Year 6: Ravens

DT

Spring 2

Creating

Waterwalls

Key Vocabulary	Definition
aesthetic	A set of principles concerned with the nature and appreciation of beauty.
Archimedes' screw	A device which transports water from one level to a higher level. It was used from around 234 BC. Archimede's, if not the inventor, was the first to write about it.
component	A part or element of a larger whole, especially a part of a machine or vehicle.
engineer	A person who designs, builds, or maintains engines, machines, or structures.
manual	Something which is relating to or done with the hands; not automatic.
mechanism	A system of parts working together in a machine; a piece of machinery.
prototype	A first or preliminary version of a device or vehicle from which other forms are developed.
pulley	A wheel with a grooved rim around which a cord passes, which acts to change the direction of a force applied to the cord and is used to raise heavy weights.
purpose	The reason for which something is done or created or for which something exists.

Research

Research existing products and solutions to understand how they work and what their limitations are.

Design and Development

- Develop design ideas and specifications, considering factors like functionality, materials, and aesthetics.
- Create sketches, models, or prototypes to visualize and test your design.
- Select appropriate tools, materials, and techniques to manufacture your product..

Making and Creating

- Construct your product or prototype using the chosen materials and techniques.
- Test your design thoroughly, ensuring it meets the design specifications and performs as intended.

Evaluation

- Evaluate your product against the design specifications and consider user feedback.
- Identify strengths and weaknesses and make improvements to your design.

Archimedes Screw

The Archimedes' screw is a simple machine that lifts water by rotating a helical surface (a screw) inside a cylindrical casing. It's a type of pump that has been used for centuries, and its principle remains relevant in modern engineering and renewable energy application.

How it works:

1. **The Screw and Casing:** The device consists of a screw (a helical surface) housed within a cylindrical pipe.
2. **Rotation:** When the screw is rotated, it scoops up water at the lower end.
3. **Ascending Water:** The rotation of the screw pushes the water upwards along the inclined helical surface, effectively lifting it.
4. **Water Discharge:** The water is then discharged from the upper end of the pipe.

Waterwalls.

Waterwalls are a type of water feature that involves water flowing down a wall. They can be used in both indoor and outdoor spaces and are popular for their aesthetic appeal and versatility. Waterwalls can be made from a variety of materials, including stainless steel, glass, and other custom materials.