TAPS Cymru:

Teacher Assessment in Primary Science (TAPS) support for progression in science skills

September 2023

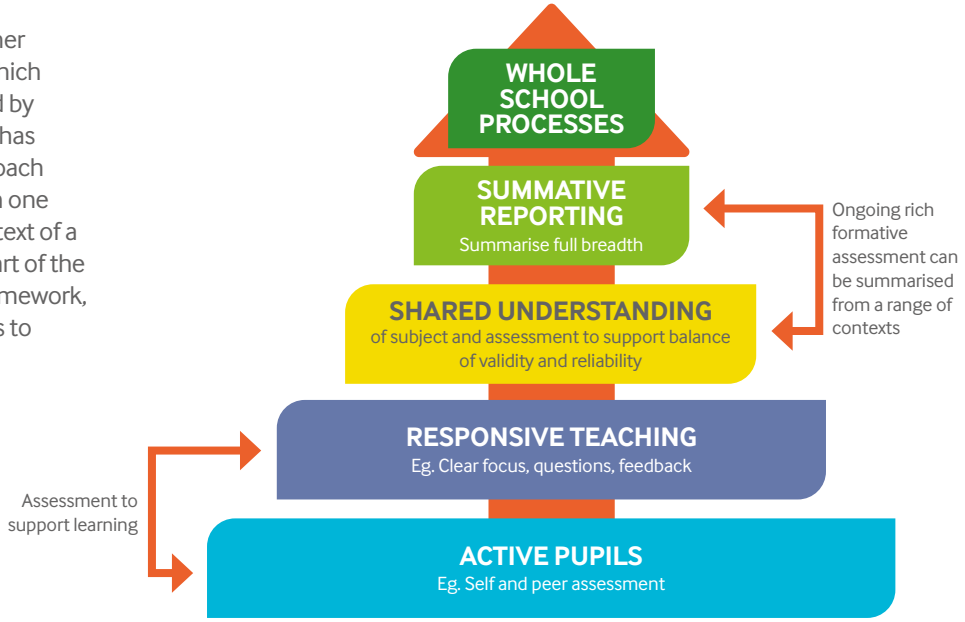
Primary Science Teaching Trust

Cardiff Metropolitan University | Prifysgol Metropolitan Caerdydd

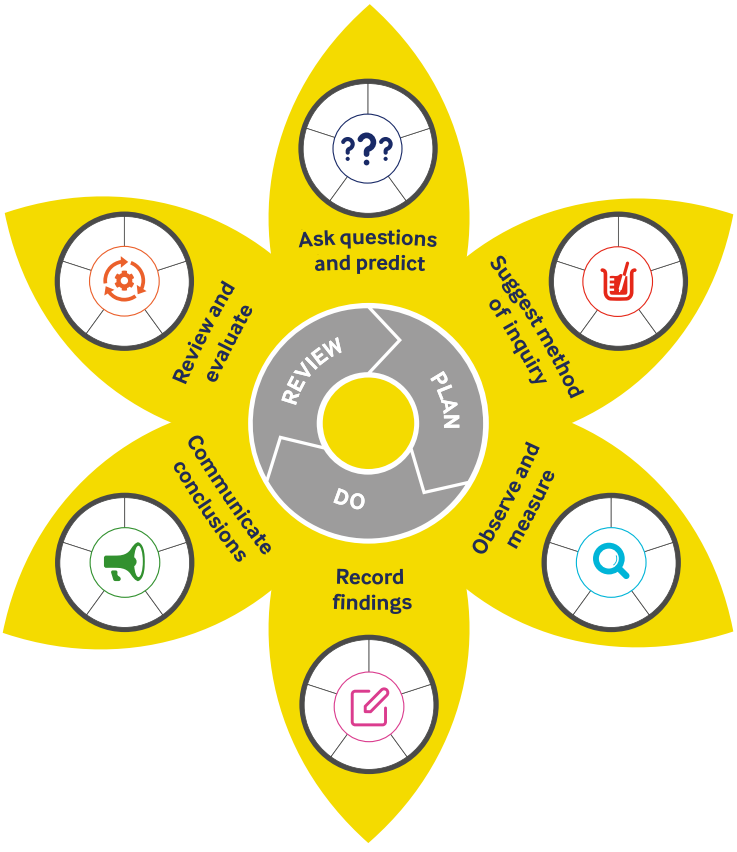
Bath Spa University

TAPS Cymru

TAPS Cymru (2016-23) is part of the Teacher Assessment in Primary Science project, which is based at Bath Spa University and funded by the Primary Science Teaching Trust. TAPS has developed the Focused Assessment approach to support teachers and pupils to focus on one part of an inquiry at a time, within the context of a whole investigation. Such focus is a key part of the TAPS pyramid model, which provides a framework, together with online examples, for schools to develop practice.



TAPS Cymru worked with Cardiff Metropolitan University and teachers from across the country to develop a range of new resources. The Being Curious Flower (also available in Welsh) can be used in class to direct attention to the focused skill in each lesson. Colouring or dating an edge section can help to track coverage, and placing examples around the flower on a working