UKSC_Class_DayandNight_Multimodal

Teacher Education Design Principle + code:	9. Teacher education should enable teachers to make best use of and assess the various modes of expression and representation of science and mathematics learning to support inquiry and the development of creativity. **TE: Multimodal**
Specific Teacher Outcome(s):	9.1 Teachers should be able to recognize and value children's various forms of expression and representation of their ideas and learning in science and mathematics. 9.2 Teachers should be able to make best use of children's preferred forms of expression and representation of their science and mathematics ideas to support inquiry and their creativity development.
Factors linked with:	**P: Express;** **A: Form**
Type of material (image – interview (int) – classroom extract (class):	Classroom extract
Originating from:	
Country report :	D4.3 UK (Scotland)
Case:	Case 19
Episode:	Day and Night
Teacher:	Mary
Age Group:	5-6
Selected episode present in D4.4 Appendix	Yes

The project CREATIVE LITTLE SCIENTISTS has received funding from the European Union's Seventh Framework Programme (FP7/2007-2013) for research, technological development and demonstration under grant agreement no 289081.

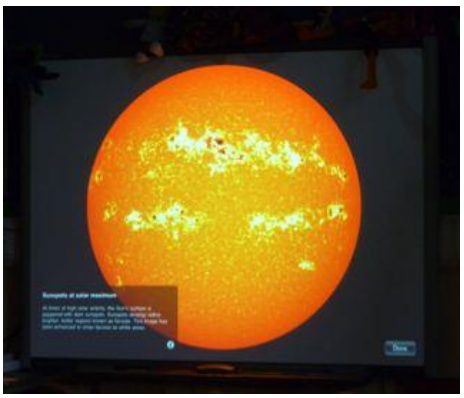
Context for the extract

This episode took place as part of a planned topic on Day and Night, with the following overarching learning intention: 'children will learn about the earth, moon, sun and stars. They will observe the sun and moon at different times and relate their findings to the concept of time' as shown in the school planning document.

Petra employed a variety of approaches to introduce ideas and promote engagement during the session including a classroom story to prompt discussion about why it gets dark and role play using a globe and a torch to model day and night as the Earth turns on its axis. Petra also integrated ICT in her teaching by introducing her new Space app on her iPad to show high quality images of the sun , moon, Earth and other planets. These prompted much excitement, comment and sharing of new ideas and enthusiasm between the teacher and the children as they read the captions from the different images together. Petra then showed an animation of the solar system. This also provoked interest and enabled the class to revisit ideas about the Earth turning on its axis.

Children then worked in mixed-ability groups on one of the following activities: 1) drawing pictures of how we get day and night using colouring pencils; 2) sorting photographs of animals into those that come out in the day and those that come out in the night; 3) sorting activities according to whether they take place at daytime or night time; and 4) making models of the Moon and Sun using plasticine. These activities employed a wide variety of materials and offered opportunities for children to express and reflect on their ideas in different ways.. Children's representations reflected the inspiration from their experiences in the earlier part of the lesson.

The integration of ICT through the use of high quality images and animation of the solar system



Teacher: I have brought in my iPad again today and (…) I've got a really interesting app on the iPad that shows the Earth turning. (…) There are also some really nice pictures of the sun taken with really powerful telescopes and it shows you that it does not really look like that – round and yellow. (…)
Lewis: You can see the fire and it's burning. (Children all very captivated)

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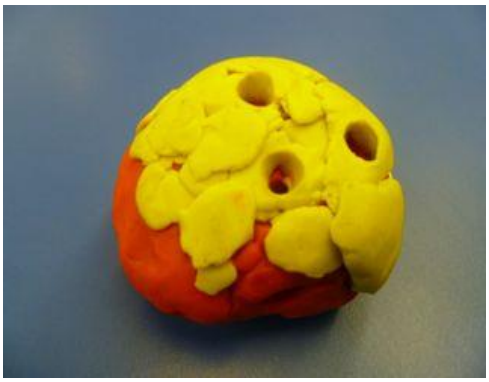
Examples of children's work – Ronald's drawing of the Sun (left) and Donald's model of the Sun (right)



Ronald: There's lots of solar flares Earth is so far away you can never reach that… got explosions – that's the light shining at the Earth. This shows all the planets are – going round and round. That was Jupiter and one next to Jupiter – and Saturn – closest to the sun. The blue bits are the sea and the green bits are the land.
Donald: That's fire coming and they're the holes and that's all the lava ... the sun is boiling hot fire.

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