

Mechanical Systems

In Year 5 we designed and made pop up books.



In Year 5 we:

- 1) Knew that mechanisms control movement and understood that mechanisms can be used to change one kind of motion into another.
- 2) Storyboarded ideas for a book and labelled mechanisms in our design.
- 3) Followed a design brief to make a pop up book, neatly and with focus on accuracy.
- 4) Made mechanisms using sliders, pivots and folds to produce movement.
- 5) Used layers and spacers to hide the workings of mechanical parts
- 6) Evaluated the work of others and received feedback on own work, suggesting points for improvement.

Vocabulary which we used in Year 5

Caption = a short piece of writing under a picture which describes or explains the picture.

Design brief = a description of what you will design and make and how it will work.

Exploded diagram = a diagram which shows all of the parts, including the internal and external products.

Input = the motion used to start a mechanism.
Output = the motion that happens as a result of starting the input.

Pivot = a shaft or pin on which something turns.

Slider = a part of a mechanism which allows an object to move from side to side.

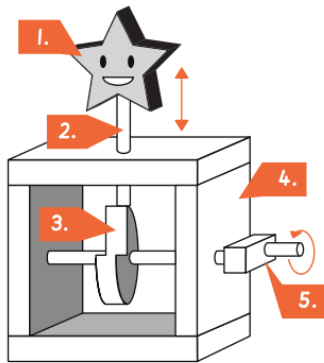
Aesthetic = designers often want to hide mechanisms to make a product more aesthetically pleasing.

Mechanical Systems

In Year 6 we will be designing and making an automata toy



Automata toy components:
1. Character
2. Follower
3. Cam
4. Frame
5. Axle attached to handle



In Year 6 we will:

- 1) Understand that the mechanism in an automata uses a system of cams, axles and followers.
- 2) Understand and draw cross-sectional diagrams that show the inner workings of a product.
- 3) Understand that different shaped cams produce different outputs.
- 4) Use a bench hook and saw safely.
- 5) Measure, mark and check the accuracy of wood / dowel.
- 6) Assemble components accurately to make a stable frame.
- 7) Evaluate the work of others and receive feedback on own work.
- 8) Apply points of improvement and describe changes you would make/do .

Vocabulary which will be new in Year 6

Automata = To know that an automata is a hand powered mechanical toy.

Component = one of several parts of which something is made.

Cam = a rotating or sliding piece in a mechanism. It changes rotary motion to linear motion.

Axle= in an automata the axle rotates, turning the cam with it. It is attached to the handle.

Follower = the post which traces the shape of the cam, rising and falling in a linear motion.

Exploded diagram = a diagram which shows all of the internal and external parts of a product.