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|  | **Half term points** |
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| **AUTUMN 1** | **AUTUMN 2** | **SPRING 1** | **SPRING 2** | **SUMMER 1** | **SUMMER 2** |
| **Cell structure and support****Mini assessment:** LBQ | **Using our Earth Sustainably****Mini assessment:** What is the global warming debate? | **Cell structure and support****Mini assessment:** LBQ | **Variation for Survival****Mini assessment:** Why are siblings different? | **Using our Earth Sustainably****Mini assessment:** How are rocks formed? | **Variation for Survival****Mini assessment:** Why are siblings different? |
| **Key skills and knowledge assessed:** * Describe how microscopy has allowed us to learn more about cell structure
* Describe the differences in organelles and structure of a plant and animal cell
* Explain how organisms are categorised as eukaryotes and prokaryote
* Explain how cells are specialised to their finction
 | **Key skills and knowledge assessed:*** Describe the effects of global warming
* Explain the consequences of global warming on living things
* Evaluate the argument for human activity impacting on global warming
 | **Key skills and knowledge assessed:** * Describe how microscopy has allowed us to learn more about cell structure
* Describe the differences in organelles and structure of a plant and animal cell
* Explain how organisms are categorised as eukaryotes and prokaryote

Explain how cells are specialised to their finction | **Key skills and knowledge assessed:*** Identify inherited features In plants and animals that vary between offspring.
* Explain how inherited differences arise by genetic material from both parents combing.
* Describe how identical twins occur and analyse data about their features
 | **Key skills and knowledge assessed:*** Describe the rock cycle
* Explain how rocks can change from one type to another.
* Describe how metamorphic rocks are formed.
* Describe how sedimentary rocks are formed, and some of the properties of sedimentary rocks.
* Describe how igneous rocks are formed.

Explain how the pH of the magma affects the formation of rocks. | **Key skills and knowledge assessed:*** Identify inherited features In plants and animals that vary between offspring.
* Explain how inherited differences arise by genetic material from both parents combing.
* Describe how identical twins occur and analyse data about their features
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| **Meaningful homework:** Research and explain the similarities and differences between a light microscope and an electron microscope. How are they used and by who? | **Meaningful homework:** | **Meaningful homework** | **Meaningful homework:** How has the use of the Human Genome project helped when sequencing the genetic information of COVID-19, which in turn, has helped scientists develop a vaccine. | **Meaningful homework:**  | **Meaningful homework:**  |
| **Obtaining Useful Materials****Mini assessment:** LBQ | **Exploring the basics of electricity****Mini assessment:** LBQ | **Obtaining Useful Materials****Mini assessment: LBQ** | **Motion on Earth and in Space****Mini assessment:** How might gravitational field strength vary between Earth and another planet or start | **Exploring the basics of electricity****Mini assessment:** LBQ | **Waves and Energy Transfers****Mini assessment:** How might you keep a drink hot or cold? |
| **Key skills and knowledge assessed:*** Represent displacement reactions with carbon, metal oxides and iron using formulas and equations.
* Explain how mass is conserved in the extraction of metals.
 | **Key skills and knowledge assessed:*** Describe current, potential difference and resistance
* Explain how current, potential difference and resistance behave in series and parallel circuits
 | **Key skills and knowledge assessed:*** Describe what a catalyst is.
* Explain how a catalyst works
 | **Key skills and knowledge assessed:*** Describe gravity as a non-contact force
* Explore the concept of gravitational field and weight.
* Relate this concept to life on Earth
* Apply the concept of gravity causing weight to other situations
* Explore the implications of varying gravitational field strength.
 | **Key skills and knowledge assessed:*** Describe current, potential difference and resistance
* Explain how current, potential difference and resistance behave in series and parallel circuits
 | **Key skills and knowledge assessed:*** Describe the ways in which energy is stored.
* Describe the ways that energy can be transferred from one store to another
* Describe the warming and cooling of objects.
* Explain the relationship between energy transfer and temperature change.
* Compare the transfer of energy by thermal conduction and by radiation
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| **Meaningful homeworks:**  | **Meaningful homeworks:** Produce a buzzer game that incorporates a cell and buzzer and demonstrates your understanding of current.  | **Meaningful homework:**Produce a information leaflet and detailing how Magnesium is produced from sea water and how this can also have an effect on the surrounding environment. | **Meaningful homework:**  | **Meaningful homeworks:** How much energy is lost in the home? Conduct a home energy audit (ask for permission first) to find out where energy may be being wasted, Write a brief description to describe your findings and make recommendations about ways to reduce energy wastage. | **Meaningful homework:** All our communication devices depend on electromagnetic waves to function, but how does it work? |
|  | **Motion on Earth and in Space****Mini assessment:** How can we explore journeys on distance-time graphs? |  | **Waves and Energy Transfer****Mini assessment:** Explain how the shape of a prism works.  |  |  |  |
|  | **Key skills and knowledge assessed:*** Interpret distance-time graphs to learn about the journeys represented.
* Relate distance-time graphs to different situations and describe what they show.
 |  | **Key skills and knowledge assessed:*** Describe light as travelling in waves
* Exaplin the frequency of a wave
* Describe and explain how light can be reflected
* Describe how a spectrum can be produced from white light.
* Comparethe properties of light of different frequencies
* Explain how light of different wavelengths can be split and recombined.
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|  | **Meaningful homeworks:** In this homework you will research and present an idea in a presentation about crumple zones as well as braking systems. |  | **Meaningful homework:**  |  |  |  |