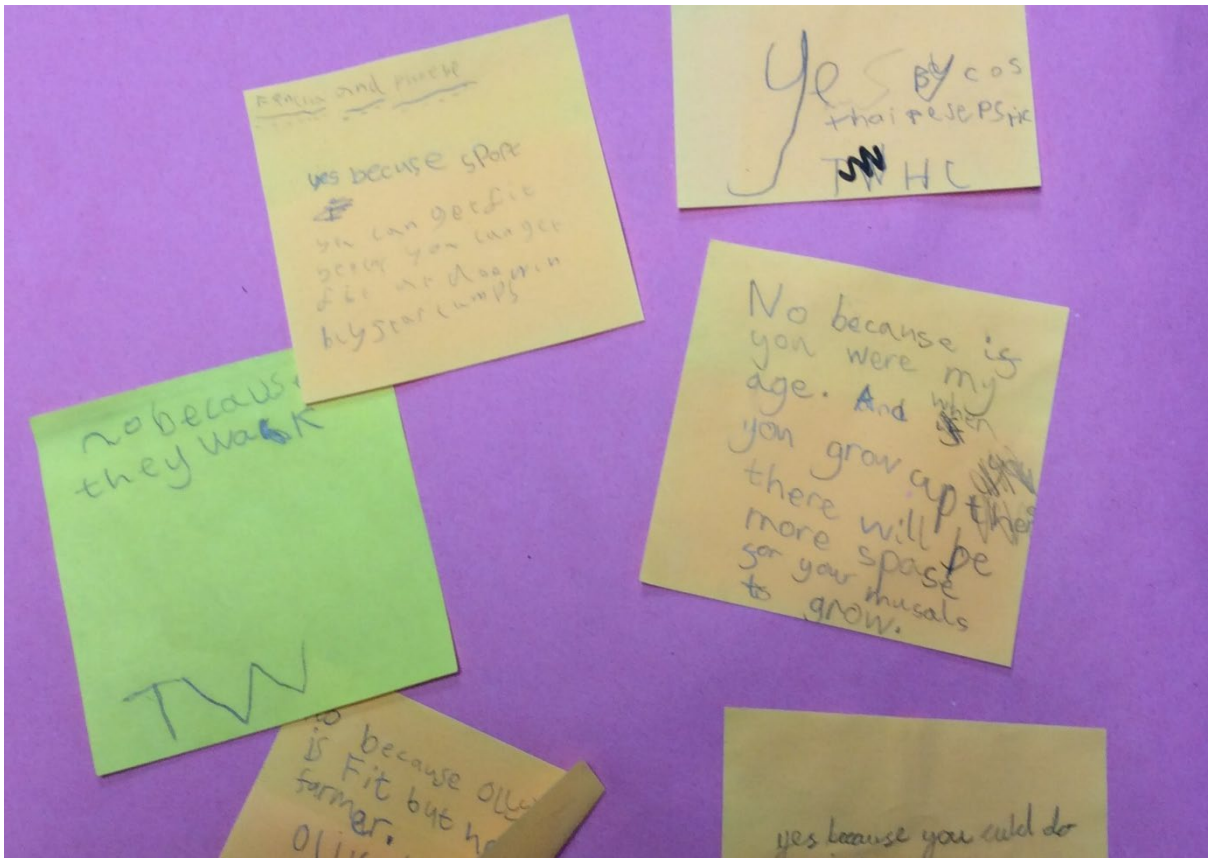
Using a Floorbook to support effective Teacher Assessment



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Floorbooks as an assessment tool

Teacher assessment in science should consider a large body of evidence of the child's knowledge, their conceptual understanding of scientific processes and their independent practical science skills.

Children can demonstrate their knowledge and understanding in science in oral or written forms. Written work is no more valid than a discussion, debate, drama or role-play, and might be more suitable for some children. **Floorbooks can provide the teacher with a record of the exact words a child has said.**

Evidence of children's practical skills (the 'doing' an experiment) can be more challenging to record. Photographs kept in a floorbook are useful to record children observing, measuring and recording during their investigations. In contrast, planning and evaluation often happen during a class discussion and ideas are developed through argumentation and debate. Children's contributions could be written down by older students but perhaps not by younger children, or children whose writing skills do not match their science skills. In these cases, teachers might want to make a note of the comments on sticky notes in a floorbook to provide documentation of these science skills. **Floorbooks can provide the teacher with a record of what the children have done.**

Having a record of children thinking, talking and doing in a floorbook can be extremely useful for teachers when making formative assessments to inform their planning or can be an important tool in deciding summative assessments at the end of a term or year.

