Science 9 **Name: _____**

Unit C Quiz 1

*Use the following information to answer the **next three** questions*

1. Lipids	6. Proteins
2. Enzymes	7. Organic
3. Inorganic	8. Carbohydrates
4. Sugars	9. Minerals
5. Vitamins	10. Starch

1. The two major groups of nutrients are

A. 1 & 6
B. 2 & 9
C. 3 & 7
D. 5 & 7

2. In ascending order (smallest to largest), the three main groups of organic nutrients are

_____ _____ _____

3. Carbohydrates are combinations of

A. 1, 2, and 4
B. 2, 5, and 9
C. 4 and 10 only
D. 1 and 4 only

4. Plants, but not animals, are able to synthesize their own

A. Lipids
B. Sugars
C. Proteins
D. Vitamins

Use the following information to answer the next question

1. Provides the body with a source of energy
2. Used to make enzymes
3. Arranged into chains of fatty acids

5. Write the number of the function above on the line below which best matches the nutrient listed underneath the line.

_____ _____ _____

Protein Carbohydrate Lipid

6. Iron, which is needed in your blood, is a(n) ***__i__,*** whereas ascorbic acid, which is another name for the substance that prevents scurvy, is a(n) ***__ii__.***

ROW	i	ii
A.	Element	Enzyme
B.	Enzyme	Element
C.	Vitamin	Mineral
D.	Mineral	Vitamin

7. Which of the following substances is a good source of carbohydrates?

A. Fruit
B. Rice
C. Both A. & B.
D. Neither A. nor B.

*Use the following information to answer the **next three** questions*

The following two types of fertilizer are added to 2 seeds in a controlled experiment. A third seed has no fertilizer added.

	Nutrient Composition		
Type of Fertilizer	**Nitrogen (%)**	**Phosphorus (%)**	**Potassium (%)**
African Violet	3	7	3
Orchid	6	2	2

After 3 weeks of growth, the following observations are made.

Seed	Type of fertilizer	Length of roots (cm)	Number of leaves
1	African Violet	7	2
2	Orchid	3	8
3	None	8	6

8. The manipulated variable in this experiment is

A. The amount of water each plant receives
B. The type of fertilizer used
C. The type of seed used
D. The growth of the plants

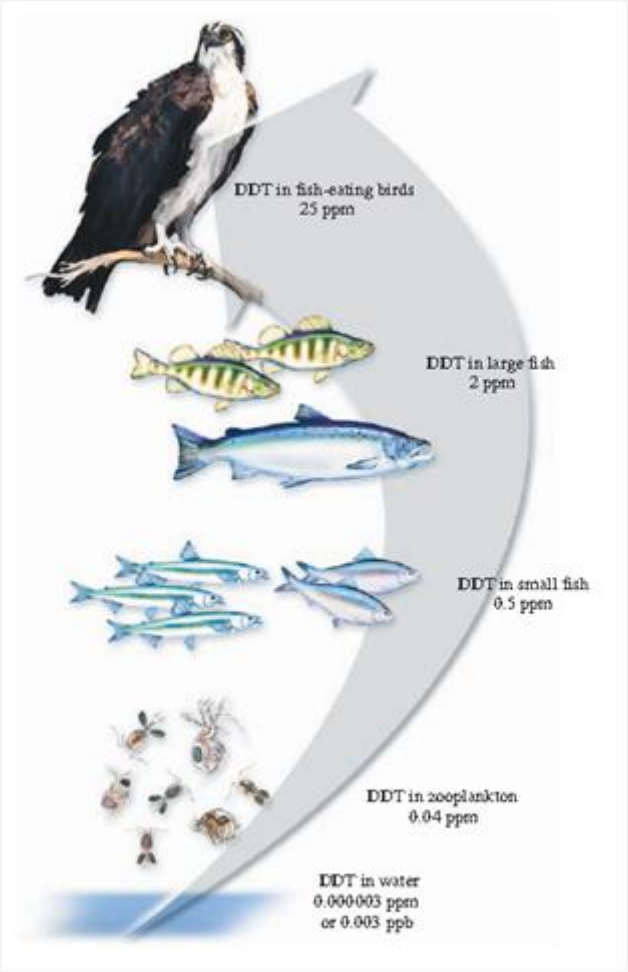
9. The responding variable in this experiment is

A. The amount of water each plant receives
B. The type of fertilizer used
C. The type of seed used
D. The growth of the plants

10. A conclusion supported by this experiment is

A. Potassium supports root growth
B. Nitrogen supports root growth
C. The fertilizers are not ideal for the seed type used
D. The orchid fertilizer is ideal, but the African Violet fertilizer is not

Use the following diagram to answer the next three questions



11. The phenomenon that is best illustrated by the diagram is known as

A. bioconcentration
B. bioaccentuation
C. bioaggregation
D. biomagnification

12. The concentration of DDT gets

A. lower as you move down the food chain
B. lower as you move up the food chain
C. it depends on the organisms in the food chain
D. DDT concentrations are the same throughout the food chain

13. In 1,000,000 mg of hawk tissue, how many mg of DDT would there be?

A. 250mg
B. 2.5 mg
C. 25 mg
D. 0.25 mg

Written Response

Use the following information to answer the **next three** questions

An electronics factory produces a variety of electronics including cell phones, computer chips, and batteries. The chemical processes used by the factory result in a significant amount hazardous chemical waste. In particular, the amount of cadmium in the groundwater and soil has increased, and the pH of the soil has decreased by 3 whole numbers on the pH scale. The waste of the factory is potentially hazardous to both plants and animals that live in the surrounding area.

1. Identify and describe the different methods by which plants and animals obtain nutrients (2 marks)

2. A pond near the factory is home to at least one species of frog. Knowing that the hazardous level of cadmium starts at 8.9 ppm, a scientist takes a 3,600 mL sample of the pond and tests it for the concentration of cadmium.

a.) How many mL of cadmium will be in the sample of pond water? Show your work. (2 marks)

b.) If the frogs can survive up to .02 mL of cadmium in the sample size, will they survive? Show your work. (1 mark)

3. Before the chemical waste was dumped in environment, the pH of the soil was 7.4.

a.) Did the chemical waste make it more acidic or more basic? Explain how you know. (2 marks)

b.) You have soil samples from before and after the factory was built. How could you use bromothymol blue to verify your answer to part a? (2 marks)