

Year 7

- Are the properties of solids, liquids and gases always the same?
- How do scientists look at substances to examine purity and the presence of other substances?
- Are all atoms the same?
- How can vinegar be useful if you've been stung by a wasp?
- Why are chemical reactions so important to the survival of living organisms?
- What's different about plant and animals?
- Why are bees so important for human food production?
- Do other species get their reactants for respiration in the same way as us?
- If energy cannot be created or destroyed, why do we have an energy crisis?
- Why does your house have lots of light switches?
- Why do boats float?
- Are we the centre of the Universe?

Year 8

- Do gases have mass?
- Why is magnesium a metal but carbon is a non-metal?
- How does thermal decomposition help us to bake muffins?
- How do cacti survive in the desert?
- How do polar bears survive in the arctic?
- Is carbon everywhere?
- How do we know what cells are made of?
- Why should pregnant women not drink alcohol or smoke during pregnancy?
- Is vaping safer than smoking cigarettes?
- Why does tea get cold and why do ice creams melt?
- How do we get electric shocks?
- How has our understanding of electricity and magnets been used to produce the fastest train ever?
- How can we find out how fast a rocket travels?

Year 9

- Should extinct species be brought back to life?
- How do organisms interact and survive?
- Does wavelength of light affect photosynthesis?
- How do we find out how big a cell is?
- How do our bodies move?
- Why is there a gap between magnesium and aluminium in the Periodic Table?
- What is the difference between 9 carat and 18 carat gold and why is this needed?
- Gold can be found in the Earth's crust as a metal – can all metals be found this way?
- How is energy transferred in our home and how are we charged for it?
- How does resistance make sure that energy is transferred to components?
- How can a force transfer energy?
- How do we hear an echo?

Year 10

- Can we cure paralysis?
- If it takes Usain Bolt less than 10 seconds to run 100m why does it take him over 120 seconds to run 800m?
- How has science helped us to reduce mortality rates for communicable and non-communicable diseases?
- The human population is growing exponentially, what can we do to make sure that we can grow enough crops to cope with demand?
- Why aren't water pipes made of sodium?
- How is your pencil like a diamond?
- How do indigestion tablets work?
- Why are some batteries rechargeable?
- How do engineers design vessels to withstand high pressures and temperatures, such as submarines and spacecraft?
- Why is the oblivion rollercoaster faster than the runaway train?
- Why do birds not get electrocuted when they sit on a wire?
- Is it safe to go to Chernobyl?
- How is a bungee jump made safe?
- SEPARATE SCIENCE:
- Why is it difficult to make a good cup of tea high up a mountain?

Year 11

- How do goal keepers save a penalty?
- Can we genetically modify humans?
- Can we save the giant panda?
- How many water molecules are in a teaspoon of water?
- Why is crude oil so useful?
- How do we detect drug cheats at the Olympics?
- Why did Google become carbon neutral?
- Why do aeroplanes have a top speed?
- How do we communicate by mobile phone?
- How can electromagnets be used to make a lift move up and down?
- What is dark matter and what is causing the universe to expand even faster?

