

Year 5

Cams

Design Brief: To design, make and evaluate a moving toy for an EYFS child to play with inspired by topics they are learning about.

End Point Knowledge and Skills – DESIGN

- Generate innovative ideas by carrying out research
- Develop a simple design specification to guide their thinking.
- Develop and communicate ideas through discussion, annotated drawings, exploded drawings and drawings from different views.

End Point Knowledge and Skills – MAKE

- Produce detailed lists of tools, equipment and materials.
- Formulate step-by-step plans and, if appropriate, allocate tasks within a team.
- Select from and use a range of tools and equipment to make products that are accurately assembled and well finished.
- Work within the constraints of time, resources and cost.

End Point Knowledge and Skills – EVALUATE

- Compare the final product to the original design specification.
- Test products with the intended user, where safe and practical, and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose.
- Consider the views of others to improve their work.
- Investigate famous manufacturing and engineering companies relevant to the project.

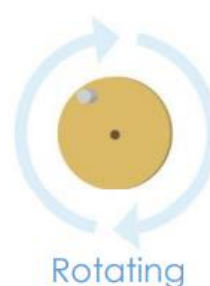
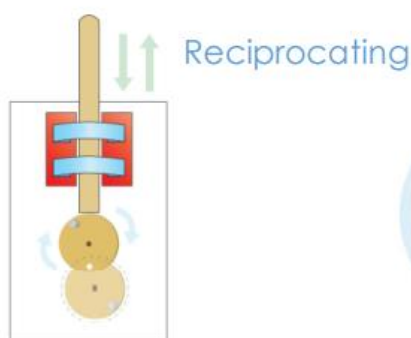
Technical Knowledge and Understanding

- Understand that mechanical systems have an input, process and an output.
- Understand how cams can be used to produce different types of movement and change the direction of movement.
- Know and use technical vocabulary relevant to the project.

Key Vocabulary

cam, snail cam, off-centre cam, peg cam, pear shaped cam follower, axle, shaft, crank, handle, housing, framework rotation, rotary motion, oscillating motion, reciprocating motion annotated sketches, exploded diagrams mechanical system, input movement, process, output movement design decisions, functionality, innovation, authentic, user, purpose, design specification, design brief

Types of movement



Types of cams

