Peacehaven Community School

Aspire • Believe • Contribute • Achieve

Science Learning Journey

Science Learning Journey
Year 7 to 9

Detection in Biology
- Describe how electromagnets work.
- Compare the electron and light microscope.
- What is found in blood?.
- What is a blood group?
- Describe how to get a satellite into orbit.
- Describe the risks of radioactive materials.
- Describe how the police use fingerprints to solve crimes.
- What happened at the Big Bang and after it?
- What happened at the Big Bang and after?

Detection in Chemistry
- Describe how scientific evidence can solve crimes.
- How can you separate blood from sand?
- How do scientists analyse blood?

Detection in Physics
- Describe how astronomers search for life on other planets
- Describe how GPS works.
- Describe how a radio wave carries a signal.

Turning points in Physics
- What can we learn from fossils?
- Describe how Mendeleev devised the Periodic table.

Turning points in Chemistry
- What's inside an atom?
- How did Dalton develop his atomic model?
- How did scientists discover DNA?
- Can we prevent extinction?

Turning points in Biology
- How do immunisations work?
- How were vaccines discovered?
- What are antibiotics and how do they work?
- Describe how hospitals use the EM spectrum.
- Describe how technology is used in sport

New technology in Physics
- How does a mobile phone work?
- How can we save energy in our homes?
- What are the pros and cons of hybrid electric cars?
- What are the pros and cons of hydrogen fuels?

The Earth
- What is the Earth made of?
- Explain the rock cycle.
- What are the properties of the three types of rock?

Motion and pressure
- What are moments?
- How do you calculate pressure?
- How do you calculate speed?
- What causes pressure?

Metals and acids
- What are displacement reactions?
- What is the reactivity series?
- What happens when metals react with oxygen?
- How do we test for hydrogen gas?
- What happens when a metal reacts with an acid?

Adaptations and inheritance
- What is adaptation and extinction?
- Describe natural selection.
- How are characteristics inherited?
- Compare inherited and environmental variation

Energy
- What is conduction?
- Compare renewable and non renewable resources.
- What is power and how is it linked to energy bills?
- What is convection?
- What is the law of conservation?

Separation techniques
- What is chromatography?
- What is evaporation?
- What is distillation?
- What is filtration?
- What are mixtures?

YEAR 9

New technology in Biology
- What causes inherited disorders?
- How can you alter an organism's genes?
- How is eye colour inherited?
- How does selective breeding work?
- How do you make yoghurt, cheese and bread?
- How can you make animal clones?

New technology in Chemistry
- What are carbon nanotubes?
- How are nanoparticles used in medicine?
- Why are nanoparticles special?

The Periodic table
- Compare the properties of metals and non metals
- How is the periodic table organised?
- Compare the physical and chemical properties of elements

Electricity and Magnetism
- Compare series and parallel circuits
- How does static electricity work?
- What is current and resistance?
- What are electromagnets?
- Describe some uses of electromagnets.

Ecosystem processes
- Compare aerobic and anaerobic respiration.
- How do food chains and webs work?
- What is meant by ecosystem and populations?
- What is photosynthesis?

Health and lifestyle
- What are the parts of the digestive system?
- Describe the 4 food tests
- What are the effects of lifestyle on health?
- Describe the role of enzymes in the digestive system
- What are the effects of unhealthy diet?
- What are the 6 nutrients we need?

YEAR 8

Space
- Wy do we get night and day?
- What is a lunar eclipse?
- Compare the inner and outer planets in our solar system.

Light
- How do eye and cameras work?
- Compare reflection and refraction.
- What are the colours in light?
- How does light travel?

Reactions
- Write word and symbol equations.
- What happens during a chemical reaction?
- Compare exothermic and endothermic reactions.
- Describe some types of reactions.

Reproduction
- How do plants reproduce?
- What are the parts of a flower?
- What are the main stages of a baby's development?
- What are some methods of contraception?
- What is the structure and function of the reproductive systems?
- Describe the process of fertilisation.
- Describe the menstrual cycle.
- What changes occur during puberty?

Sound
- Describe the structure and function of the ear
- Compare transverse and longitudinal waves.
- What are the properties of waves?
- How do we hear?

Elements, atoms and compounds
- What are atoms?
- Write chemical formulae.
- What are elements and how are they arranged in the periodic table?
- Describe compounds

Body systems
- What happens when we breathe?
- What is the structure and function of the respiratory system?
- How do joints and muscles work?
- What are the 5 levels of organisation?
- What are the functions of the skeleton?
- What organs are found in an animal and plant?

YEAR 7

Forces
- What is Hooke's law?
- Compare contact and non contact forces
- What are forces?
- What is the difference between balanced and unbalanced forces?

Particles
- What is meant by the melting and boiling point?
- What causes pressure? Describe 3 things that can have an effect on gas pressure.
- What happens during a change of state?
- Describe the 3 states of matter?

Cells
- What specialised cells do animals and plants have?
- What are unicellular organisms?
- How do things get into and out of cells?
- Why are microscopes so important and how do we use them?
- What are all living things made of?

Biology

Chemistry

Physics