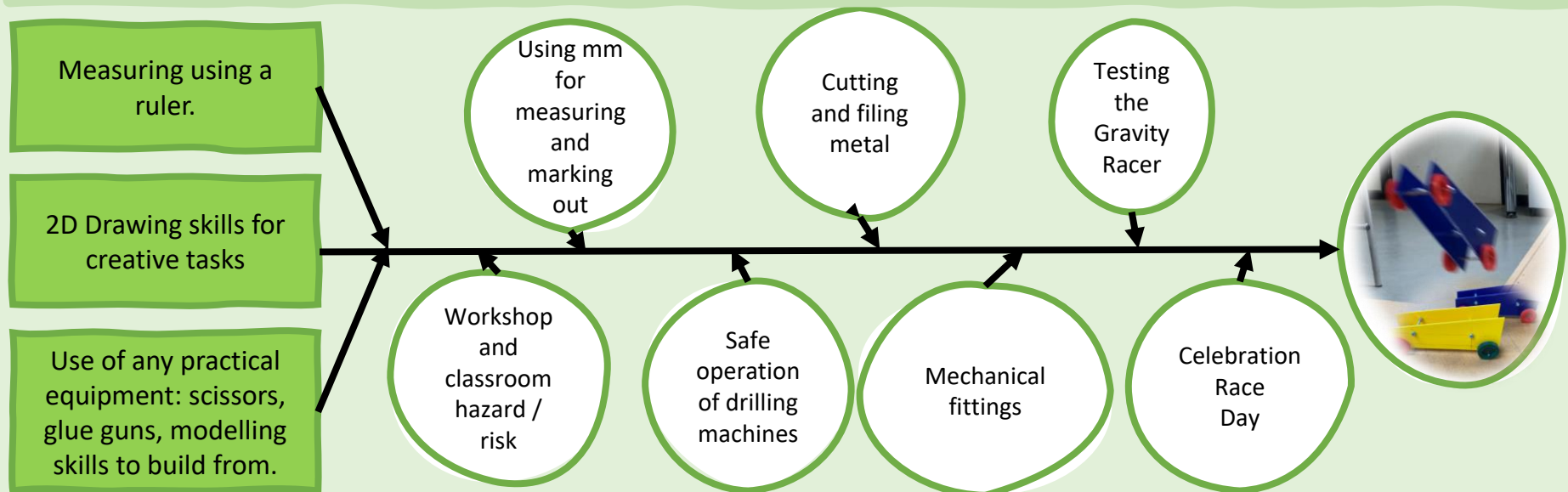# Project 1; The Gravity Car - Why do we study Design Materials?

By studying Design and Technology we allow opportunities to develop skills and knowledge across a wide range of disciplines using traditional, practical and computer aided tools. Design and Technology covers Product Design, Resistant Materials, Electronics, Fashion and Textiles and Engineering, all problem-solving subjects building confidence and resilience in creative skills, testing, failing, improving and creating successful outcomes individually, or as part of a team.

The Gravity Racer project teaches you how to use some tools and machines in a safe environment within the workshop to create a graphic gravity car to race against your class!

Measuring using a ruler.

2D Drawing skills for creative tasks

Use of any practical equipment: scissors, glue guns, modelling skills to build from.

