Year 6

Design & Technology

All children – regardless of gender, starting point or background – will have the opportunity to engage with a high-quality design technology education. They will be equipped with the knowledge, skills and vocabulary to use creativity and imagination to design and make products that solve real and relevant problems in a variety of contexts. We intend to inspire a sense of enjoyment and curiosity about design technology.

3D Structures – Sledge for Transport

Spring 2

Igniting Prior Knowledge:

Year 4 (Art & Design – 3D Sculptures – Plastic Pollution)

Year 5 (3D Structures)

Vocabulary:

3D printing
Prototypes
Components
Frame Structure

New Knowledge:

- CAD (Computer Assisted Design) is the use of computers to aid creation engineering and design.
- CAD can be used as part of the planning and design process.
- CAD and 3D printing can be used to create prototypes of a finished product.
- A sledge is a dragged vehicle or carrying device on runners, without wheels.
- A sledge is used to transport heavy loads or people over the snow or ice, often pulled by animals, but can be pulled by machinery or people.
- A sledge is constructed in two main parts. A base, supported by two runners. Handles/ harness' are added to suit design (e.g pulled by animals or people).
- Sledges have runners that are smooth, narrow and curved at the front, to reduce friction.
- Sledges can be made from a variety of materials including wood, plastic and metal.
- There are many techniques that can be deployed to build a frame structure. e.g. paper rolling, joining straws, joining thin sectioned pieces of wood, creating triangles for rigidity.
- Joints can be joined using adhesives, frame joints or fastenings, using screws, bolts or rivets.
- Techniques such as bracing and cross bracing, asre used to strengthen a structure and joints.