



Biology I

SB1c Macromolecules and the Scientific Method Test Study Guide

SB1c Identify the function of the four major macromolecules (i.e., carbohydrates, proteins, lipids, nucleic acids).

1. Describe two primary functions of lipids.

Store energy and insulate

2. What are some examples of lipids?

Wax, fats, oils, and cholesterol

3. What are the monomers of nucleic acids?

Nucleotides

4. What are lipids made of?

Fatty acids

5. Which macromolecule stores genetic information?

Nucleic acids such as DNA

6. What are some examples of carbohydrates?

Polysaccharides and glucose

7. What are the subunits of fats?

Fatty acids

8. Lipids may be tested using the brown paper bag test resulting in a translucent spotting effect. What foods would show a positive test?

Greasy foods like French fries or potato chips

9. What is the primary **structural** component of the human body?

Protein

10. Long chains of **amino acids** are linked by **peptide bonds** to form what macromolecule?

Protein

Scientific Method and Lab Safety Terminology

1. **analyze:** Examine methodically and in detail the constitution or structure of (something, esp. information), typically for purposes of explanation and interpretation.
2. **beaker:** An open cylindrical container with a pouring lip; used for mixing larger amounts of substances
3. **Combustible:** Capable of catching fire or burning
4. **communicate:** To exchange or give information
5. **data:** Evidence; information gathered from observations.
6. **dependent variable:** The experimental factor that is being measured;
7. **evaluate:** Assess the implications and limitations.
8. **experiment:** A set of controlled observations that test the hypothesis.
9. **eye wash:** can be used to rinse out chemicals that have gotten into your eye
10. **fire blanket:** used to help extinguish fire on someone performing the drop-and-roll technique
11. **forceps:** A surgical instrument with two opposing blades used to grasp or hold tissue or material.
12. **fume hood:** an enclosed workspace that protects you from gaseous substances
13. **graduated cylinder:** instrument used to measure volume of a liquid
14. **graph:** ..., A diagram that shows how two variables are related.
15. **hazardous:** Dangerous
16. **hypothesis:** A scientific explanation for a set of observations that can be tested in ways that support or reject it.
17. **independent variable:** The experimental factor that is manipulated; the variable whose effect is being studied
18. **observations:** Information gathered by noticing facts and occurrences using your five senses.
19. **research:** A scientific process that involves the systematic and careful collection of data.
20. **scientific method:** A series of steps followed to solve problems including collecting data, formulating a hypothesis, testing the hypothesis, and stating conclusions.
21. **synthesize:** To take individual pieces of information and combine them with other pieces of information and with prior knowledge and experience to gain a better understanding of a subject or to create a new product or idea. To put all of your sources of information together and use them to your benefit.
22. **validity:** Accurate. The degree to which a study accurately reflects or assesses the specific concepts that the researcher is attempting to measure. Does it measure what it suppose to.
23. **variable:** A factor that can change in an experiment