Using mm for measuring and marking out

Cutting and filing metal

Testing the Gravity Racer

Workshop and classroom hazard / risk

Safe operation of drilling machines

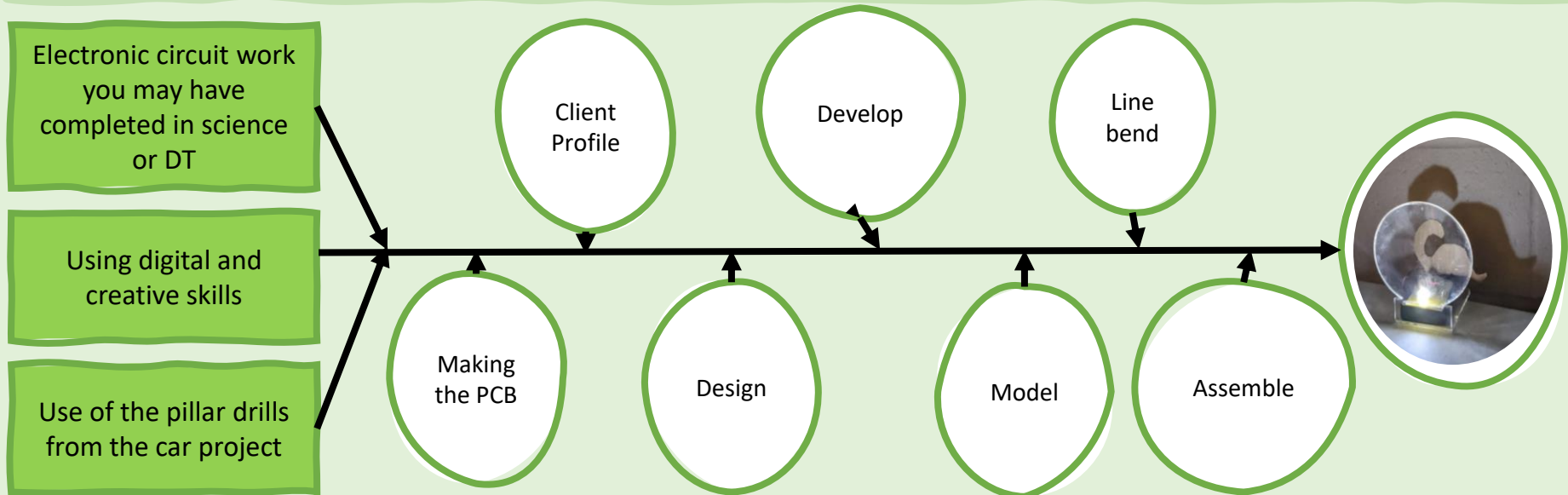Mechanical fittings

Celebration Race Day

Project 2; FloGlow Lamp - Why do we study electronics within Design Materials?

By studying Design and Technology we allow opportunities to develop skills and knowledge across a wide range of disciplines using traditional, practical and computer aided tools. Design and Technology covers Product Design, Resistant Materials, Electronics, Fashion and Textiles and Engineering, all problem-solving subjects building confidence and resilience in creative skills, testing, failing, improving and creating successful outcomes individually, or as part of a team.

We study electronics to gain a thorough understanding of the world around us. Through building circuits, coding microcontrollers, designing and making casings for our circuit boards, we develop key skills to be able to create solutions to everyday problems in innovative ways.

The Flo-Glow lamp project builds on what you may have learnt from the science and DT in primary school, developing our skills and understanding on how electronic products work.

Electronic circuit work you may have completed in science or DT

Using digital and creative skills

Use of the pillar drills from the car project

Client Profile

Develop

Line bend

Making the PCB

Design

Model

Assemble

Project 3; Game in a Box - Why do we study Design Materials?

By studying Design and Technology we allow opportunities to develop skills and knowledge across a wide range of disciplines using traditional, practical and computer aided tools. Design and Technology covers Product Design, Resistant Materials, Electronics, Fashion and Textiles and Engineering, all problem-solving subjects building confidence and resilience in creative skills, testing, failing, improving and creating successful outcomes individually, or as part of a team.

The Game In A Box teaches you how to use hand and machine tools for wood working and Computer Aided Design in 2D and 3D.

Measuring, marking out and cutting on Plywood.

Using your graphic skills in racing car to build your design skills

Building on your practical skills with the drills, soldering irons and assembly skills.

Cutting and joining birch plywood

Using the scroll saw

Injection Moulding

Measuring and marking square lines on a datum edge

Designing graphics to promote sustainability.

Applying finish to wood surfaces

3D Printing