

Year 5 – Mechanical Systems

What it looks like in year 3:

- To discuss and investigate different examples of books which have a range of lever and linkage mechanisms.
- To understand and apply the skills needs to make e.g. marking out, cutting, joining skills.
- Develop a design brief for a specific purpose and intended user.
- To produce annotated sketches to model ideas and plan the main stages of making.
- Make and assemble a poster following previous planning.
- Evaluate the poster against the design criteria previously agreed.

Vocabulary (definitions)

Pivot – a fixed point supporting something that turns or balances.

Mechanism – a system of parts working together in a machine.

Lever – a handle or bar that is used to push or pull to operate a mechanism.

Pulley – a wheel that carries a cord or cable.

Gear – a simple machine with teeth that increases the force needed to push or pull something.

Axle – a rod connecting a pair of wheels.

Sequence of Learning Design, Make, Evaluate

1. To discuss and investigate different examples of toys which incorporate gears and pulleys.
2. To understand and apply the skills needs to use gears and pulleys e.g. cutting, joining skills, using junior hacksaws.
3. Develop a design brief for a specific purpose and intended user.
4. To produce annotated sketches to model ideas and create step-by-step plans.
5. Use a construction kit to make and assemble a fairground ride following previous planning.
6. Evaluate the final product against the design criteria previously agreed.



Cross-Curricular Links and Cultural Capital:

- Spoken language – ask relevant questions, formulate and express opinions, give well-structured descriptions and explanations. Use relevant strategies to build their vocabulary.
- Mathematics – understand ratios. Apply understanding and skill to carry out accurate measuring using standard units i.e. cm/mm.
- Science – apply knowledge and understanding of circuits, switches, conductors and insulators. Recognise that some mechanisms, including pulleys and gears, allow a smaller force to have a greater effect.
- Art and design – use and apply drawing skills. Use techniques with colour, pattern, texture, line and shape.