

Cell Structure and Functions

Name _____

Cellular Transport Problems

Date _____ Period _____

Directions: Answer the following questions using your knowledge of cellular transport. During the process of solving the problem state specifically what kind of cellular transport is taking place?

1. Grocery stores often sprinkle the vegetables they are selling with a fine mist of fresh water. What is the purpose of doing this?
2. Many freshwater unicellular organisms such as the amoeba have specialized organelles called contractile vacuoles. The function of the contractile vacuole is to move water out of the amoeba. The amoeba could not survive without this specialized organelle. Explain why.
3. Why do plants on the side of the road die during the early spring after a snowy and icy winter?
4. The human lung has specialized sacks called alveoli that exchange gases with the blood cells found in small vessels called capillaries. What gases are being exchanged at this location and how is it accomplished?
5. You and a friend are lost at sea. After drifting for many hours you both get very thirsty. Your friend leans over the side to drink some water. What advice do you give your friend? Be sure to explain your answer to him/her.
6. "The Blob" was a hit horror movie in the 1960's about a gigantic mass of goo that ate people. How do you suppose the blob ate people when it had no mouth? Explain

7. Carl ate a bagel. Explain how the nutrients from the bagel get into Carl's cells.

8. Rainbow trout will move from their freshwater environment of the stream to the ocean after reaching maturity. What special adaptations must the rainbow trout have that allows them to do this?

9. Explain how kidney dialysis machine works.

10. What allows non-woody plants, such as dandelion, to stand upright? Explain

11. Explain why the chloroplasts clump together when an elodea cell is exposed to a hypertonic solution.

12. Why do doctors recommend gargling with salt water when you have a sore throat?

13. Why is salt used to help preserve meats while they are being stored for later consumptions?

14. As part of the human immune response, white blood cells engulf foreign particles called antigens. What cellular transport process is being used?