

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 |