wall can help maintain the profile of science skills. The skills progression grid (final page) maps the TAPS Focused Assessment lesson plans onto the Curriculum for Wales descriptions of learning. A small selection of examples are provided on the next page, with more available on the TAPS websites. Pupil outcomes from each focused activity can 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.

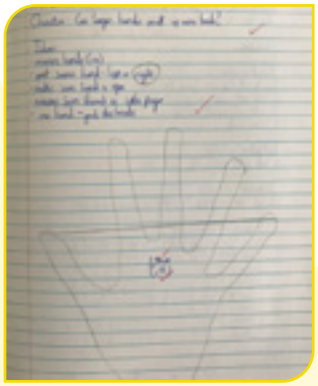


TAPS Cymru team: Dr Sarah Earle, Haf Hayes and Lisa Fenn, together with the many teachers who have shared their practice and trialled the resources.

Examples of practice

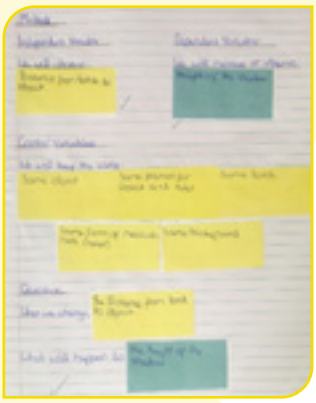
Being curious: PLAN

Ask questions, predict, method of inquiry



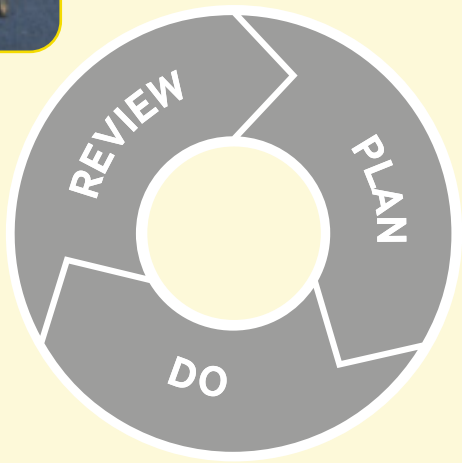
Suggesting suitable method of inquiry for handspan pattern-seeking

Y5/6, Tongwynlais Primary School, Cardiff



Changing, measuring and controlling variables to investigate shadows

Y5/6, Venerable Edward Morgan, Shotton, North Wales



Being curious: REVIEW

Communicate conclusions, evaluate

Communicate choice of clothes for winter

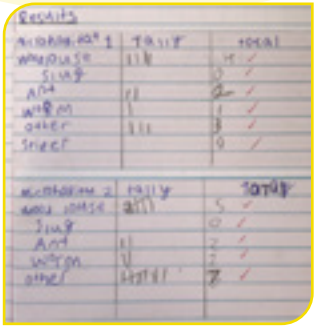
Reception, Blessed Carlo Acutis, Merthyr Tydfil

