



TSS Primary Science MTP 2022-2023 Year 4 Block 1 – Working scientifically

Key Targets and Learning Objectives	Key Activities	Equipment
<ul style="list-style-type: none">• Know that models are not fully representative of a real-world situation and/or scientific idea• Use models to show relationships, quantities or scale• Draw a diagram to represent a real-world situation and/or scientific idea• Ask scientific questions that can be investigated• Know that there are five main types of scientific enquiry (research, fair testing, observing over time, identifying and classifying, and pattern seeking)• Make a prediction describing some possible outcomes of an enquiry• Identify variables that need to be taken into account when doing a fair test• Identify risks and explain how to stay safe during practical work• Use observations and tests to sort, group and classify objects• Use keys to identify objects, materials and living things• Choose equipment from a provided selection and use it appropriately• Describe how repeated measurements and/or observations can give more reliable data• Take measurements in standard units, describing the advantage of standard units over non-standard units• Carry out practical work safely• Use secondary information sources to research and answer to a question• Collect and record observations and/or measurements in tables and in diagrams	<ul style="list-style-type: none">• Make models of animal skeletons – endoskeleton (pencils, plasticine, rubber glove), exoskeleton (slime filled balloon with papier-mâché), hydrostatic (slime filled balloon) – art / <i>Biology</i> link• Make a model of human arm: https://www.scienceprojects.org/design-and-make-a-model-arm/ Or hand: https://www.youtube.com/watch?v=GlwCZWFo2s4 – <i>Biology</i> / art and DT link• (2 lessons) Using scientific enquiry – mini measurements carousel activity. Stations:<ol style="list-style-type: none">1) Force meters to test friction force of different materials2) Measure distance of blow dart3) Measure volume of containers4) Measure weight of diff objects5) Measure temperature of different objects• Solid, liquid gas investigation – prediction and observation – <i>Chemistry</i> link• Ramp car investigation – measurements and recording data – <i>Physics</i> link <p>STEM activity – build a tower using apples and toothpicks. https://www.steamsational.com/apple-tower-stem-challenge/</p>	<ul style="list-style-type: none">• Balloons• Modelling clay• Plastic tubes• Hydro balls• Force meters• Measuring jugs• Tape measures• Rulers• Thermometers• Scales• Car ramp• Wooden cars



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<ul style="list-style-type: none">• Identify whether results support, or do not support, a prediction• Describe simple patterns in results• Make a conclusion from results and relate it to the scientific question being investigated• Present and interpret results using tables, bar charts and dot plots		
Key vocabulary	Going Green Link	Integration of technology
Model, fair test, investigation, prediction, measurements, observation, conclusion, scientific enquiry, Biology, Chemistry, solid, liquid, gas, Physics, friction, force	<ul style="list-style-type: none">• Look at how scientists are tackling climate change – research focus<ul style="list-style-type: none">- Who are the key activists / scientists?- Why is more not being done? <i>Science in context link</i>	Use of iPads <ul style="list-style-type: none">• Create graphs using apps• Make observations using video and pictures• Use augmented reality to explore scientific ideas