Cwmfelin Primary School Medium Term Planning

Term: Spring 1	Class: 2	AOLE Focus: Science & Technology
Inquiry: Making Waves	**Question: How can we change light and sound to make shadows, reflections, and different noises?**	

Rationale

This inquiry is designed to spark curiosity and deepen learners' understanding of how light and sound behave in the world around them. By exploring concepts such as shadows, reflections, and sound vibrations, children develop a foundation in scientific thinking while engaging in hands-on investigations. These experiences encourage **observation, prediction,** and **reasoning**, helping learners to make connections between **cause and effect** in everyday phenomena.

Through practical activities—such as creating shadows, experimenting with pitch, and investigating how sound travels—pupils will build **problem-solving skills** and learn to apply scientific knowledge creatively. The inquiry also promotes **collaboration** and **communication**, as learners share ideas, ask questions, and work together to test hypotheses. These skills are essential for developing confidence and **independence** in scientific inquiry.

Knowledge (Knowledge that)	Skills (Knowledge how)	Experiences (Knowledge of)
I know…	**I know how to…**	**I have …**
• Shadows form when an object blocks light. • Shadows change size and shape depending on the position of the light source. • Materials can be: Transparent, Translucent or Opaque. • Sound is made by vibrations. • Sounds can be loud or quiet depending on vibration strength. • Pitch (high or low sound) changes with: Tightness of a rubber band / Amount of water in a glass. • Sound can travel through different materials and that some materials carry sound better than others.	• Plan and carry out investigations, making predictions, and use evidence to support reasoning. • Observe carefully, ask simple questions, make predictions, and record findings using charts or drawings. • Use equipment safely, measure and compare outcomes, follow methods, and collaborate effectively. • Explain cause-and-effect (e.g., shadows, pitch), choose suitable materials, and apply creative approaches to problem-solving.	• Undertaken a range of scientific practical investigations. • Created shadows using different light sources. • Classified and sorted materials based on their properties of transparency. • Created sounds using a range of sound sources and changed volume/pitch.

Cross-curricular opportunities:
Literacy: Shadow Story Writing
Numeracy: Shadow measuring during the course of the day
DCF: Use Adobe Express to create a short video of how to create a box guitar

Vocabulary:
Light, Source, Shadow, Torch, Transparent, Translucent, Opaque, Reflection, Mirror, Sun, Sound, Vibration, Pitch, Loud, Quiet, Rubber band guitar, Tuning fork, Speaker, Cup and string telephone, Observe, Observation, Predict, Prediction, Record, Recording results, Compare, Contrast, Classify, Classification, Materials, Measure, Measurement, Estimate

Immersion activity:
Musical instrument carousel afternoon – Pupils to try to play a variety of instruments

Showcase:
Musical performance using box guitars for other classes / outdoor performance for parents

Eager to Learn. Proud to Achieve.

Awyddus i Ddysgu. Balch i Gyflawni.

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