

SPACE ADVENTURE

THEMATIC BASED

Thematic based learning involves using a “theme to generate exploration through the eyes of several different subjects”^[1]. whilst using this approach may work well to motivate children, it is imperative for the themes to be chosen well and for the objective skills to be planned for carefully in order to avoid the learning becoming limited by unclear aims and tenuous links^[2].

SETTING THE CONTEXT

The following learning activities are designed for a year six class whose learning is currently being developed in a cross curricular approach through the theme of space. Throughout this topic, they have been looking in detail at Tim Peake's space expedition, which in turn has led to them being given the challenge of planning and recording the events of their own space adventure.

ACTIVITIES

Lesson one

- children to decide which planet they would like to go to.
- They will research online for specific information about each planet in the solar system.
- They will then collate this information and share their ideas in groups.

Teacher input: support given in research techniques, supporting the learners to select credible sources.

Assessment: self-assessment against success criteria.

Lesson two

- The children will take part in a class debate on which planet is the best one to travel to.
- They will take it in turns to share their thoughts, whilst critically evaluating the points shared by their peers..
- They will then use this discussion to support them in writing a persuasive letter to Elon Musk, the chief executive officer of SpaceX, outlining which planet they would like to plan their expedition to, giving justification for their choice.

Teacher input: provision of a word bank will provide learners with specific vocabulary to support them in forming their persuasive arguments.

Assessment: observation of learners, peer-assessment, teacher assessment of learners' work.

Lesson three

- The children will use Lego education technology^[3] in groups to build a robot to represent the rockets they will be firing into space.
- They will then race their 'rockets' against those from other groups. They will observe which was the fastest and which was the slowest, considering why.
- This will lead them to consider how the effect of gravity and air resistance can have an effect on the speed of an object.
- The children will then use the spacecraft 3D app^[4] on iPads to view the spacecraft used currently to explore our solar system, applying the knowledge they have learned as they consider the reasoning behind the designs of the various spacecrafts.

Teacher input: Teacher will use questioning to support children in their reasoning.

Assessment: self and peer-assessment.

SKILLS DEVELOPED

Literacy

- > oracy: developing and presenting information and ideas.
- > Reading: locating, selecting and using information.
- > writing: organising ideas and information^[5].

Numeracy

- > developing numerical reasoning: identify processes and connections, represent and communicate.
- > using measuring skills^[6].

Digital competence

- > interacting and collaborating: collaboration.
- > producing: planning, sourcing and searching, creating.
- data and computational thinking: problem solving and modelling^[10].

Science

- > communication.
- > The sustainable earth^[11].

INTER-DISCIPLINARY

inter-disciplinary cross-curricular learning occurs when a shared learning experience results in a child's skills in two or more subjects being developed, before they are then creatively intertwined by utilising the skills and knowledge of each subject to produce a creative outcome^[8].

SETTING THE CONTEXT

Following on from the previous lessons, the children have been on a visit to an exhibition^[4] in Cardiff Museum, exploring Tim Peake's space capsule as well as experiencing his descent back to earth using virtual reality technology. This has led to them being inspired to share their own space adventures with others, considering also how technology may support them in doing so. In these series of lessons the children will use the context of having landed on their chosen planets to create a video diary recording their findings from their 'expedition', in order to share these with their colleagues back at NASA.

DID YOU KNOW?

engaging in discussion prior to writing can support learners in the act of writing^[9], this may be because purposeful activities that involve speaking and listening support a child's language development, thus providing a foundation for thinking^[9]. However, writing may in turn support a child in tasks involving oracy, as writing can be used to transform and shape one's thoughts^[7].

ACTIVITIES

Lesson one

- > children will use their researching skills to collect detailed information on their chosen planet.
- > They will then represent this information on charts and graphs, comparing the data to that of other planets. These graphs will be used as visual aids to support the delivery of their video diaries.

Teacher input: use of questioning to support learners.

Assessment: self-assessment, observation of learners.

Lesson two

- > The children will use writing to plan what information they will be sharing in their video diaries, planning how this will be communicated.
- > The children will then record their video diaries.

Teacher input: modelling of writing strategies to support planning.

Assessment: peer and self-assessment.

Lesson three

- > The children will work in groups to record their descent back to earth, utilising green screen technology to support them in communicating effectively to their audience. They will use their prior knowledge to inform them how they might respond to the various elements of the journey, including breaking through the earth's atmosphere.

Teacher input: The children will have been taught to use green screen technology in a previous lesson.

Assessment: self and peer-assessment.

DID YOU KNOW?

Assessment for learning has been described as being central to the development of literacy and numeracy skills^[12].