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| 8 | **Half term points** |
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| **AUTUMN 1** | **AUTUMN 2** | **SPRING 1** | **SPRING 2** | **SUMMER 1** | **SUMMER 2** |
| **Getting the energy the body needs**Mini assessment: Who’s the strongest? | **Looking at plants and ecosystems**Mini assessment: How are three different types of plants adapted to their ecosystem’s? | **Getting the energy the body needs**Mini assessment: How might respiration change during different activities? | **Our Health and the Effects of Drugs**Mini assessment: How might drugs effect our body? | **Looking at plants and ecosystems**Mini assessment: How does pollution affect an ecosystem? | **Our Health and the Effects of Drugs**Mini assessment: How might a bacterial infection be caused, and why would antibiotics be the most effective form of treatment? |
| **Key skills and knowledge assessed: (size 6.5)*** Display data in a suitable graph.
* Analyse data to draw conclusions about muscles.
* Explore the use of scientific ideas in identifying and treating muscle conditions.
 | **Key skills and knowledge assessed:** * Plants have adaptions that allow them the survive and grow, for example stomata in leaves.
* Plants have a network of vessels that transport water and minerals to their leaves and flowers.
* Healthy plants need certain essential minerals. Without these minerals they show symptoms or mineral deficiency.
 | **Key skills and knowledge assessed:** * How aerobic respiration uses glucose and oxygen to release energy.
* Anaerobic respiration o ours when you do not have enough oxygen for aerobic respiration.

Brewing and baking are applications of anaerobic respiration.  | **Key skills and knowledge assessed:*** State example of the four main groups of drugs.
* Describe and explain the effects of different types of drugs on the body.
* Describe the effect of smoking and alcohol on the body.
* Define what is meant by addiction.
* Describe how drugs affect the brain
 | **Key skills and knowledge assessed:** * All organisms are affected by the conditions in their environment and depend on one another.
* Almost all human activity affects organisms in their habitat, very often in a negative way.
* In the environment there are many interlinked food chains. These can be disrupted by factors such as toxins entering the food chain or disease.
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 | **Key skills and knowledge assessed:*** Describe how diseases are spread.
* Consider ways of reducing the spread of specific diseases.
* Explain the role of white blood cells in fighting infection.
* Describe how the body resists infection
* Explain the effect of antibiotics on bacteria and how bacteria can become immune to antibiotics
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| **Meaningful homework**Research and complete tasks, looking in detail at the biting force of different animals.  | **Meaningful homework**Understanding and using scientific text: read a science journal article and complete the comprehension task | **Meaningful homework** Germination experiemnt – analyse the data from the experiemnt and apply your knowledge to draw conclusions.  | **Meaningful homework** Should alcohol be made illegal? Write an argument for your opinion. | **Meaningful homework** Research the adaptations bevers have that make them adapted to their renvironment. Answer the apply questions.  | **Meaningful homework** Research the work of Edward Jenner and produce job profile showing all his works.  |
| **Explaining Physical changes**Mini assessment: How might we use melting and boiling point to identify a substance? | **Explaining chemical change**Mini assessment: How would you identify a mystery clear spilt liquid? | **Explaining Physical changes**Mini assessment: How can we identify physical and chemical changes? | **Exploring contact and non-contact forces**Mini assessment: How do electromagnets work? | **Explaining chemical changes**Mini assessment: How can we use conservation in mass to make industry more productive?  | **Magnets and Electricity**Mini assessment: How might we use series and parallel circuits to wire a house?  |
| **Key skills and knowledge assessed:*** Recognise change of state as being reversible changes.
* Use scientific terminology to describe changes of state.
* Explain changes of state using the particle model and ideas about energy transfer.
 | **Key skills and knowledge assessed:** * We can make indicators to show how acidic or alkaline a substance is.
* The pH scale is an important measure of the level of acidity and alkalinity of a substance.
* A neutral substance is on with pH7. It is made when an acid and an alkali exactly neutralise one another.
 | **Key skills and knowledge assessed:*** Particle model explains why solids have a fixes shape and Conan not flow, and why liquids and gases do not have a fixed shape and can flow
* Foams, gels and emulsions are different types of mixtures, involving different density, concentrations and pressures using the particle model.
* The particle model can be used to show how mass is conserved in physical and chemical changes
 | **Key skills and knowledge assessed:** * Exploring the gravitational fields of Earth.
* A force exists around an agent and can be used in relation to electrostatic charges for use in industry.
* Pressures can act in solids, liquids and gasses, with pressure acting on a certain area, this includes upthrust.
 | **Key skills and knowledge assessed:** * We can control combustion by understanding what is needed for substances to burn.
* Combustion changes the atmosphere because of new products that are formed.
* Air pollution from combustion can cause rain to become acidic and cause environmental problems

  | **Key skills and knowledge assessed:** * The current is a flow of electrons. This depends on the ‘push’ given by the battery, known as the voltage.
* Components in the circuit provide opposition to the current- we call this resistance. The current, voltage and resistance are related to each other. Models are a good way of explaining what happens in a circuit.
* Components in circuits can be arranged in series, in a parallel or in both.
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| 8 | **Meaningful homework**Draw particle diagrams to show deposition. Annotate the diagrams to explain how the movement and arrangement of the particles change energy is transferred. | **Meaningful homework**True or false? Read the statements and for every false statement write a corrected version. | **Meaningful homework**Answer the questions about different types of reactions. | **Meaningful homework**Building on the equation you have used in lesson, compare the pressure exerted by different typef of shoes. | **Meaningful homework**Write instructions for an investigation to find out how mass changes when magnesium burns. | **Meaningful homework**Answer the question matrix summary questions. |
|  |  | **Exploring contact and non-contact forces**Mini assessment: How do electromagnets work? |  |  | **Magnets and Electricity**Mini assessment: How do we create an electromagnet? |  |
|  |  | **Key skills and knowledge assessed:*** Exploring the gravitational fields of Earth.
* A force exists around an agent and can be used in relation to electrostatic charges for use in industry.
* Pressures can act in solids, liquids and gasses, with pressure acting on a certain area, this includes upthrust.
 |  |  | **Key skills and knowledge assessed:*** When a coil of wire is placed in a magnetic field and a current is passed through it, the coil moves. This is because the coil of wire acts as a magnet itself, an electromagnet.
* In an electromagnet is it possible to switch the magnetic field off, metal recycling plants use electromagnets to separate iron and steel from aluminium.
* Electromagnetism is the basis. Of the motors used in power tools, mixers, and cars.
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|  |  | **Meaningful homework** Making pancakes on the moon. Convert units of measurment to make a recipe for pancakes on different planets.  |  |  | **Meaningful homework** A student drew this circuit diagram to show an electromagnet they made in class. The diagram is not correct. Redraw the diagram correcting all of the errors that the student has made. |  |