Progression of inquiry and investigative skills

with skills summarised from Education Scotland's Benchmarks (2017) and links to TAPS Focused Assessment activities

	PLAN AND DESIGN	CARRY OUT	REVIEW	
	Explore, question, predict, design, identify variables	Use senses, observe, collect measurements, control variables	Analyse, interpret and evaluate	Present findings
Early	Explores & observes through play. Asks questions, makes simple predictions and suggestions to answer the question.	Discusses obvious risks & protection. Uses their senses to acquire info. Measures using simple equipt & non-standard units.	Recognises similarities, patterns & differences in findings. Relates to everyday experiences. Discusses, with support, how the experiment might be improved.	Communicates findings to others verbally & through drawings, photographs, displays & simple charts. Responds to Qs about their investigation.
P1 TAPS plans	Brown apples Teddy zipline, Scooping sounds Incy shelter	Frozen balloons Senses Walk, Shades of colour *Forensic footprint	Taste test *Scavenger sort	Making butter Toy forces
1st	Collaborates with others to identify Qs. Makes predictions about the scientific investigation/ enquiry being planned. Contributes to the design for carrying out scientific investigations.	Identifies risks & hazards & ensures safe use. Collaborates to undertake investigations. Observes, collect info & makes measurements using appropriate equipment & units.	Interprets findings and discusses links to the original question. Reports on limitations of their investigation & possible improvements. Relates findings to their wider experiences of the world around them.	Presents info using a range of methods inc. tables, charts/diagrams, with labels/scales. Reports in writing, orally or visually. Structures, with support, to present findings in a coherent & logical way.
P2-4 TAPS plans	*Daisy footprints Dunlop balls, Cupcake parachutes Magnet tests, Shoe grip, Reflection, Transparency Investigate skeletons Float & sink, Waterproof Separating colours	*Seasonal change, Leaf look Plants: structure, Growth, Measuring Woodlice habitats, Feeding, Ice escape Bridge testers, Rocket mice Car ramps, Make shadows *Forensic fingerprints Ice cream, Drops on a coin	Animal classification *Nature spotters, Balloon rockets Handspans Boat materials, Egg packaging, Macintosh waterproofing	Living and non-living, Function of stem, Wind power vehicles Body parts Rock reports
2nd	Formulates questions & predictions (hypotheses), with assistance, based on observations & information. Identifies the independent, dependent & controlled variables, with assistance. Anticipates some risks.	Applies appropriate safety measures. Contributes to carrying out all the procedures. Makes observations, collects info & measurements using approp devices & units. Manages identified controlled variables to ensure validity of results.	Draws basic conclusions consistent with findings. Recognises anomalous results & suggests possible sources of error. Evaluates the investigation & suggests one way of improving it if it was to be repeated.	Presents data/information choosing tables, charts, diagrams, bar/line graphs. Reports collaboratively & individually. Collates, organises & summarises findings, with assist, using structural headings/Qs. Uses sci vocab & ackn sources (assisted).
P5-7 TAPS plans	Drying, Space travel Qs *Flower sampling, *Bird beaks Invest pitch, Paper planes Light questions, Bulb brightness Heartrate, Reaction catches, Yeast Cornflour slime, Dissolving *Insulation, *Nappy absorbency	*Local survey, Measuring temperature Craters, *Camouflaged moths Spinners, Bottle flip Titanic pulleys, Conductive dough Investigate shadows, O-wing Growth survey, Terrific tasters Sugar cubes	Egg strength, *Pollution Survey Electrical conductors, String phones Aquadynamics, Marble run Bridge engineers, Catapults Teeth Dunking biscuits, *Forensic powders Cleaning coins	Wind powered vehicle, *Dirty water filter Solar system research, Seed dispersal survey Invertebrate research *Outdoor keys, *Eco Action Digestion modelling Life cycle research Champion tapes

Planet Earth
Forces, Electricity & Waves
Biological Systems
Materials
*Topical science links

For searchable database of plans and examples go to:
https://pstt.org.uk/unique-resources/taps

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