Spring Partnership Trust – Knowledge Organiser

DT Focus	Functioning Products	Year 5

Marble Runs

Design Brief
Create a free standing marble run including 2 vertical towers, 1 bridge that joins the 2 towers, joins that are strong, tidy and allow the marble to run smoothly

What? Key Skills

Design	Make	Evaluate
• To design, make and evaluate products that have a clear purpose or intended user. • To make products, adapting and refining your design as your work progresses. • To understand what materials and structures are strongest when free standing • To explain which aspects of building structures work well and what doesn't work well and why. • To develop an understanding of how marble runs work • To explore and understand different structures and when it is best to use them (bridges, bends and speed)	• Talk about Health and Safety requirements around using the tools required in this project. • To work together to produce a marble run that meets the design brief. Children to be given a choice of materials and the freedom to use any of the techniques that they have learnt • To test their own and each other's marble runs to see if they meet the deign brief.	• To explore and evaluate a range of existing products, identifying likes and dislikes and suggesting improvements.

Key Vocabulary

Design	a plan to show the look and function or workings of a product before it is made
Make	create something by putting parts together
Evaluate	to judge the quality of a product and how well it meets the design brief
Strengthen	to make something stronger for its purpose
Bridge	Support and connect 2 sides
Free standing	not attached to or supported by another structure.
Prototype	an original or first model of something from which other forms are copied or developed
Joining	connect things together

Key Knowledge

Joining

A small, thin half tub catches the marble and directs it down the bridge.

The ends of the cardboard tube are shaped and small cuts are made to help the tube to fan out and accurately fit the other tube.

Joining

Bridges

The bridge could be slanted at more of an angle.

Stands up well on its own with no extra support needed.

Useful gap for marble to come out after its finished the marble run.