

Knowledge planner : *building a rich web of powerful knowledge*

Year 5: *Earth and Space - Could humans ever live on another planet?*

Prior learning- establishing what was key/relevant prior learning (sticking new knowledge to old knowledge) , assessing any gaps so we can plug these in current work.

Light and forces work previously covered-

The apparent movement of the sun during the day: the effect of the seasons on temperature and day length;

Science investigative skills/knowledge- see skill progression

Big ideas/concepts	Key question/s:	Vocabulary (including etymology?)
<p>There are forces beyond Earth that have an influence on Earth</p> <p>How earth and space systems interact, how they affect us (and how we affect them?)</p> <p>The power of space to inspire</p> <p>That scientific ideas change and develop over time: ideas about the solar system have developed</p> <p>The movement of the earth and other planets, relative to the sun in the solar system.</p> <p>The movement of the moon relative to the Earth</p> <p>That the apparent movement of the earth is caused by the earth spinning on its axis</p>	<p>How do we know what we know (about earth and space)?</p> <p>What in space allows there to be life on a planet?</p> <p>What key attributes would a space explorer need to have?</p>	<p>Orbit</p> <p>Rotation</p> <p>axis</p> <p>revolution</p> <p>atmosphere</p> <p>wave propel/propulsion</p> <p>Shadow</p> <p>reflection</p> <p>satellite moon</p> <p>Constellation</p> <p>sphere</p> <p>Goldilocks zone</p> <p>Names of planets</p>

<p>and how this rotation explains day and night</p> <p>That the sun is a star at the centre of our solar system and that it has 8 planets. That a moon orbits a planet.</p> <p>Gravity is the force by which a planet (including Earth) draws objects towards its centre. It is gravity that holds Earth and the other planets in orbit around the sun.</p> <p>Recognition- that some contributions to history may be less well known than others and why that may happen (e.g. race, gender) Discrimination Promoting awareness of female and black contributions to historical achievements, with focus on STEM</p>		
<p>Plans - content, how will we teach this?</p> <p>Astronaut training programme- developing the attributes needed to be an astronaut</p> <p>Science investigations</p>	<p>Other curriculum areas with rich links to concepts or content? Maths- planets, scaling English -science fiction, information research, reading, conveying information PSHE- attributes of an astronaut, links to Core Learning (teamwork) History- Galileo, Newton, Moon Mission, Hidden Figures</p>	<p>Important figures/quotes- the best that has been thought/said/done</p> <p>Tim Peake Helen Sharman (Hidden figures - Katherine Johnson, Dorothy Vaughan, Mary Jackson (also include images of diverse astronauts e.g. inc Mae Jemison)</p>

		(Ptolomy, Alhazen and Copernicus?) (Galileo, Newton
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https://www.stem.org.uk/sites/default/files/pages/downloads/BEST_PES_Big%20idea%20notes_Earth%20in%20Space.pdf teacher notes for big ideas 11-16, useful for background knowledge and stretching children.