
14. Foaming or fizzing - \_\_\_\_\_\_\_\_\_\_\_\_\_
15. Color of a substance - \_\_\_\_\_\_\_\_\_\_\_\_
16. Odor of a substance - \_\_\_\_\_\_\_\_\_\_\_\_\_
17. Color and odor of a substance
18. Burning of a substance - \_\_\_\_\_\_\_\_\_\_
19. Soured milk - \_\_\_\_\_\_\_\_\_\_\_\_\_\_
20. Shape of an object - \_\_\_\_\_\_\_\_\_\_\_\_\_
21. Tearing apart a piece of wood - \_\_\_\_\_
22. Calculate the density of the following: (D = m/v)
23. Timothy found a solid metal block that has a mass of 125 grams and

a volume of 25 cm3. What would be the density of the block?

1. Find the density of a substance with a mass of 27 g and a volume of 7 cm3.
2. A block of maple has a mass of 120 grams and a volume of 10 cm3. What is the density of the block?
3. Find the density of a substance with a volume of 5 cm3and a mass of 35 g.

**ELECTRICITY**

**Part 1**

1. What is a conductor? Give an example.
2. What is an insulator? Give an example.
3. What happens when two unlike charges are brought near each other?
4. What happens when two like charges are brought near each other?
5. An electrical circuit is the path along which \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ travels.

**Part 2**

1. Friction causes many of the effects produced by **\_\_\_\_\_\_\_\_\_\_\_\_\_\_** electricity.
2. Friction is caused by two objects **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** together and each object will develop their own **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**.
3. Name a material that has a great electrostatic build up when compared to other types of materials.
4. How can an electric charge be transferred?
5. Name an electric charge that can be dangerous.
6. The electric charge occurs when extra **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** from the **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** charged object get transferred by contact with an **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** object.

**Part 3**

**WORD LIST: wire, magnet, dam, current, electrical, charge, metal rod, pressure, generator, mechanical, turbines**

1. A hydro plant uses the **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** of the water coming from a **\_\_\_\_\_\_\_\_** to make the **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** move.
2. A **\_\_\_\_\_\_\_\_\_\_\_\_\_** is the amount of electricity in a substance.
3. **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** is electricity that moves through a circuit.
4. A **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** is a device that turns one form of energy (usually in the form of a fuel or **\_\_\_\_\_\_\_\_\_\_\_\_** energy) into another form of energy (usually into **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** energy).
5. An electromagnet is a **\_\_\_\_\_\_\_\_\_\_\_\_\_\_** that is wrapped with **\_\_\_\_\_\_\_\_\_\_\_** that becomes a powerful **\_\_\_\_\_\_\_\_\_\_\_\_\_\_** when electricity passes through the wire.

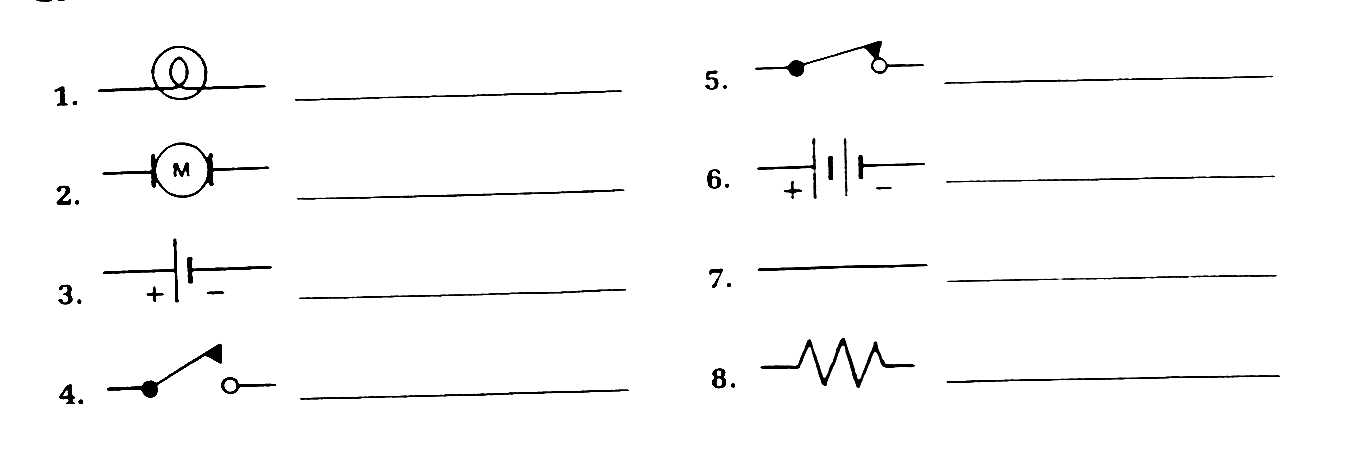
**Part 4**

1. A nuclear plant, such as the one located in Pointe Lepreau near St. John, uses \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, a metal that releases a large amount of heat in a nuclear reaction.
2. TRUE OR FALSE: A scientist named Hans Oersted discovered that electricity could cause magnetism.
3. Match the following symbols with the correct terms provided below:

**WORD LIST:**

**closed switch one dry cell light bulb two dry cells**

**motor open switch appliance (resistance) wire**



1. Does electricity flow from plus to minus OR minus to plus?
2. Name the three particles an atom is composed of.
3. Why don’t we get most of our electricity from batteries?