Ofsted's report, Maintaining Curiosity in Science (2013), states that schools "that were outstandingly effective at science retained a programme of monitoring, evaluation and intervention of science that was as robust as it was for the other two core subjects." We suggest that a floorbook provides teachers with a manageable and meaningful way to do this in science.

The following sections illustrate some examples of how floorbooks have supported teachers' assessment:

- Evidence of conceptual understanding
- Evidence of formative assessment
- Tracking pupils' progress
- Evidence of summative assessment

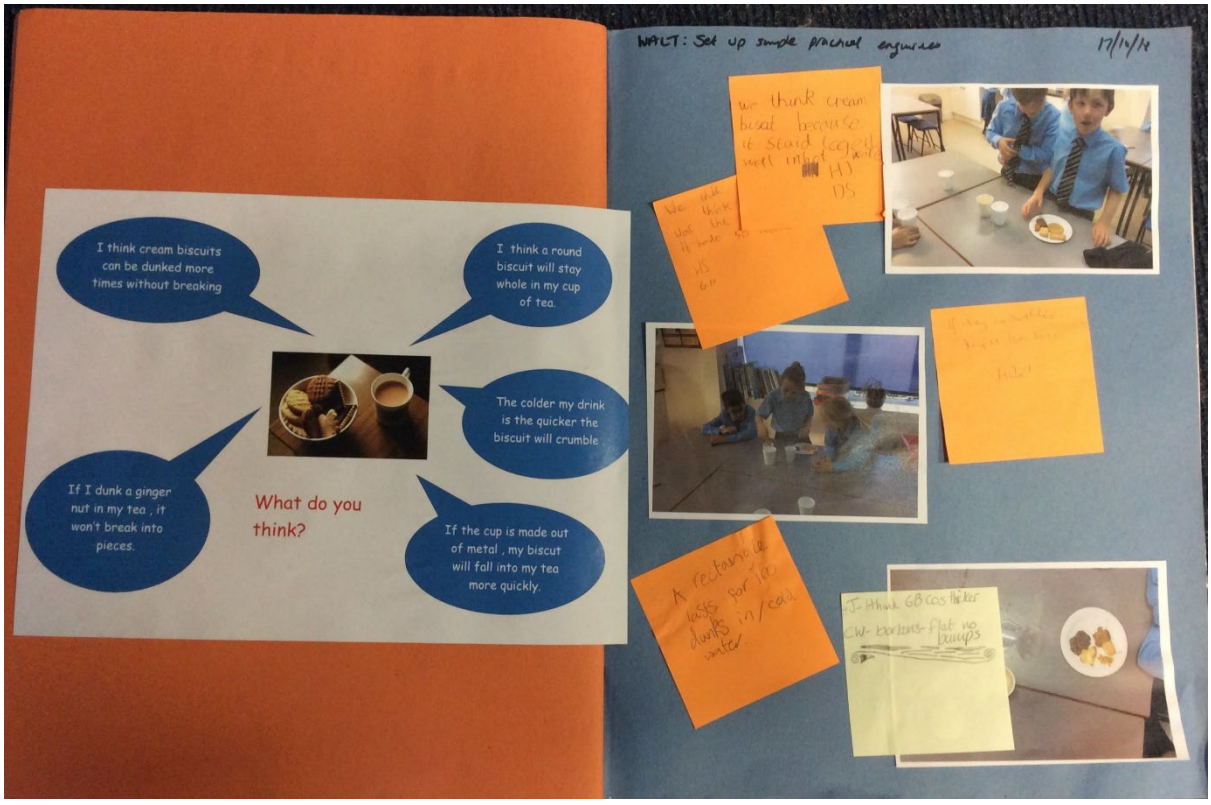
Evidence of conceptual understanding

Floorbooks can provide evidence of a child's conceptual understanding.

This teacher has used a visual prompt (similar to a Science Concept Cartoon®) at the beginning of a sequence of work to check conceptual understanding.

