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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 |
| **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 |
| **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. |  |  |  |
|  | **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:** |  |  |  |