

SCIENCE

KS3 LEARNING JOURNEY

KS4



Year 9

17. Levers, moments and pressure

The use of levers and pressure, and how they function in simple machines



Year 8

6. Space

Nuclear fusion in the Sun, the Solar System, galaxies and beyond.



31. Photosynthesis and Respiration

The equations to describe photosynthesis, aerobic respiration, anaerobic respiration in animals and fermentation.

30. Waves

Electromagnetic waves, microwaves, UV waves, gamma rays, radio waves

28. More chemical reactions

Reactivity series, metal extraction from ores, balancing chemical equations

27. Keeping Healthy

Smoking, diet, exercise, alcohol, cancer, obesity

25. Explaining the properties of materials

How structure and bonding can be used to explain differences in e.g. conductivity and melting point



29. The behavior of Light

Colour, lenses and refraction

26. Application topic – Particle theory
Density, changes of states of matter, internal energy, specific latent heat, gas pressure

24 . Energy Resources

Energy from the wind, water, Sun and Earth. The environment and issues with energy



23. Disease

Diseases and the pathogens that cause them including measles, AIDS, TMV, Gonorrhoea, Salmonella, Malaria and Rose black spot. The use of vaccinations to prevent disease.

22. How living things get what they need

Blood and blood vessels, the structure of the heart, breathing and gas exchange in humans. The xylem and phloem, and transpiration in plants.



18. Energy is always conserved

Energy and work, GPE, KE, Elastic energy, efficiency, power, conservation and dissipation of energy

19. A closer look at the atom

Atoms, chemical equations, fractional distillation, chromatography, history of the atom ions and isotopes

20. Exploring enzymes

The digestive system, enzymes, substrates and products, the importance of temperature, pH, bile and the structure of the small intestine

21. Transferring heat

Conduction, infrared radiation, specific heat capacity, heating and insulating buildings



Studying how genetic information is passed from parent to offspring and how evolution is driven by natural selection

15. Earth and the Atmosphere

The formation of fossils, the rocks beneath your feet and the gases that make up Earth's atmosphere.

14. Electricity and Electromagnetism

Explore how magnets are formed and explore the construction of parallel and series circuits



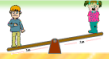
13. Genetics and Evolution

12. Biological Processes

Key processes in animals and plants, such as respiration and photosynthesis

16. Ecosystems

Students learn about ecosystems, the environment and the problems associated with an increasing human population



7. Energy

Describing energy stores, pathways and humans use energy resources

8. Chemical Reactions

Experiencing a variety of different chemical reactions, and the concept of reactivity

9. Diet and Health

Explaining the role of nutrients in a balanced diet and discussing the impacts of drug misuse

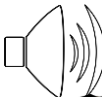
10. Acids and Alkalis

Exploring the reactions and hazards, of acids and alkalis.



11. Waves

The movement of light and sound as waves.



4. Forces and Motion

The interaction of forces and how they affect your movement



3. Atoms and Elements

Materials are made from elements or combinations called compounds formed in chemical reactions

2. Particulate Nature of Matter

All matter is made of particles and can exist in the three different states, as described by particle theory.

5. Reproduction

The reproductive systems of animals and plants, sexual and sexual reproduction, and how modern discoveries can aid human infertility.

1. Living Systems

Cells are the building blocks of life, forming tissues, organs, organ systems and complex organisms.

Year 7

