

SCIENCE KEY KNOWLEDGE YEAR 5

WHAT CAN YOU REMEMBER?

Forces

1. **Forces in Action:** Forces can start or stop movement, speed things up or slow them down, change direction, or even change an object's shape!
2. **Gravity's Pull:** Objects fall towards the Earth because of gravity—a force that keeps everything grounded!
3. **Weight vs. Mass:** Weight is the force of gravity acting on an object, while mass measures how much "stuff" is inside that object.
4. **Resistance Forces:** Water resistance slows down objects moving through water, and air resistance does the same in the air—both work against motion!
5. **Surface Area Matters:** The bigger an object's surface area, the more water or air resistance it faces. Smaller surfaces experience less resistance—it's all about the shape!

Forces

1. **Friction Fun:** Rough surfaces create more friction, making things harder to slide, while smooth surfaces create less friction—perfect for gliding!
2. **Pulleys Power:** Pulleys help lift heavy loads with less effort! The more wheels a pulley has, the easier it is to lift something heavy.
3. **Gear Up:** Gears and cogs can change the speed, force, or direction of motion. When they're connected, they always turn in opposite directions—teamwork in action!
4. **Lever Logic:** Levers allow a small force to lift a heavier load. They work best when they rest on a pivot point—just like a seesaw!
5. **Simple Machines Rock:** These simple machines—pulleys, gears, and levers—make our lives easier by helping us lift, move, and change things around us!

Materials

1. **Material Magic:** Materials can be grouped by their properties, like hardness, solubility, transparency, and how they conduct heat and electricity!
2. **Insulators vs. Conductors:** Thermal insulators don't let heat pass through easily, while thermal conductors do—think metal vs. wood!
3. **Dissolving Fun:** Some materials, like salt and sugar, dissolve in liquids to form a solution—a tasty mix!
4. **Separation Science:** You can use a sieve to separate solids from liquids, and filter paper works for smaller solids—just like a kitchen hack!
5. **Change it Up:** Water and ice can change back and forth (reversible change), but burning things is irreversible—a whole new substance is created!

Living Things

1. **Reproduction Rules:** The main purpose of reproduction is to create offspring and keep species alive—it's nature's way of continuing life!
2. **Plant Parts:** In plants, the anther is the male part and the carpel is the female part. Together, they help plants reproduce!
3. **Two Ways to Reproduce:** Plants can reproduce in two ways: asexual reproduction (like daffodils and potatoes making clones) and sexual reproduction (where pollen and ovules unite to form seeds).
4. **Mammal Life Cycles:** Not all mammals share the same life cycle! There are three types: placentals, marsupials, and monotremes, each with unique ways of developing.
5. **Eggs vs. No Eggs:** Amphibians, insects, and birds lay eggs, while most mammals give live birth. Plus, mammals and birds develop differently—with mammals not undergoing metamorphosis like some amphibians!

Space

1. **Spherical Bodies in Space:** The Sun, planets, and moons are all approximately spherical shapes—just like giant balls in the cosmos!
2. **Planets in Order:** From Mercury to Neptune, there are 8 main planets in our solar system. Can you name them all?
3. **The Moon's Dance:** The moon orbits around the Earth, taking about 28 days to complete one full trip!
4. **Earth's Yearly Journey:** It takes Earth 365¼ days to revolve around the Sun—no wonder we have leap years!
5. **Day and Night:** The Earth spins on its axis every 24 hours, creating the cycle of day and night. Remember, the Sun doesn't move; it's us that spins!

