

SCIENCE KEY KNOWLEDGE YEAR 3

WHAT CAN YOU REMEMBER?

Rocks

1. **Rock Variety:** Not all rocks look the same! There are three main types of rocks: sedimentary, metamorphic, and igneous, each with unique features.
2. **Sedimentary Rocks:** Sedimentary rocks, like sandstone and chalk, are formed from minerals and tiny pieces of plants or organic matter that get pressed together into layers over time.
3. **Metamorphic Marvels:** Metamorphic rocks, such as slate and marble, form when existing rocks are exposed to heat and pressure, changing their structure and appearance.
4. **Igneous Rocks:** Igneous rocks, like granite, are created when lava cools and solidifies. This process can create beautiful and strong rock formations!
5. **Fossil Formation:** Fossils are the remains or impressions of prehistoric plants or animals found in rock. They form when these organisms die, get buried, and over time are covered by layers of rock and mud.

Forces

1. **Understanding Forces:** A force is an action that can move something, stop it, or keep it in motion. Some forces need direct contact (like pushing or pulling), while others can act at a distance.
2. **Friction Facts:** Friction is the resistance that occurs when two surfaces rub against each other. Smooth surfaces create less friction, while rough surfaces create more!
3. **Magnetic Materials:** Iron, nickel, steel, and cobalt are magnetic, but materials like copper, aluminum, wood, and plastic are not. Knowing this helps in understanding how magnets work!
4. **Magnet Basics:** A magnet has a north pole and a south pole. When two magnets with the same poles face each other, they repel; opposite poles attract. There are various types of magnets, including ring, button, and horseshoe!
5. **Magnet Magic:** Magnetic force works at a distance, and the distance it affects depends on the magnet's strength. Magnets are used in compasses, medical devices, jewelry, recycling, and even trains!

Human Body

1. **Nutrition Needs:** Animals, including humans, require the right amount of nutrition from their food to survive. A balanced diet includes fruits, vegetables, proteins, carbohydrates, fats, and dairy!
2. **Food Production:** Plants can make their own food through photosynthesis, but animals, including humans, cannot. We rely on consuming other foods to get our nutrients!
3. **Skeleton and Muscles:** The skeleton and muscles work together for protection, movement, and support. For example, the skull protects the brain, and the spine supports the body.
4. **Key Bones and Muscles:** Key bones in the body include the skull, spine, ribcage, and pelvis. Muscles, like the biceps, triceps, quadriceps, and abdominal muscles, contract and relax to facilitate movement.
5. **Types of Skeletons:** Some animals have a backbone (vertebrates), while others do not (invertebrates). There are three types of skeletons: endoskeletons (inside the body), exoskeletons (outside the body), and hydrostatic skeletons (using fluid pressure).

Plants

1. **Root Functions:** Roots play a vital role by absorbing water and minerals from the soil and anchoring the plant securely in place.
2. **Stem Support:** The stem or trunk of a plant acts as a transport system, carrying water and nutrients from the roots up to the leaves for photosynthesis.
3. **Leaf Magic:** Leaves are the plant's food factories! They turn sunlight into food through the process of photosynthesis, providing energy for growth.
4. **Flower Power:** Flowers are essential for creating new seeds and play a key role in pollination, helping plants reproduce and grow.
5. **Plant Needs:** For healthy growth, plants require the right amounts of air, light, water, nutrients from the soil, and space. Different plants have specific needs—like pine trees thriving in cold weather and cacti surviving on minimal water!

Light

1. **Light and Vision:** To see things, we need light! Darkness occurs when there's an absence of light, making it impossible to see.
2. **Sources of Light:** Common light sources include the sun, lamps, torches, fire, and light bulbs. These help illuminate our surroundings!
3. **Reflection Basics:** Reflection happens when light bounces off a surface, changing direction. Smooth, shiny surfaces like mirrors reflect light well, while dull, dark surfaces absorb light and reflect poorly.
4. **Sun Safety:** The sun can cause sunburn, wrinkles, and eye damage. To protect your eyes, wear sunglasses and avoid looking directly at the sun!
5. **Light Interaction:** Objects interact with light in different ways: opaque objects don't let light through, transparent objects let light pass completely, and translucent objects let some light through. Shadows form when light is blocked by opaque objects, and their size can change based on the light source's position and distance from the object!

