



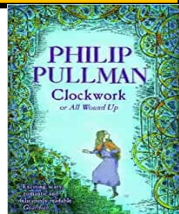
Clockwork

Key texts

The Invention of Hugo Cabret by Brian Selznick



Clockwork by Philip Pullman



Visit to the M.A.D. Museum



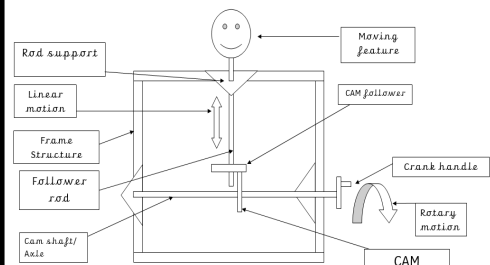
Vocabulary

audience- the people the device is intended for
automaton- moving mechanical device
CAM- see diagram
Crank- handle to turn
gears- a toothed cog
linear- move along a line e.g. up and down.
motion- movement
rotation/ rotary- circular movement

Design and Technology

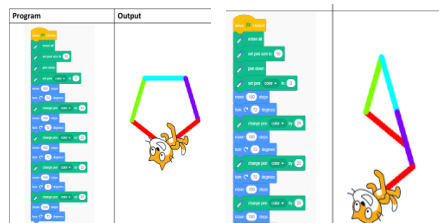
- The word 'automaton' comes from the Greek 'automatos' which means 'acting of ones own will'.
- Automata are often designed to entertain and amaze.
- Many automata use CAMs.
- Common use of CAMs today are in cars.
- CAMs turn rotary motion into linear motion.
- The shape of the CAM affects the movement it creates.
- Gears lock together to change the rotary direction.
- Different sized gears alter the speed of rotation.
- Gears found in clocks to wind the hands.

<http://www.technologystudent.com/cams/camdex.htm>

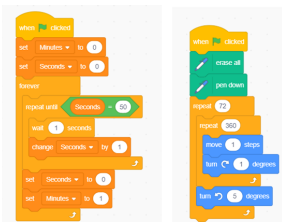


Computing

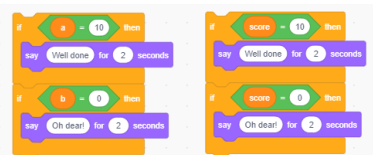
The sequence of commands affects the output.



A long sequence of commands can be shortened using the repeat block.

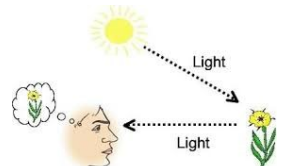


Variables are values that the programme can hold and then act on e.g. scores or typed answers.



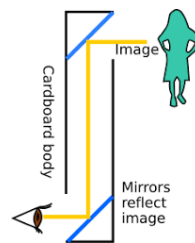
Science

-Light travels in straight lines. We see objects because they give out or reflect light into our eye.

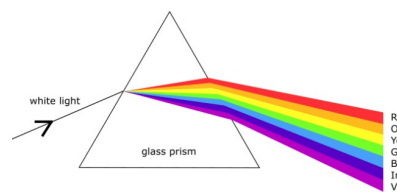


-Shadows have the same shape as the objects that cast them.

-A periscope helps to see above objects. Light is reflected off a series of angled surfaces and into the eye.



- Visible light contains all colours within it. This can be seen when a rainbow is made.



Input output

sequence <https://www.barefootcomputing.org/concept-approaches/computer->

repetition <https://www.barefootcomputing.org/concept-approaches/computer->

variable <https://www.barefootcomputing.org/concept-approaches/computer->

absorb- to soak in
light source- provides light
Periscope- a device for seeing over objects. Used in submarines.
reflection- light bouncing back
refraction- light appears to bend in water
Shadow- absence of light
Spectrum- a band of colours, as seen in a rainbow
Visible- able to be seen