

INTERNATIONAL FSP SCIENCE CONTEST

COURSE OUTLINE

Vibrant Youngsters Level (Grade V & VI)

1. The Human Body: Anatomy - Facts and Functions

- The human body is made up of systems (skeletal, muscular, nervous, circulatory).
- Each system has specific functions (e.g., skeletal system provides support).
- Organs work together to maintain overall health.

2. Structure and Functions of Plants

- Plants have roots, stems, leaves, and flowers.
- Roots absorb water and nutrients, stems provide support, leaves make food through photosynthesis.
- Plants undergo photosynthesis, respiration, and transpiration.

3. Classification of Plants and Animals

- Plants are classified into groups (monocots, dicots, gymnosperms).
- Animals are classified into groups (vertebrates, invertebrates, mammals, birds).
- Classification helps us understand relationships and characteristics.

4. Pollution

- Pollution is the contamination of air, water, or land.
- Types of pollution: air (smog, greenhouse gases), water (chemicals, waste), land (litter, waste).
- We can reduce pollution by recycling, conserving resources, and using eco-friendly products.

5. Force and Motion

- A force is a push or pull that can cause motion.
- Types of forces: friction, gravity, magnetism.
- Motion can be described in terms of speed, velocity, and acceleration.

6. Simple Machines

- Simple machines are devices that make work easier (lever, pulley, wheel and axle).
- Machines can change the direction or amount of force.
- Examples: wheelbarrow, bicycle, elevator.

7. Work and Energy

- Work is done when a force is applied to move an object.
- Energy is the ability to do work (kinetic, potential, thermal).
- Energy can be transferred from one form to another.

8. Light

- Light is a form of energy that travels in waves.
- Light behaves as both a wave and a particle (photon).
- Reflection, refraction, and diffraction are properties of light.

9. Sound

- Sound is a form of energy that travels in waves.
- Sound waves have frequency, amplitude, and wavelength.
- We can produce sound through vibration (speaking, music).

10. Magnetism

- Magnetism is a force that attracts or repels objects.
- Magnets have north and south poles.
- Electromagnets are temporary magnets made by coiling wire around a core.

11. Air and Water

- Air is essential for breathing and living.
- Water is vital for drinking, washing, and growing plants.
- We should conserve water and keep the air clean.