Apply knowledge of materials to design eco-lunchbox

Y4, Blessed Carlo Acutis, Merthyr Tydfil

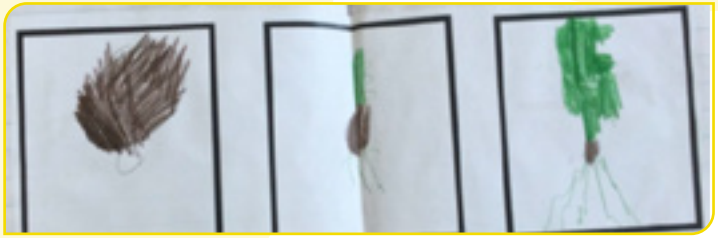
Being curious: DO

Observe, measure, record findings



Observing and recording in a minibeast tally chart

Y3/4, Tongwynlais Primary School, Cardiff



Bean diary, observing closely

Y1/2, Johnston Community Primary School, Pembrokeshire

For these examples thanks go to: Adam Stephens, Elain Stockdale, Sarah Thomas, Maura Woodward. See the PSTT TAPS website for more examples.

TAPS Cymru Focused Assessment plans for progression in science skills

Overview sorted by Curriculum for Wales descriptions of learning

	Being curious: PLAN Ask questions, predict, method of inquiry		**Being curious: DO** Observe, measure, record findings		**Being curious: REVIEW** Communicate conclusions, evaluate	
TAPS plans for Reception	Brown apples Scoop sounds	Incy spider shelter ⌗	Senses walk ⌗ Frozen balloons ⌗	Scavenger sort Mixing materials ⌗	Butter Bubble snakes ⌗	Taste test
Progression step 1 ~ age 5	I can show curiosity and question how things work.		I can explore the environment, make observations ...		... and communicate my ideas.	
TAPS plans for Year 1, 2 & 3	Skeleton Qs Litter pick Qs ⌗ Waterproof Separating colours Reflection Transparency Cupcake parachutes	Daisy footprints Animal home build ⌗ Float & sink Rocket mice ⌗ Shoe grip Magnet tests Teddy zip wire	Plant structure Leaf look ⌗ Shades of colour Plant growth Measuring plants Ice escape Ice cream	Seasonal change Woodlice habitats Materials hunt Surprise materials ⌗ Making shadows Cars down ramps Bridge testers ⌗	Animal classification Nature spotters Living & non-living Eco action Rocks report Muffling sound ⌗	Body parts Hand spans Function of stem Egg drop ⌗ Balloon rockets Boat materials ⌗
Progression step 2 ~ age 8	I can ask questions and use my experience to suggest simple methods of inquiry*. I can use my knowledge and understanding to predict effects as part of my scientific exploration.		I can explore... I can observe and describe... I can investigate...		I can recognise patterns from my observations and investigations and can communicate my findings.	
TAPS plans for Year 4, 5 & 6	Cornflour slime Dissolving Microfibres ⌗ Investigating pitch Bulb brightness Light Qs Paper planes ⌗	Heart rate Flower sampling Drying materials Insulation layers Nappy absorbency Zip line testing	Growth survey Terrific tasters Measuring temp Spinners Titanic pulleys Conductive dough ⌗ Circuit products ⌗	Local survey Outdoor keys Sugar cubes ⌗ Space craters Bottle flip Investigate shadows	Jump patterns ⌗ Life cycles Res Invertebrate Res Pollution survey ⌗ Champion tapes Elect conductors String phones ⌗ Solar system Res	Teeth in liquids Fossil habitats Egg strength Dunking biscuits ⌗ Aquadynamics Marble run ⌗ Bridge engineers ⌗
Progression step 3 ~ age 11	I can identify questions that can be investigated scientifically and suggest suitable methods of inquiry*.		... carrying out my inquiries.		I can suggest conclusions as a result of carrying out my inquiries. I can evaluate methods to suggest improvements.	
TAPS Transition	Reaction catches	Yeast growth	Formula 1 tubs	Blood splatter	Catapults	Cleaning coins

** Inquiry types could include: pattern-seeking, exploring, classifying & identifying, making things, fair testing, using & applying models. Methods could include how to carry out investigation.*

Colour codes for topics:

Living things (biology)
Matter (chemistry)
Forces & energy (physics)
Design & engineering.

All plans are freely available on the Teacher Assessment in Primary Science (TAPS) **website**
⌗ Plans available in Welsh on website

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