

Science Exam: Homeostasis & Cell Processes

1. 1. What is the main purpose of homeostasis in living organisms?

- To grow larger
- To maintain a stable internal environment
- To respond to sound
- To change body shape

2. Which system in the human body is responsible for transporting materials to and from cells?

- Digestive system
- Nervous system
- Cardiovascular system
- Skeletal system

2. 3. How does the body respond to high external temperatures?

- By shivering
- By sweating
- By slowing the heartbeat
- By producing more fat

3. 4. Which organ in the brain acts as a control center for temperature regulation?

- Cerebellum
- Hippocampus
- Hypothalamus
- Cortex

4. 5. What do thermoreceptors in the skin detect?

- Sound waves
- Temperature changes
- Light levels
- Pressure

5. 6. What is the function of effectors in homeostasis?

- Detect external changes
 - Control internal organs
 - Carry out corrective actions
 - Produce glucose
6. 7. Which process allows plants to make food using sunlight?
- Osmosis
 - Photosynthesis
 - Respiration
 - Diffusion
7. 8. How do cells get energy from food?
- Through osmosis
 - Through mitosis
 - Through cellular respiration
 - Through protein synthesis
8. 9. What is mitosis?
- A type of cellular transport
 - A process of creating energy
 - Cell division resulting in identical cells
 - A form of passive transport
9. 10. Why is it important for DNA to be copied before cell division?
- To speed up the process
 - So the cell grows larger
 - To ensure each new cell gets the same genetic material
 - To create mutations
10. 11. What is passive transport?
- Transport requiring energy
 - Movement of particles using ATP
 - Movement of molecules from high to low concentration without energy
 - Transport involving vesicles

11. 12. What is the diffusion of water across a semi-permeable membrane called?

- Endocytosis
- Active transport
- Osmosis
- Filtration

12. 13. Which of the following requires energy to move substances across the cell membrane?

- Passive transport
- Diffusion
- Osmosis
- Active transport

13. 14. What is endocytosis?

- Release of particles from a cell
- Fusion of cells
- Engulfing particles into a cell using energy
- Copying DNA

14. 15. What is exocytosis?

- Movement of particles into the nucleus
 - Release of particles from the cell using a vesicle
 - Breaking down glucose
 - Creation of new proteins
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