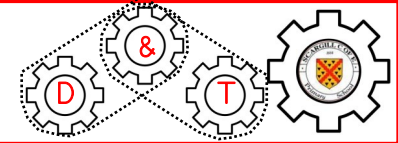




Knowledge Organiser:

Fantastic Fire Trucks

Y 1/2

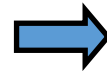


Domain of Knowledge: **Product Design**

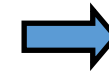
Focus Skill: **Wheels and Axles**

Design Process:

Explore and Plan



Design



Create



Evaluate

Key Vocabulary

Spindle—A rod that can turn.

Axle—A spindle passing through a wheel.

Frame—A base to mount objects to.

Rotate—Something that can turn or is turning.

Key Skills

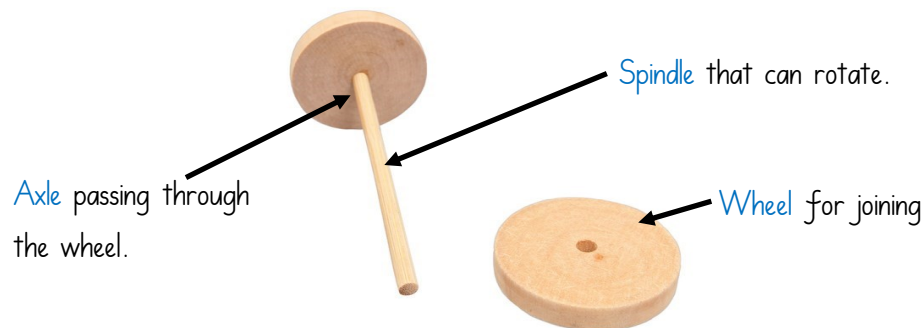
Measuring—Identifying the correct length of **spindle**.

Cutting—Using a **saw** to cut the length of **spindle**.

Joining—Fitting the **wheels** to the **axle** correctly.

Testing— Does the **truck** move on a **ramp**?

Diagram



Real Life Image



UK Specification Fire Truck
Produced 2019

Linked Engineer



Richard Newsham (1740)
Inventor of the fire truck (1721)



Knowledge Organiser:

Playground Equipment

Y 1/2

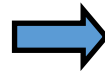


Domain of Knowledge: **Stable Structure**

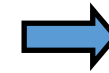
Focus Skill: **Structures that hold their shape**

Design Process:

Explore and Plan



Design



Create



Evaluate

Key Vocabulary

Stationary—Something that doesn't move

Stable—A structure that is less likely to fall over

Secure— Fixed so it will not become loose.

Component—A part of the whole design.

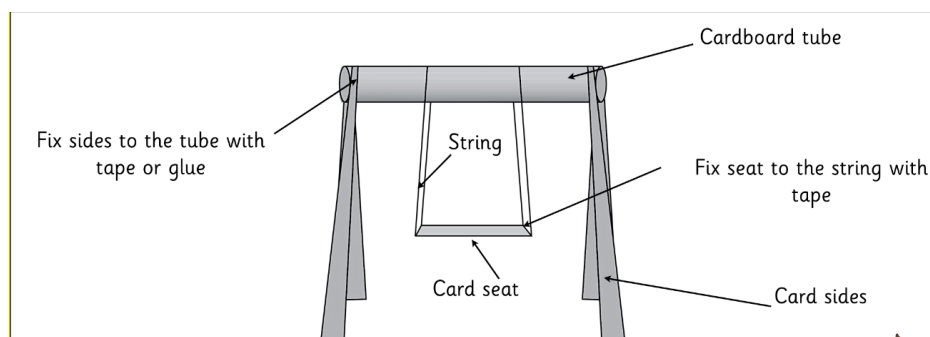
Key Skills

Design— What is the function of your equipment?

Joining— Joining components of your equipment so that they can move or are stable.

Testing— Do the parts of the equipment move as they should? Is the rest of the structure stable?

Diagram

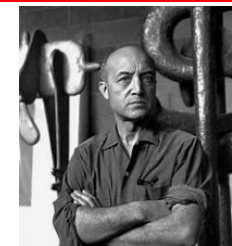


Real Life Image



Playpark—Carsington Water

Linked Engineer



Isamu Noguchi



Knowledge Organiser:

Seaside Snacks

Y 1/2

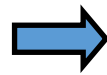


Domain of Knowledge: **Food Design**

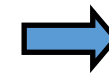
Focus Skill: **Cutting and Chopping**

Design Process:

Explore and Plan



Design



Create



Evaluate

Key Vocabulary

Snack—A small food product (not a main meal).

Seaside—A location on the coast (linked to product).

Healthy—A product that has good food values.

Portion—A suitable serving size.

Key Skills

Chopping—Using a knife to cut straight down.

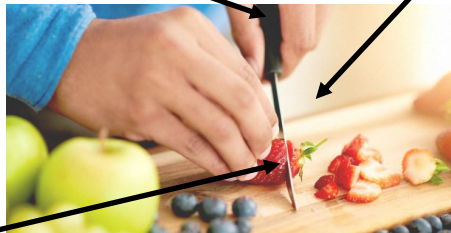
Cutting—Using a knife to cut in a forward motion.

Estimating—A sensible guess for an appropriate size.

Sampling—Testing the flavour of the ingredients.

Diagram

Handle—safe to hold whilst cutting.



Sharp Blade—facing the correct way.

Chopping—ensuring no fingers are under the blade.