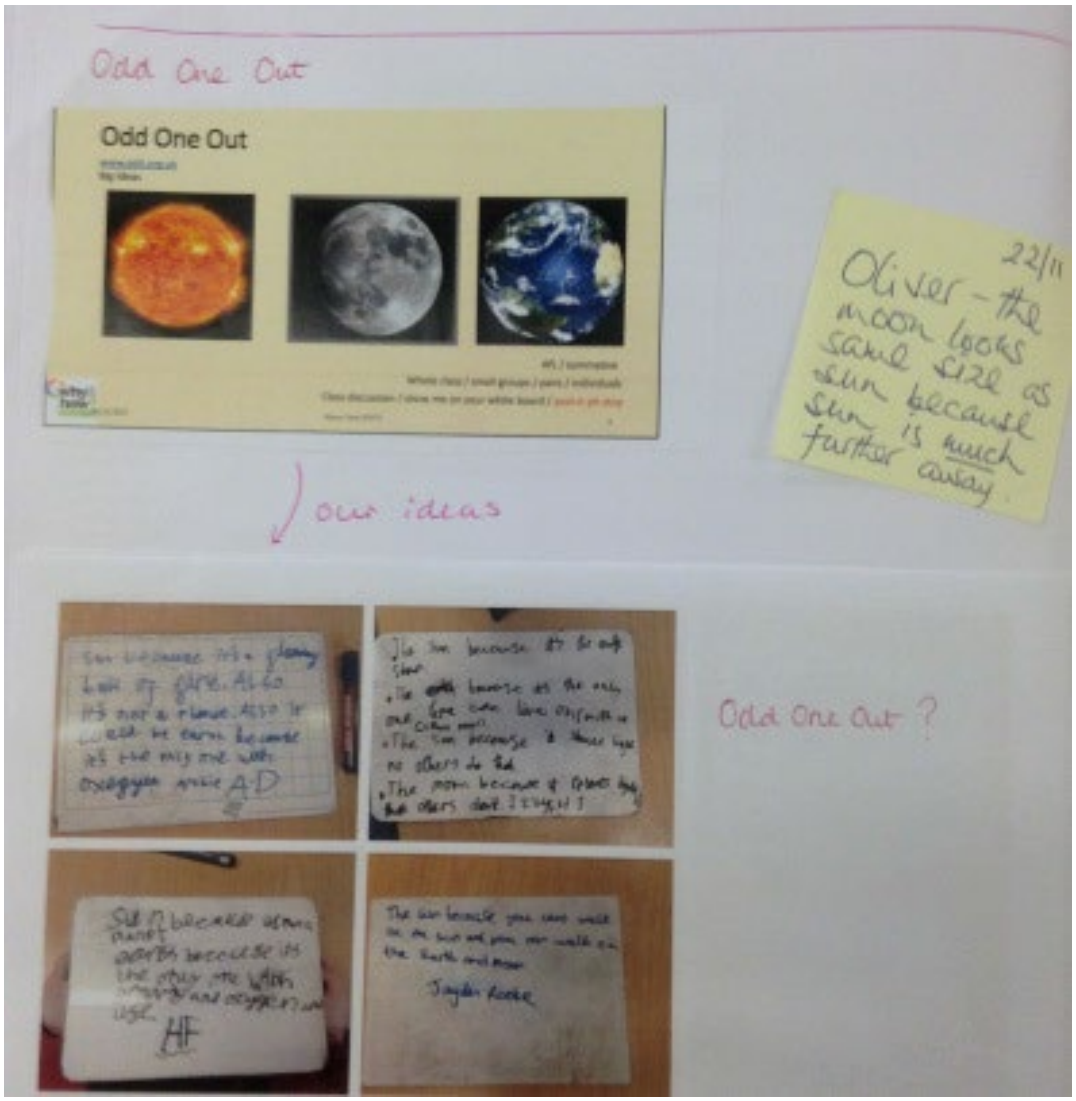
Several ideas are shared with the children. The children are given time to reflect on these ideas and then write their own idea on a sticky note. If they agree with one of the speech bubbles, they must say why.

Occasionally, the teacher will scribe for a poor writer and might prompt children who are struggling - this teacher records 'S' for support on post its where a lot of scientific help was given.



Another teacher has used an Odd One Out* activity towards the end of a sequence of work to check children's understanding of the Sun, moon and Earth.

The children have written their ideas on white boards and the teacher has chosen a few boards to photograph as evidence of the children's subject knowledge. Sometimes it is useful to photograph all the children's work but often teachers know what most children understand and there are only a few children that the teacher needs to 'check in' with to make a reasonable assessment.



*Visit PSTT's Bright Ideas webpage to find out more about Odd One Out activities.

