The Teacher Assessment in Primary Science (TAPS) school self-evaluation tool

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INTRODUCING THE TAPS PYRAMID MODEL

The Teacher Assessment in Primary Science (TAPS) project is based at Bath Spa University and funded by the Primary Science Teaching Trust (PSTT). TAPS aims to develop support for valid, reliable and manageable assessment, which will have a positive impact on children's learning.

Background

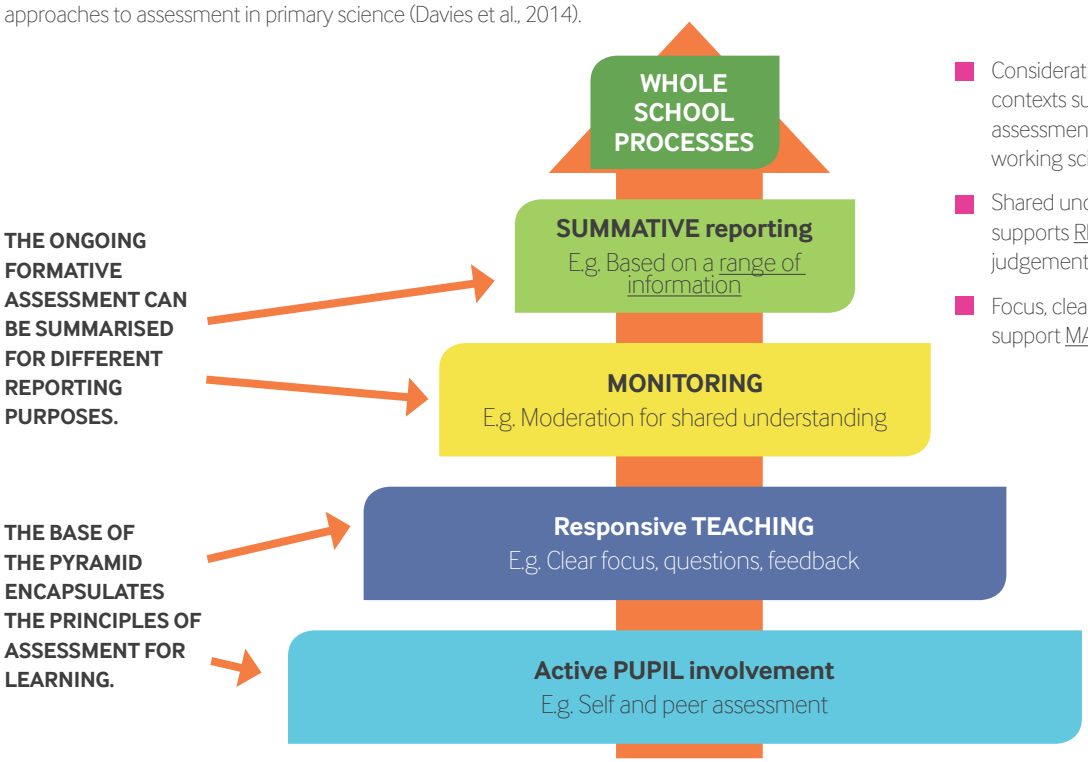
Wynne Harlen and colleagues (Harlen et al., 2012: funded by the Nuffield Foundation) recommended that the rich formative assessment data collected by teachers in the course of ongoing classroom work in science should also be made to serve summative reporting purposes. They developed a pyramid model where assessment information flowed from classroom practice to whole school reporting. This flow of information is represented by the **ORANGE ARROW** on the TAPS pyramid.

The TAPS team examined submissions to the Primary Science Quality Mark (Earle, 2014) and practice in 12 project schools to understand current approaches to assessment in primary science (Davies et al., 2014).

The TAPS pyramid

The TAPS team worked with local project schools, the Primary Science Quality Mark and PSTT College Fellows to create the model of teacher assessment and populate it with examples.

