TAPS-NI Progression in Science

Teacher Assessment in Primary Science (TAPS) for Northern Ireland

November 2019

why & how?
PRIMARY SCIENCE TEACHING TRUST

BATH SPA UNIVERSITY

STRANMILLIS UNIVERSITY COLLEGE
A College of Queen's University Belfast

Science skills in The World Around Us

The TAPS-NI project (2017-19) is part of the larger Teacher Assessment in Primary Science (TAPS) project, which is based at Bath Spa University and funded by the Primary Science Teaching Trust (PSTT). TAPS has developed the Focused Assessment approach to support teachers and pupils to focus on one part of an enquiry at a time, within the context of a whole investigation. Such focus is a key part of the TAPS pyramid model (see last page) which provides a framework for schools to develop practice.

TAPS-NI has worked collaboratively with a range of schools in Northern Ireland through the PSTT Fellows, the PSTT Ballyclare cluster and the Primary Science Quality Mark (PSQM). In addition, TAPS-NI has worked with students and tutors at Stranmillis University using a co-teaching model.

The project aimed to support the teaching, learning and assessment of primary science within The World Around Us. Outcomes from the project include the Science Skills Flower (below), examples of science skills and a range of focused skill activity plans which will all be freely available on the PSTT website.

The CCEA Progression Guidance (2018) outlines the skills for science and technology in The World Around Us. From this TAPS-NI has created a Skills Flower which can be used in class to draw attention to the focused skill in each lesson. Colouring a section for each focused skill provides an opportunity to check that all of the skills are covered across the year. The TAPS activity plans provide guidance for using the Focused Assessment approach to support progression in science skills. Pupil outcomes from each focused activity can provide be used formatively to consider next steps for the class or individual, and/or summatively to inform summaries for the next class teacher or for parents.

CCEA (2018) Science and Technology within the World Around Us: Progression Guidance. Belfast: CCEA.

Each example below links to a TAPS-NI focused activity plan.
Further examples can be found on the PSTT website.

Taste testing FS St Colmcilles

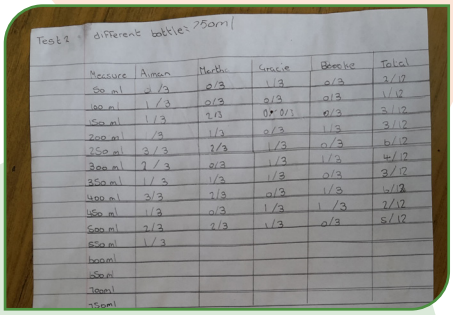
EVALUATING
From: talking about what they have done...
To: drawing conclusions and explaining accuracy

Shades of colour FS Ballyclare

OBSERVATION
From: describing using senses...
To: suggesting reasons

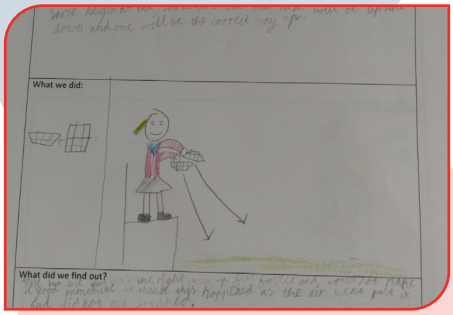
Separating colours KS1 Doagh

QUESTIONING
From: being curious...
To: asking questions which build on ideas



Bottle flipping KS2 Fairview

COMMUNICATING
From: simple recording...
To: selecting most appropriate methods for task and audience

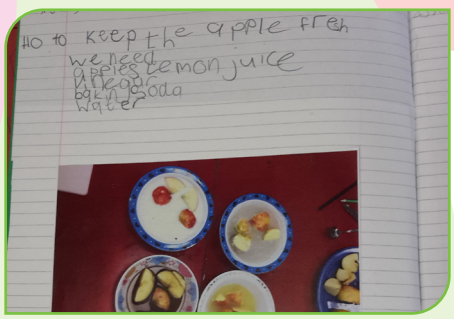


Cupcake parachutes KS1 Thompson

PLANNING
From: talking about what to do...
To: selecting most appropriate method

Titanic pulleys KS2 Fairview

DOING
From: using simple methods to compare data...
To: choosing appropriate techniques and carrying out tests.

