

What's in Your Cell?

How do cells know what to do?



Cells are made of many different parts. Some of these parts are called organelles. They are like little factories inside the cell. Each organelle has a specific job to do. For example, the nucleus is like the control center of the cell. It contains the DNA, which is the instructions for how to make proteins.

Cells get energy from food. This energy is used to power all the processes that happen inside the cell. One of the main ways cells get energy is through a process called cellular respiration. This process happens in the mitochondria, which are like powerhouses for the cell.

Cells also need to get rid of waste. This is done through a process called excretion. One way cells get rid of waste is by releasing it into the surrounding fluid. Another way is by using a process called osmosis to move water out of the cell.

Cells are also able to communicate with each other. This is done through a process called signaling. Cells release chemical messengers called hormones that travel through the blood to other cells. These hormones tell the other cells what to do.

Cells are also able to move. This is done through a process called motility. Some cells, like white blood cells, can move through the body to fight off infection. Other cells, like muscle cells, can contract and relax to move the body.

Cells are also able to divide. This is done through a process called cell division. There are two main types of cell division: mitosis and meiosis. Mitosis is used to make new cells that are identical to the parent cell. Meiosis is used to make gametes, which are sex cells that combine to form a new organism.

Cells are also able to sense their environment. This is done through a process called sensing. Cells have receptors on their surface that can detect changes in the environment. For example, a cell might have receptors that can detect changes in temperature or pH. When a cell senses a change, it can respond by changing its behavior. For example, a cell might start moving or dividing in response to a change in its environment.

1. Draw the following organelles found in the animal cell. Don't forget to get their specific shapes! (Don't forget to label them as well.)

2. What is the function of the nucleus?

3. How do cells get energy?

4. How do cells communicate with each other?

5. How do cells move?

6. How do cells sense their environment?

7. How do cells divide?

8. How do cells respond to their environment?