

# Knowledge Mat: D & T

## Key Knowledge for Year 7

### Term 1

- To know why we use jigs and templates to make things.
- To understand the principle of making shapes accurately by cutting to waste using hand tools.
- To understand the sources of materials such as plastics and the difference between finite and renewable resources

### Term 2

- To know the advantages of using CAD/CAM,
- To be able to design and laser cut a basic pinball machine component
- To understand how machinery in the workshop can be adapted to do repeated, accurate processes

### Term 3

- To be able to assemble mechanisms and understand some basic forces.
- To understand that the fit of objects is toleranced

### Term 4

- Pinball machine mechanisms and forces – to understand levers, pushrods, fixed and moving pivot, tension and compression
- To understand basic electronic circuits - the pinball machine circuit.

## Wider Experiences / Try To Do...

- **Do a craft project at home.**
- **Recycle plastics properly at home and at school.**
- **Look for mechanisms in everyday products.**

## The **big** questions:

- **How** do I behave safely in the workshop?
- **How** do people make objects accurately using traditional tools or modern technology?
- **How** do assemblies of physical components work?
- **What** is an electronic circuit?

## Vocabulary

Design  
Technology  
Component  
Ballbearing  
Silicone tube  
Rivet  
Light Emitting Diode  
Coin cell  
Copper  
Circuit  
Wing nut  
Nut  
Machine screw (bolt)  
Washer  
Pivot point  
Tension file  
File  
Glass paper  
Abrasion  
Scalpel  
Template  
Pushrod  
Force  
Plastazote  
Rotational  
Reciprocating  
Compress  
Compression spring  
Tolerancing  
Friction  
Polystyrene plastic