Evidence of formative assessment

At the start of a topic, this teacher has asked the children to draw on their white board what they know about the heart as part of their formative assessment.

A few responses showing a range of abilities were photographed.

This simple **elicitation task** showed what the children knew:

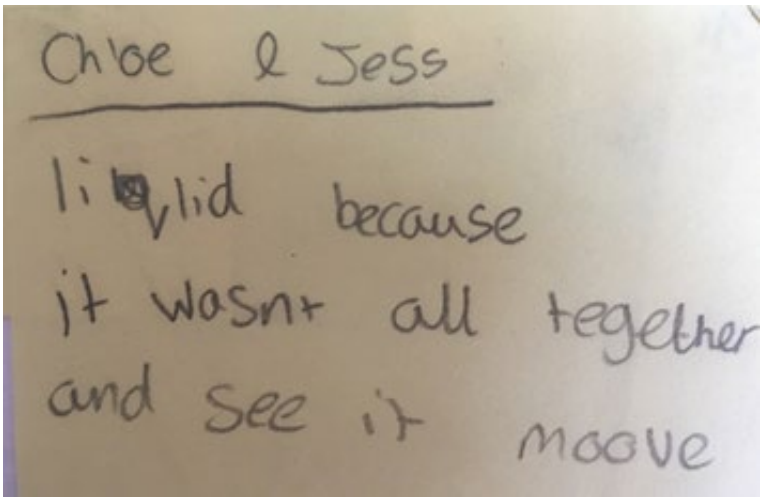
- All the children knew that the heart pumped blood around the body and it is an organ
- A few children knew that oxygen was involved but not how
- One child mentions veins and arteries but cannot describe the differences
- None of the children knew about the double circulatory system

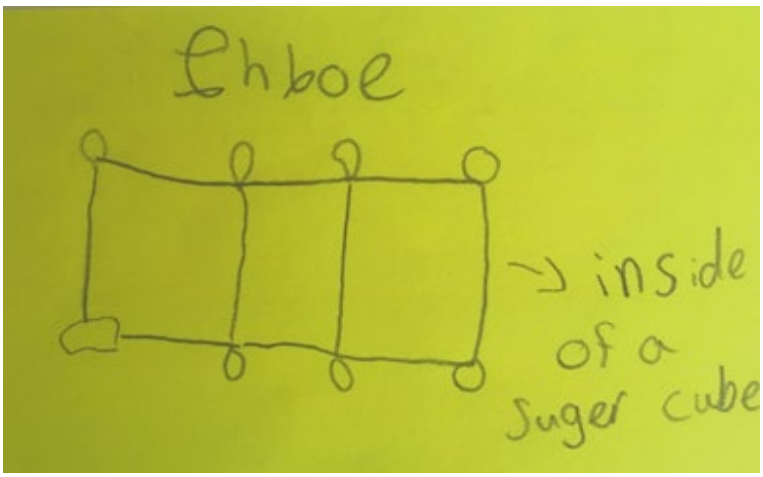
From this record, the teacher was able to plan a sequence of lessons appropriate for the class.

Tracking pupil progress

These children were asked to look closely at sugar and decide what state it was: solid, liquid or gas.

Originally these girls thought that sugar was a liquid, 'because you can pour it.' After some teaching input and exploring many types of solids, they came to understand that sugar is a solid at room temperature and were able to draw what they thought the inside of a sugar cube looks like. The second sticky note shows that they understand that particles within a solid structure like sugar are fixed together and cannot move apart.





It is important to value children's ideas as they arise and it is important to address misconceptions in the floorbook, but this does not have to be a problem. This teacher has kept both sticky notes in the floorbook demonstrating the pupils' progress. By doing this, it becomes part of the culture of science lessons that it is okay to say what you think and to change your ideas as you learn more. This is what scientists do after all.

Evidence of summative assessment

Floorbooks provide teachers with a means of making summative judgements about a child's level of achievement. By looking at a child's comments, actions and understanding, **over a period of time**, the whole floorbook provides valid, reliable and manageable evidence for assessment.

This teacher (in England) has assessed a 'working scientifically' learning objective:

I can classify and present data to help answer questions.

These children (ages 8-9) worked in groups of 4 to identify and classify types of appliances according to whether they are mains electricity or battery powered. They recorded their work on a large piece of sugar paper. The teacher photographed the work from each group, made a little booklet and stuck this in the floorbook. Every child has contributed, and the teacher can be confident that these children can present their data in an appropriate way.