

Year 6 DT Automata Toys

Key Skills

1. To prepare (mark, cut, saw) the materials required for the automata frame .
2. To assemble the automata frame components and supports with the help of an exploded-diagram.
3. To explore the relationship between cam profiles and follower movement, to inform a design decision.
4. To apply the housing and finishing touches to the automata frame .

Vocab/Key Words

Automata - Also known as mechanical toys or kinetic art. They use hand powered mechanisms to create movement.

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

Component - One of several parts of which something is made.

Follower - The part which traces the shape of the cam, rising and falling in a linear or reciprocating motion.

Frame - The rectangular structure which holds the Automata together.

Linkage - A set of bars linked together to form a mechanism.



Respect, Believe, Achieve

Key Knowledge

Cam shapes

Round	Snail	Ellipse
No movement	Drop and climb	Steady up and down

Changing the shape of the cam in your Automata, will create different movements.

What I will know/be able to do by the end

- I can measure, mark and check the accuracy of the wood and card automata components
- I can follow health and safety rules
- I can suggest appropriate design criteria points to fulfil the design brief

Websites/Signposting/Connection to a famous person

<https://www.instructables.com/Mechanical-Cam-Toys/>

<https://www.youtube.com/watch?v=CKGHlKcbZi0>

Previous Learning

- ♦ Pop-up books (Year 5)
- ♦ Slingshot cars (Year 4)
- ♦ Pneumatic toys (Year 3)
- ♦ Moving Monsters and Ferris Wheels (Year 2)
- ♦ Moving storybook and wheels and axles (Year 1)

Automata toy components:

1. Character
2. Follower
3. Cam
4. Frame
5. Axle attached to handle