The TAPS pyramid provides a framework to support science subject leaders in identifying strengths and areas for development in school assessment systems. The suggestions in each box aim to strengthen the validity, reliability and manageability of assessment in primary science.



- Consideration of science in range of contexts supports VALIDITY (so that assessments consider all areas e.g. working scientifically).
- Shared understanding and moderation supports RELIABILITY (consistency of judgements).
- Focus, clear purpose and examples support MANAGEABILITY.

Recommendations for where to start

The blue 'Pupil layer' and 'Teacher layer' at the base of the pyramid encapsulate the principles of Assessment for Learning. They include boxes which focus on: clear learning objectives or success criteria; use of questioning, feedback and next steps; peer and self assessment. Schools should begin by focusing on these layers since this is not only the foundation of the whole system, it is also where changes will have the most impact on pupil progress in primary science.

Using the school self-evaluation tool

The downloadable TAPS pyramid pdf is available at: **www.pstt.org.uk/resources/curriculum-materials/assessment**

It provides a supportive bank of examples, which can be found by clicking on each box. The pyramid can also provide a structure to support school self evaluation. The interactive functions allow you to traffic light your assessment systems (on your own saved copy) and make notes on the approaches in your school. If you prefer to do this on paper then a black and white pyramid for printing is also available on the PSTT website.

USING THE SCHOOL SELF-EVALUATION TOOL
http://tinyurl.com/pyramidintro

References

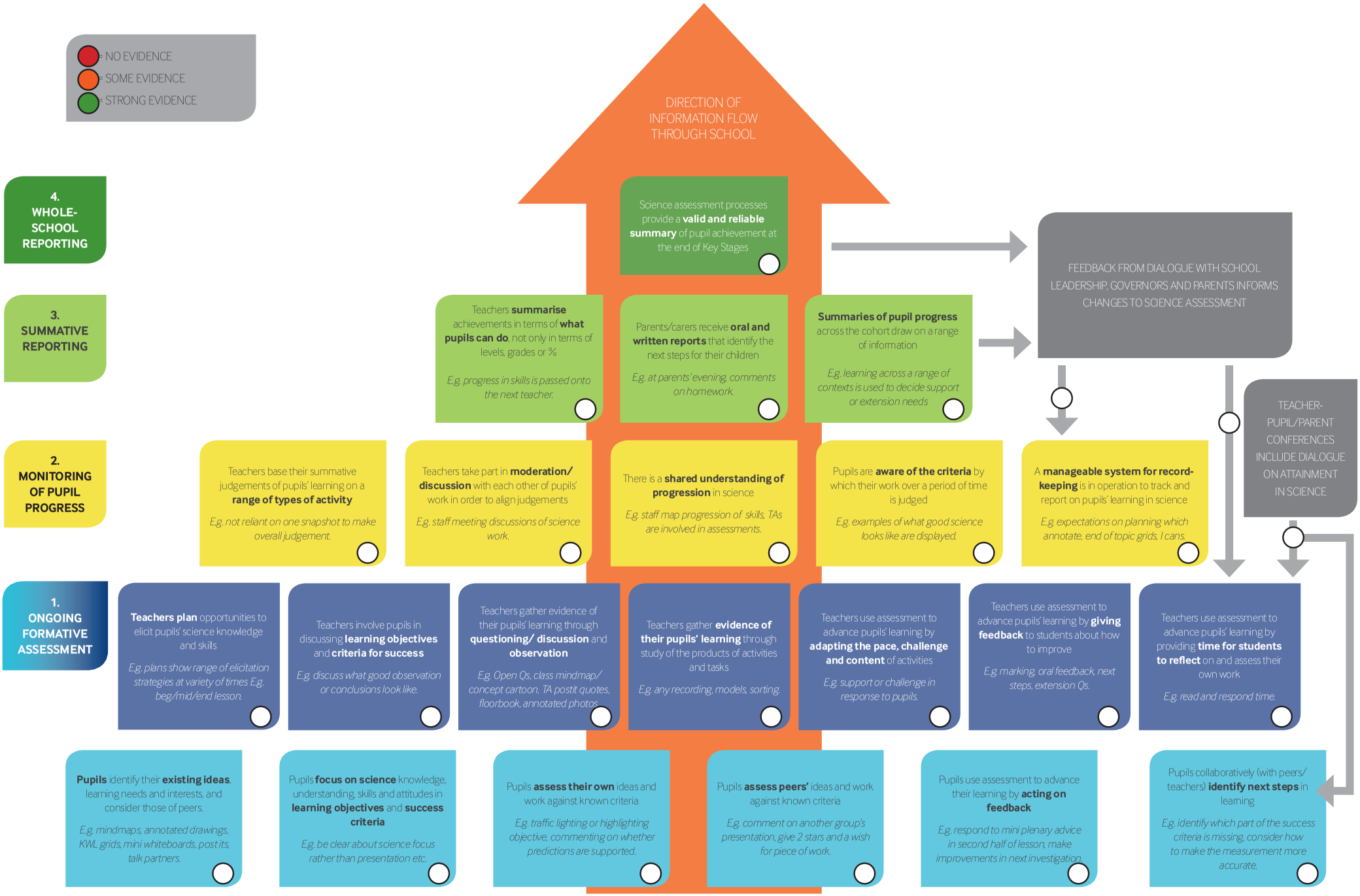
Davies, D., Collier, C., Earle, S., Howe, A. and McMahon, K. (2014) Approaches to Science Assessment in English Primary Schools (full report, teachers' summary and executive summary). Bristol: Primary Science Teaching Trust.