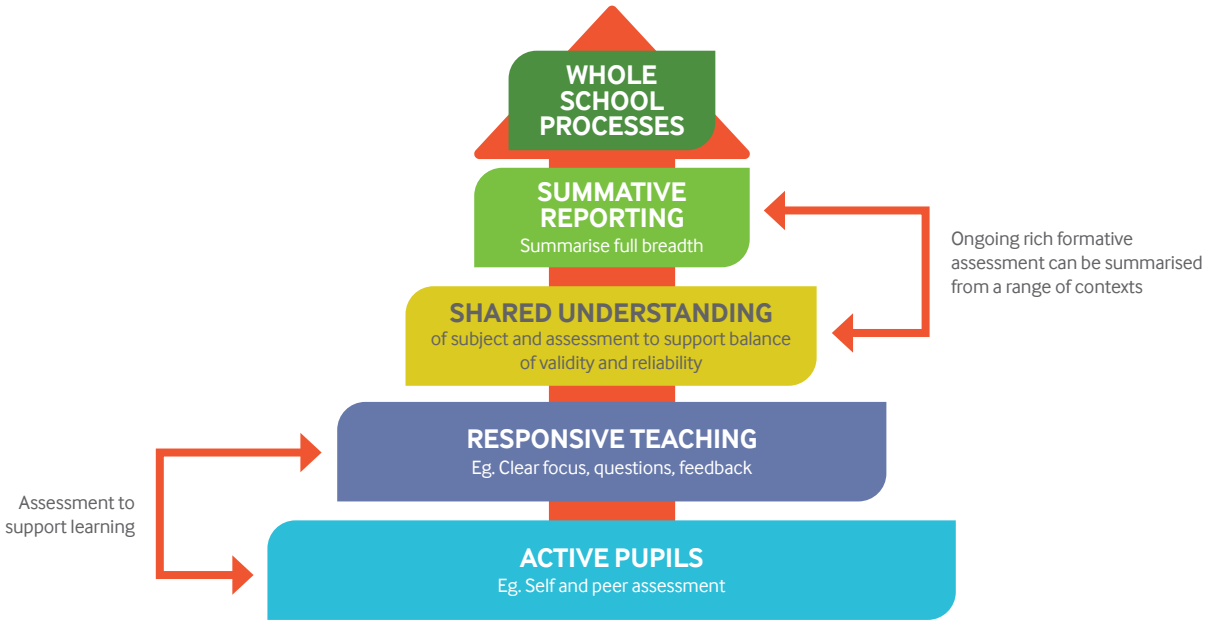


Brown apples, Kilronan

PREDICTING
From: seeing possibilities...
To: making, testing and evaluating predictions

Impact of using the TAPS-NI resources

Schools who have developed and used the TAPS resources report that they are now doing more science in school. They have found that both teachers and pupils have a clearer understanding of progression of science skills in the World Around Us. Teachers have developed confidence in teaching science and the lessons are more manageable because of the focus on one element at a time. Pupils have been able to talk more about their science, for example, evaluating their investigations and suggesting improvements. Teachers have used both the new TAPS-NI plans and the existing plans which were developed in England and Wales – all are freely available on the PSTT website.



The TAPS pyramid model

The TAPS pyramid provides a model to support schools to develop their practice. The blue pupil and teacher layers contain examples of classroom practice, for example, choosing a focused skill for a lesson or adapting activities to support all learners access an investigation. The yellow 'shared understanding' layer considers ways to develop the range of science (validity) and the consistency of practice (reliability). The green layers provide ideas for summarising learning for reporting purposes. Clicking on each layer or box will take users of the website or pdf to numerous examples from schools across the UK.

TAPS-NI TEAM 2019

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PSTT Ballyclare cluster and NI PSQM schools including: Neil McAllister, Heather White, Allison Bell, Ruth Wilson, Robert Heyburn and Catherine Stewart

Stranmillis University: Dr John McCullagh with students: Alice Ashfield, Catherine Cruise, Sarah Fallon, Karen Lennox, Ronan McCann and Andrew Rankin

All resources are available at:

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

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