

**Southam St James CofE Academy- Design Technology- Progression in concepts**

**BUILD**

**Early Years**

The development of children’s artistic and cultural awareness supports their imagination and creativity. It is important that children have regular opportunities to engage with the arts, enabling them to explore and play with a wide range of media and materials. The quality and variety of what children see, hear and participate in is crucial for developing their understanding, self-expression, vocabulary and ability to communicate through the arts. The frequency, repetition and depth of their experiences are fundamental to their progress in interpreting and appreciating what they hear, respond to and observe.

Year Group	Concept
<b>One</b>	Process of design Vehicles: user and purpose Mechanical systems: wheels and axles Wheels and axles in everyday examples Structures and materials—strong, stiff and stable. Materials—properties and functionality Vehicles and pollution
<b>Two</b>	Process of design Mechanical systems: levers and sliders Levers and sliders in everyday examples Structures and materials to make levers and sliders in moving pictures strong, stiff and stable.
<b>Three</b>	Process of design Mechanical systems: linkages: moving pivot, fixed pivot, types of motion Linkages: uses and purpose in everyday examples Materials to make linkages in moving books: strong, stiff and stable.
<b>Four</b>	Process of design Mechanical systems: gears, teeth, interlock, motion transfer, drive gear, driven gear, gearing up, gearing down Gears: user and purpose in everyday examples Structures and materials to make a product with gears — 3d shapes, strong, stiff and stable. Electrical systems: circuits, batteries, bulbs and buzzers
<b>Five</b>	Process of design Mechanical systems: cams, followers, sliders, camshaft, rotary motion, linear motion, cam profiles Everyday examples and purpose of cams mechanisms

	Structures and materials to make products with cams and followers —3d shapes, strong, stiff and stable
<b>Six</b>	Process of design Mechanisms: pulleys, Archimedes' screw Everyday examples and purpose of pulleys, purpose of Archimedes' screw Structures and materials to make products with pulleys in everyday examples—3d shapes, strong, stiff and stable Plastics pollution/recycling/reuse Use of electricity and connection to global warming Engineering systems to create environmentally friendly solutions—Nav Sawhney and the Washing Machine Project. Appropriate use of materials.