Real Life Image



Seaside Picnic

Showing a suggestion for snacks

Eatwell Plate



Main Food Groups

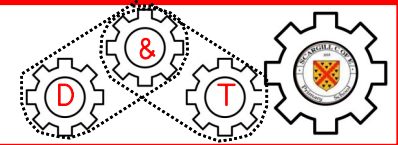
Showing suggested proportions



Knowledge Organiser:

Stable Structures

Y 1/2

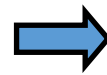


Domain of Knowledge: **Product Design**

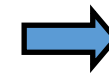
Focus Skill: **Joins and structures for strength.**

Design Process:

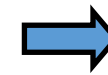
Explore and Plan



Design



Create



Evaluate

Key Vocabulary

Stable—Maintains its shape or position.

Structure—A building or object.

Join—Where 2 or more objects meet and remain.

Material—What an object/component is made from.

Key Skills

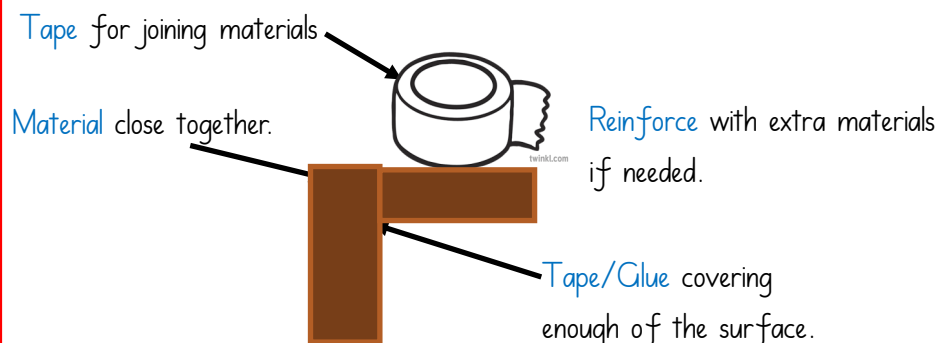
Measuring—Cuts are accurate in **length** in **cardboard**.

Reinforcing—Making an area **stronger** with **materials**.

Joining—Fitting two or more **materials** together.

Testing—Is the **structure stable** when tested?

Diagram

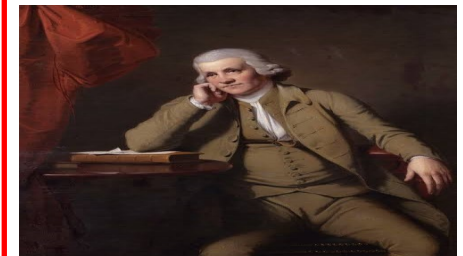


Real Life Image



Multifunctional toy garage
Produced for children aged 3-11.

Linked Engineer (local)



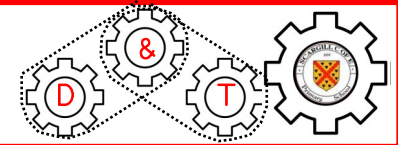
Jedediah Strutt (1787—Belper)
First use of steel building structure.



Knowledge Organiser:

Mechanical Cards

Y 1/2

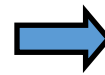


Domain of Knowledge: **Product Design**

Focus Skill: **Sliders and Levers**

Design Process:

Explore and Design



Plan



Create



Evaluate

Key Vocabulary

Slider — A rigid bar that moves backwards and forwards along a straight line.

Lever — A rigid bar that moves around a pivot.

Pivot — A point on which something turns.

Key Skills

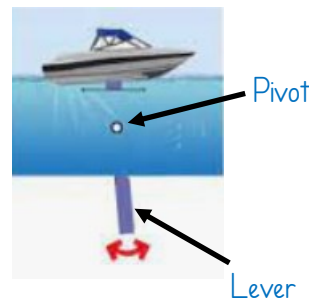
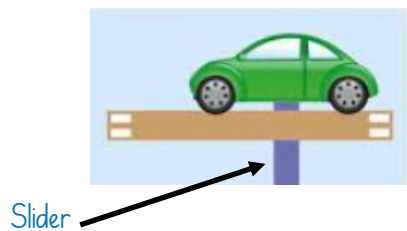
Measuring — Identifying the correct **length**.

Cutting — Using the correct **equipment** to **cut** card.

Joining — **Attaching** levers correctly to **pivot**.

Testing — Does the card have a **moving** part?

Diagram



Real Life Image



'Slide and see' books
Produced for children aged 1 to 4.

Linked Company



Penguin Publishing
Creators of moving picture books.

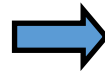


Domain of Knowledge: **Product Design**

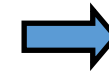
Focus Skill: **Sliders and leavers**

Design Process:

Explore and Plan



Design



Create



Evaluate

Key Vocabulary

Slider —A rigid bar that moves backwards and forwards along a straight line.

Lever— A rigid bar that moves around a pivot.

Pivot— A pin on which something turns.

Key Skills

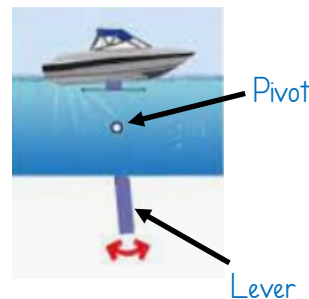
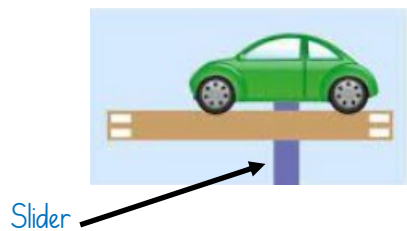
Measuring—Deciding the correct length of levers/sliders.

Cutting—Using the correct equipment to cut card.

Joining—Attaching levers correctly to pivot.

Testing— Does the card have a moving part?

Diagram



Real Life Image

Linked Engineer