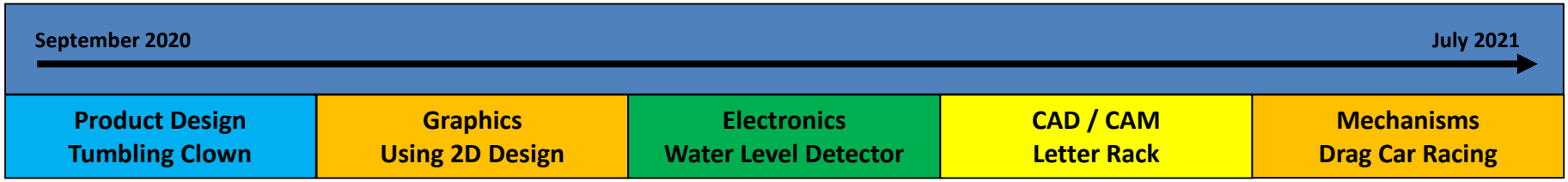
Grade 6: Design Technology 2020 - 2021

Course Over View

This is a general Design & Technology course where students study a series of discrete modules. Each one is designed to consolidate and increase core skills and knowledge. Every module is presented as a Design & Make Project where the pupils are given a design brief and produce a solution to that problem. Although each activity is quite focussed in terms of the processes undertaken there will be opportunity for each pupil to apply their own design changes and modifications.

Pupils will study the following five modules.

- **Product Design** **Tumbling Clown**
- **Graphics** **Isometric, 1 & 2 Point Perspective & Intro to 2D Design**
- **Electronics** **Water Level Detector**
- **CAD/CAM** **Animal Letter Rack**
- **Mechanisms** **Drag Car Racing**



What is a module?

It is a short Design & Make Project or group of lessons where you will learn the skills and knowledge required to improve in this subject. Each module is self-contained but it may well include techniques or software used previously. This work is essential preparation for the next level of your course that starts in Year 8.

How will each module be assessed?

Each module is assessed independently. The grades that you gather during each module will be used to determine your overall performance and mark for the year.

At the start of each module you will be given a schedule of work and that will tell you what you are going to do in each lesson and how your work will be assessed and graded. Usually, your design work will be assessed as you go along and the practical work will be assessed at the end of each module. The design and practical marks will then be combined together to determine your overall mark for the module.

Grade 6: Design Technology 2020 - 2021

Module Topics

Module Tasks	Description
1 **Product Design** **Tumbling Clown**	**Design & Make Task – Tumbling Clown** D&M Task intended to introduce pupils to the style of working, safe working practices and working to deadlines. **Design Brief** – Assemble the Tumbling Clown Toy and produce a Design Folder that explains all of the various stages of Assembly.
2 **Graphics** **Isometric, Oblique projection 1 & 2 point** **Perspective using 2D Design**	**Design Communication - Skill Building** Pupils will be taught a range of drawing techniques that they can use to support their design work.
3 **Electronics** **Water Level Detector**	**Design & Make Task – Water Level Detector** Theory and D&M Task intended to develop knowledge and understanding of electronics, soldering skills, fault finding, acrylic assembly and working to deadlines. **Design Brief** – Pupils are to design and make an electronic water-level detector
4 **CAD/CAM** **Animal Letter Rack**	**Design & Make Task – Animal Letter Rack** Theory and D&M Task intended to develop knowledge and skills in CAD (2D Design) / CAM (Laser Cutter). **Design Brief** – Pupils are to use CAD and CAM to design and make a decorative desk tidy for letters and other papers.
5 **Mechanisms** **(Group Work)** **Drag Car Racing**	**Design & Make Task – Build a model Drag Car to a race in a competition at the end of the module.** D&M Task intended to develop group work skills, materials knowledge, construction techniques and general electrical applications. **Design Brief** – Teams of Pupils are to design and make a small scale Drag Car that is powered by an elastic band. The teams will compete in a 3 round competition to determine the best performing machine. The vehicle must cover a straight track in the shortest possible time. The winner will be the team with the fastest aggregate time.