TSS Primary Science MTP 2022-2023
Year 4 Block 4 – Physics

Key Targets and Learning Objectives	Key Activities	Equipment
• Know that energy is present in all matter and in sound, light and heat • Know that energy cannot be made, lost, used up or destroyed but it can be transferred • Know that energy is required for any movement or action to happen • Know that light travels in straight lines and this can be represented with ray diagrams • Know that light can reflect off surfaces • Describe how changing the number or type of components in a series circuit can make a lamp brighter or dimmer • Know that some materials are good electrical conductors, especially metals, and some are good electrical insulators • Collect and record observations and/or measurements in tables and in diagrams (WS) • Describe simple patterns in results (WS)	Lesson 1 – Diagnostic test. Energy – look at different types of energy. Label different images that show the source of energy. Lesson 2 – Rockets investigation (working scientifically). Using effervescent tables in film canisters – measure time taken to take off, or height of jump. Record results. Lesson 3 – Looking into reflection (maths link). Show examples of reflecting light and how this links to reflection in maths. Reflect lines and shapes using mirrors. Lesson 4 – Energy stick starter. Circuits & symbols. Using iPads, create circuits with gaps and more components to see what happens to the brightness of a lamp. Lesson 5 – Set up simple circuit with switch and lamp. Investigation electrical conductors and insulators. Record results. Lesson 6 – Assessment (35 mins). Create own circuits following instructions. **STEM activity** – make a stop animation video demonstrating transfer of energy. Set a storyboard homework prior to this and allow some practice time prior to lesson.	• Film canisters • Effervescent tables • iPads • mirrors • glasses • electrical circuits

Key vocabulary	Going Green Link	Integration of technology
Energy, energy transfer, sound energy, heat energy, conductor, gravity, movement energy, light energy, force, electrical circuit, reflect, friction, insulator	- Discuss sustainable energy verses non-renewable energy	- iPads to use for setting up circuits - iPads to make stop animation