Earle, S., (2014) Formative and summative assessment of science in English primary schools: evidence from the Primary Science Quality Mark, *Research in Science and Technological Education*, 32(2): 216-228. http://www.tandfonline.com/doi/full/10.1080/02635143.2014.913129#.VPgkTfmsX_E

Harlen et al., (2012) Developing policy, principles and practice in primary school science assessment. Nuffield Foundation. http://www.nuffieldfoundation.org/sites/default/files/files/Developing_policy_principles_and_practice_in_primary_school_science_assessment_Nuffield_Foundation_v_FINAL.pdf

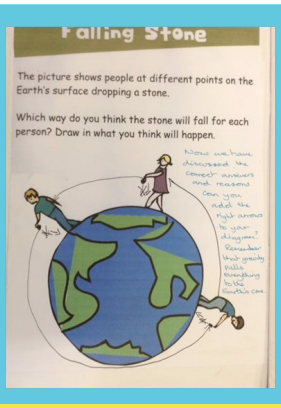
Science assessment: school self-evaluation tool

SCHOOL: DATE:



Produced by the Teacher Assessment in Primary Science Project, Bath Spa University, developed from from Harlen et al., (2012).

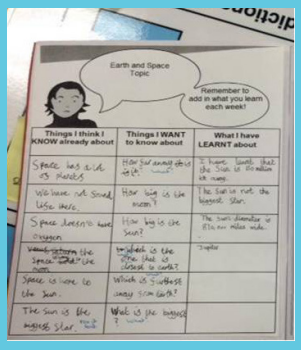
Examples of good practice



RETURNING TO A TASK

In a KWL grid pupils are asked to consider what they already Know about a topic and what they Want to find out. At a later date, return to the grid to consider what they have Learnt.

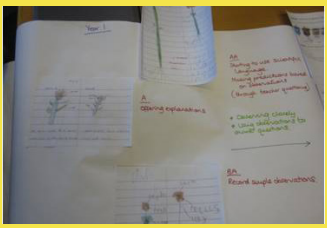
Returning to a task can happen with any activity: a pupil completes an activity, the teacher gives feedback and the pupil has another go. For example, at St Paul's Primary, when labelling falling objects, a pupil had first drawn arrows around the world. After discussion with the teacher, the pupil then drew new arrows towards the centre of the Earth. These particular examples come from Active Assessment: www.millgatehouse.co.uk/product/active-assessment-science

