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| **Science: Key Stage 2- Year 5** |
| **Learning Challenges** |
| **Do all animals start life as an egg?** | **Will Liam be the next astronaut to land on the moon?** | **How different will you be when you are as old as your grandparents?**  |
| **National Curriculum content** |
| Biology – living things and their habitats | Physics – Earth and Space  | Biology – Animals including humans  |
| *Describe the differences in the life cycles of a mammal. An amphibian, an insect and a bird**Describe the life processes of reproduction in some plants and animals*  | *Describe the movement of Earth and other planets, relative to the Sun in the solar system**Describe the movement of the Moon relative to the Earth**Describe the Sun, Moon and Earth as roughly spherical bodies* *Use the idea of the Earth’s rotation to explain day and night and the apparent movement of the sun across the sky* | *Describe the changed as humans develop from birth to old* |
| **Key Knowledge** |
| * Know the life cycle of different living things e.g. mammal, amphibian, insect and bird
* Know the differences between different life cycles
* Know the process of reproduction in plants
* Know the process of reproduction in animals
 | * Know about and explain the movement of the Earth and other planets relative to the Sun.
* Know about and explain the movement of the Moon relative to the Earth
* Know and demonstrate how night and day are created
* Describe the Sun, Earth and Moon
 | * Create a timeline to indicate stages of growth in humans
* Describe the changes in growth during different stages of a human life
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| **Learning Challenges** |
| **Does everything that go up always some down?** | **Could you be the next CSI investigator?** | **How have Scientists and Inventors changed the way we understand the world?** |
| **National Curriculum content** |
| Physics – Forces | Chemistry – Properties and changes of material | Scientist and Inventors  |
| *Explain that unsupported objects fall to Earth because of the force of gravity acting between Earth and the falling object**Identify the effect of air resistance, water resistance and friction that act between moving surfaces**Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have greater effect*  | *Compare and group everyday materials on the basis of their properties, including, hardness, conductivity, solubility, magnetism* *Know that some materials will dissolve in liquid to form a solution and describe how to recover a substance from a solution**Use knowledge of solids, liquid and gases to decide how mixtures might be separated* *Give reasons for comparative and fair tests for the uses of everyday materials* *Demonstrate that dissolving, mixing and changes of state are reversable changes* *Explain that some changes result in the formation of new materials and this change is usually irreversible*  |  |
| **Key Knowledge** |
| * Know what gravity is and its impact on our lives
* Identify and know the effect of air and water resistance
* Identify and know the effect of friction
* Explain how levers, pulleys and gears allow a smaller force to have a greater effect
 | * Compare and group materials based on their properties
* Know and explain how a material dissolves to form a solution
* Know and show how to recover a substance from a solution
* Know and demonstrate how some materials can be separated
* Know and demonstrate that some changes are reversable and some are not
* Know how some changes result in the formation of a new material and that this is not usually irreversible
 | * Know who Einstein, Galilei, Hippocrates and Hubble are.
* Know why they are important to Science.
* Know how they have changed Science.
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