Year 3 – Mechanical Systems

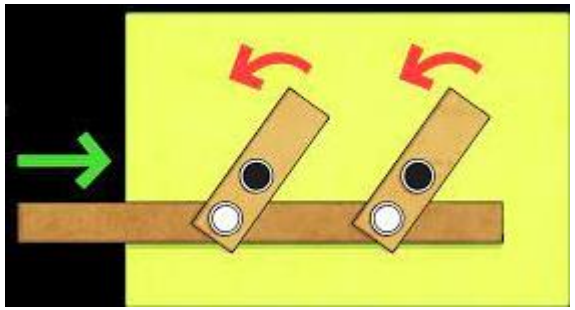
What it looks like in year 5:

- Investigate and evaluate toys with gear and pulley systems.
- To apply and use the skills learnt e.g. cutting, using junior hacksaws, joining skills.
- Produce step-by-step plans with a list of equipment and materials.
- Use construction kits to create a high quality product.
- Create and follow a design specification.

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 books which have a range of lever and linkage mechanisms.
2. To understand and apply the skills needs to make lever and linkage mechanisms (marking out, cutting, joining skills).
3. Develop a design brief for a specific purpose and intended user.
4. To produce annotated sketches to model ideas and plan the main stages of making.
5. Make and assemble a poster following previous planning.
6. Evaluate the poster against the design criteria previously agreed.

Cross-Curricular Links and Cultural Capital:

- Spoken language – participate in discussion and evaluation of books and, where available, other products with moving pictures. Ask relevant questions to extend knowledge and understanding. Build technical vocabulary.
- Mathematics – use the vocabulary of position, direction and movement. Use a ruler to measure to the nearest cm, half cm or mm.
- Art and design – use colour, pattern, line, shape.