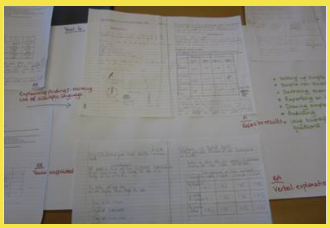


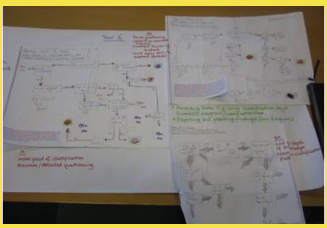
MODERATION GRAFFITI WALL

MODERATION GRAFFITI WALL
http://tinyurl.com/TAPSWorlebury

Moderation discussions, in year groups, schools and clusters, support consistency of expectations and judgements. At Worlebury St Paul's Primary, a staff meeting addressed concerns about explicit teaching of Working Scientifically. The staff were asked to bring examples of enquiry work from each year group and lay these along a roll of paper. This enabled teachers to discuss skills progression and development of independence in investigations. Judgements regarding attainment were discussed in relation to statements in the National Curriculum. Staff created a moderation graffiti wall to consider progression from Y1 to Y6.







PRE AND POST ASSESSMENTS

Eliciting the children's ideas at the beginning and end of a topic helps teachers to pitch the lessons , and also clearly demonstrates progress. For example, at the beginning of a unit on plants, a year 3 child's thought shower described factors which affect plant growth; by the end of the unit the same child described photosynthesis and reproduction. In a year 1 group discussion about animals, at the beginning of the topic the children knew little about amphibians or invertebrates. By the end of the unit, the children could name animals in these groups and describe some of their features.

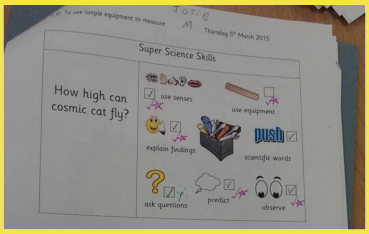
RECORDING DISCUSSION IN FLOOR BOOKS

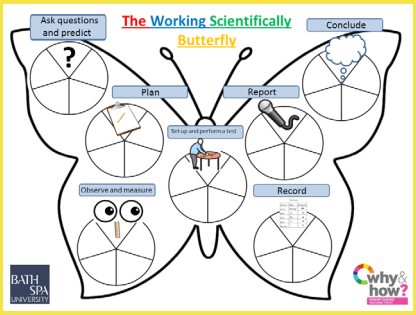
A floor book is a homemade book which provides a record of a discussion. Older children may write on post-its or in different coloured pens, whilst for younger children an adult would scribe the children's comments. The discussion could be in response to a stimulus, for example, at Oaktree Primary, how can we make jelly change? The group or class book creates a record of how the children's ideas have developed. For further information on how to use floor books go to: www.pstt.org.uk/resources/continuing-professional-development/floorbooks.aspx

SHARED UNDERSTANDING

Holt Primary have developed a science skills toolkit. This is a picture based success criteria for KS1 Working Scientifically which can be used by both pupils and teachers.

HOLT PRIMARY
http://tinyurl.com/HoltTAPS





At Shaw Primary, science 'stars' are displayed in the classroom showing key features of progression in enquiry. The science stars are also embedded in the planning which details success criteria for the sequence of lessons.

SHAW PRIMARY
http://tinyurl.com/ShawTAPS

Victoria Park Primary have developed a Working Scientifically butterfly to help focus and coverage of skills.

VICTORIA PARK PRIMARY
http://tinyurl.com/VPTAPS

The new focused assessment database of plans and examples is now available:

www.pstt.org.uk/resources/curriculum-materials/assessment

SUPPORT FROM TAPS
http://tinyurl.com/TAPSsupport

If you would like to offer further examples or provide the TAPS team with feedback, please email: primary.science@bathspa.ac.uk

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www.pstt.org.uk