Grade 4
Reading Science
"The Amazing World of Cells"

In the world of science, there is a hidden universe that is too small to see with our eyes. It's a world full of tiny structures called cells, and these cells are the building blocks of life. Let's take a journey into the fascinating world of cells and discover how they work.

The Cell Adventure

Cells are like tiny factories that work together to keep living things alive and healthy. They can be found in all living organisms, from plants and animals to humans. Each cell has its own important job to do.

Cell Structure

Cells come in various shapes and sizes, but they all have some things in common. They have a cell membrane that acts like a protective barrier, keeping the good stuff in and the bad stuff out. Inside the cell, there is a control center called the nucleus, which contains the cell's DNA, the instructions for everything the cell does.

Types of Cells

There are different types of cells in the body. For example, red blood cells carry oxygen to all parts of the body, while white blood cells help fight off germs and keep us healthy. Plant cells, on the other hand, have a rigid cell wall that gives them structure and support.

Cell Functions

Cells are constantly working. Some make energy, others help us move, and some even help us see and hear. Muscle cells help us move our bodies, and nerve cells allow us to feel sensations like touch and pain.

The Powerhouses: Mitochondria

Inside cells, there is a tiny powerhouse called the mitochondria. It's like a battery that provides energy for the cell to do its job. Without mitochondria, our cells wouldn't have the energy to function properly.

The Amazing Division

Cells can also divide and make copies of themselves, which is crucial for growth and healing. When a cell divides, it makes two identical cells, each with the same instructions from the DNA.

Now, let's test your knowledge with some multiple-choice questions:

1. What are cells?

a) Tiny factories

b) Tiny animals

c) Tiny planets

d) Tiny cars

2. What is the function of the cell membrane?

a) To protect the cell

b) To make energy

c) To control the nucleus

d) To store DNA

3. What is found inside the nucleus of a cell?

a) Mitochondria

b) DNA

c) Cell membrane

d) White blood cells

4. Which type of cell carries oxygen in our body?

a) Red blood cells

b) White blood cells

c) Muscle cells

d) Nerve cells

5. What is the function of mitochondria?

a) To protect the cell

b) To make energy

c) To control the nucleus

d) To store DNA

6. Why is cell division important?

a) To make cookies

b) To make identical cells for growth and healing

c) To create new animals

d) To make the cell smaller

7. What is the rigid structure found in plant cells?

a) Cell membrane

b) Nucleus

c) Cell wall

d) Mitochondria

8. Which part of the cell acts like a protective barrier?

a) Nucleus

b) Mitochondria

c) Cell wall

d) Cell membrane

9. What do nerve cells help us do?

a) Carry oxygen

b) Fight off germs

c) Move our bodies

d) Feel sensations like touch and pain

10. Which part of the cell contains the instructions for everything the cell does?

a) Cell membrane

b) Mitochondria

c) Nucleus

d) Cell wall

1. Answer: a) Tiny factories. Cells are often compared to tiny factories because they have specific functions and work together to keep living things alive.

2. Answer: a) To protect the cell. The cell membrane acts as a protective barrier, keeping the good stuff in and the bad stuff out.

3. Answer: b) DNA. The nucleus contains the cell's DNA, which provides instructions for everything the cell does.

4. Answer: a) Red blood cells. Red blood cells carry oxygen to all parts of the body.

5. Answer: b) To make energy. Mitochondria are like tiny powerhouses that provide energy for the cell to function.

6. Answer: b) To make identical cells for growth and healing. Cell division is crucial for growth and healing because it creates identical cells with the same instructions from DNA.

7. Answer: c) Cell wall. Plant cells have a rigid cell wall that provides structure and support.

8. Answer: d) Cell membrane. The cell membrane acts as a protective barrier for the cell.

9. Answer: d) Feel sensations like touch and pain. Nerve cells allow us to feel sensations like touch and pain.

10. Answer: c) Nucleus. The nucleus contains the cell's DNA, which provides instructions for everything the cell does.