Year 3 Science – Whitegate End

In Year 3 our children research the work of Bernard Lovell and the creation of Jodrell Bank Observatory. We visit the site and create narratives about messages that we have received from far off planets. This links to previous learning of WW11 as Lovell was involved in developing radar systems in the war effort.

Key Vocabulary

Telescope, Bernard Lovell, engineering, radio waves, astrophysics,

Pedagogy

Retrieval practice describes the process of recalling information from memory with little or minimal prompting. Low stakes tests (such as individual questions or quizzes) are often used as methods of retrieval practice as these require pupils to think hard about what information they have retained and can recall. When used in this way, tests can be a strategy for learning in addition to being an assessment of learning. The retrieval practice evidence base (both basic and applied) suggests that testing learning is often a better strategy for learning than restudying or recapping the same information.

Spaced practice (also referred to as spaced learning, distributed practice, distributed learning, and the spacing effect) applies the principle that material is more easily learnt when broken apart by intervals of time. Spaced practice is often contrasted with 'massed' or 'clustered' practice, whereby material is covered within a single lesson or a linear and sequential succession of learning.

Assessment is a continuous process, integral to learning and teaching. It plays an integral part in each teacher's planning and enables the evaluation of current practice as well as pupil achievement. Assessment is a daily part of the life of the school. Informal assessments, through monitoring of children's work and understanding of concepts, are used by teachers to inform their teaching. These can be seen in each teachers Whole Class Feedback Book and subsequent KUNCU (Keep Up Not Catch Up) sessions.

High Quality Texts

Class Book : Space Detectives by Mark Powers OR Fortunately, the Milk by Neil Gaiman

Looking Up: An Illustrated Guide to Telescopes: by Jacob Kramer

Man on the Moon a day in the life of Bob by Simon Bartram

The Marvellous Moon Map: by Teresa Heapy (Author), David Litchfield

Mea Jemison - Little People, Big Dreams

National Curriculum Expectations	Substantive Knowledge (What)	Disciplinary Knowledge (How)	Cultural Capital/ Experiences	Opportunities for Oracy	Opportunities for Play	Diversity and Culture/Similarities and differences	Life Skills	Outdoor Learning/Fieldwork	Cross Curricular Links
During years 3 and 4, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content: • asking relevant questions and using different types of scientific enquiries to answer them • setting up simple practical enquiries, comparative and fair tests • making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers • gathering, recording, classifying and presenting data in a variety of ways to help in answering questions • recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables • reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions • using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions • identifying differences, similarities or	Who Is Bernard Lovell? What impact did he have on Manchester – creation of radio telescope at Jodrell Bank? What impact did he have on the war effort? What impact did he have on space missions? Sputnik/race to the Moon What are the Properties of the Moon? What is the Solar system?	Conduct research about Bernard Lovell How was the radio telescope developed? How does the radio telescope work? Conduct research about the Moon https://www.youtube.com/watch?v=K5hn9NWHEFc Mission to the Moon https://www.stem.org.uk/resources/elibrary/resource/450218/mission-moon	Trip to Jodrell Bank https://www.jodrellbank.net/learn/schools/key-stage-2/	Present information about Bernard Lovell to Y4 at the end of the term. Create a video for WGE Newsletter based on Trip to Jodrell Bank Create a presentation about the moon for Y2 (link to their learning about the solar system) Create solar system from fruit and present this to the class – will address gap in learning https://www.stem.org.uk/resources/elibrary/resource/31649/fruit-solar-system	make a solar system (address gaps in learning for this year only) Mission to the Moon game Further ideas to decide upon here - https://www.weareteachers.com/space-activities-for-kids/ Astronaut training role play	Achievements of Bernard Lovell compared to Mea Jemison (Little People, Big Dreams book) How would life be different on the Moon as to life on Earth?	Aspirations – how to become an astronaut - link to Man on the Moon text - https://www.stem.org.uk/elibrary/resource/31444	Visit to Jodrell Bank The Story of Jodrell Bank https://www.jodrellbank.net/explore/heritage/the-story-of-jodrell-bank/ Make a solar system with different size balls and hoops	Build a telescope- STEM https://www.sciencebuddies.org/stem-activities/build-a-telescope background info https://www.mub.eps.manchester.ac.uk/science-engineering/2019/07/17/the-name-behind-the-telescope-sir-bernard-lovell/ Writing Sticky Write – Biographies -times needed to research Bernard Lovell https://kids.kiddle.co/Bernard_Lovell Could they choose between him and Mae Jemison Geography – locating Jodrell Bank – sticky learning linked to Greater Manchester and beyond. Mission to the Moon https://www.stem.org.uk/resources/elibrary/resource/450218/mission-moon - links to previous science learning – choose appropriate activities.

changes related to simple scientific ideas and processes • using straightforward scientific evidence to answer questions or to support their findings.									