

There are some techniques you can use to make your structures more sturdy:

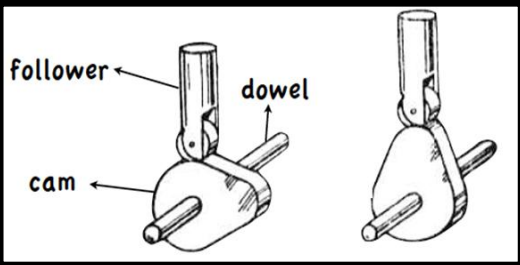
You can use a cardboard triangle to reinforce corners.



If you are making a wooden frame you can use a piece of wood to create a triangular reinforcement.



Cam Mechanism





This is Alexander Graham Bell, the inventor of the telephone.

He was born in 1847 in Edinburgh and was fascinated by sound from a young age. His mother had very little hearing and his father worked with deaf children, teaching them to speak by feeling the vibrations their vocal chords made, something Bell carried on himself.

Materials:

Cam:



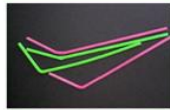
Dowel:



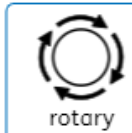
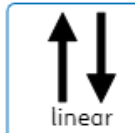
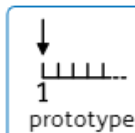
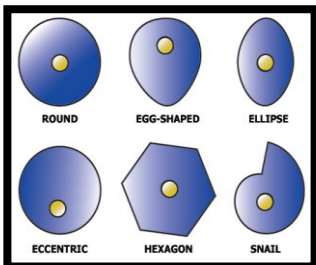
Wood and dowelling:



Straws:



Types of CAMS



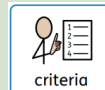
Tier 2 Vocabulary



To judge how a product meets chosen criteria



A plan or drawing of your ideas



A list that shows you what the thing you make should be like

Topic (Tier 3) Vocabulary

Cam mechanism

a mechanism made up of a cam, follower and a dowel

Rotary movement

moving round and round

Linear movement

moving up and down

Cam

the rotating part of a mechanism

Dowel

a peg used to hold components together

Follower

roller needle used to turn the cam

Prototype

a quick 3-D model used to check a design

Product

something that is made

National Treasures

British toy shops



Prior learning

How to strengthen materials Working to design criteria (KS1 and Y3)

Rights of the Child/Global Goals

Article 13

Every child must be free to express their thoughts and opinions and to access all kinds of information, as long as it is within the law.

Global Goal 9

Industry, innovation and infrastructure

DT Big Ideas

We Are Engineers

Design: we use criteria to design products that do a job for a person or group.

Make: we make products that do a job or solve a problem.

Evaluate: we reflect on our work all the time, we study other people's products and we look for ways to improve.

Technical Knowledge: we use our understanding to make products that work.

Beating, Whisking and Whipping



Use a fork to mix eggs



Whisking puts tiny bubbles in some liquids which makes them thicker. You need a bowl and a balloon whisk.

Folding



Folding is gently mixing to stop the bubbles from bursting. You need a large spoon or spatula. Very slowly combine the ingredients.

Slicing and Dicing



When slicing keep your fingers out of the way and aim to have the pieces the same size.



Dicing is when you chop the ingredients in to cubes.

carrot broccoli courgette tomato new potato pumpkin

	carrot	broccoli	courgette	tomato	new potato	pumpkin
January						
February						
March						
April					✓	
May					✓	
June	✓		✓	✓	✓	
July	✓		✓	✓	✓	
August	✓	✓	✓	✓		
September	✓	✓	✓	✓		
October		✓		✓		✓
November						✓
December						✓

Tier 2 Vocabulary



evaluate

To judge how a product meets chosen criteria



design

A plan or drawing of your ideas



criteria

A list that shows you what the thing you make should be like

Topic (Tier 3) Vocabulary



seasonal food

food that grows locally during the season we are in



product

a quick 3-D model used to check a design



prototype

something that is made

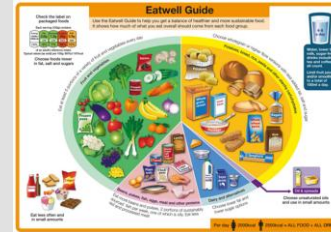
National Treasures

British Produce



Prior learning

Healthy eating plate



Rights of the Child/Global Goals

Article 24

Every child has the right to the best possible health. Governments must provide good quality health care, clean water, nutritious food, and a clean environment and education on health and well-being so that children can stay healthy.

Global Goal 3

Good health and wellbeing

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Cooking and Nutrition: we use what we know about food to safely prepare healthy meals.

Making secure connections

Connecting block



Bulb holder -
Bend wire around screw
in direction of turning
when tightening



Twist strands of
wire together



Wrap ends
around



Tape over with
insulating tape



Handmade switches

Paperclip



Paper fasteners



Wire

Loop wire
around paper
fasteners



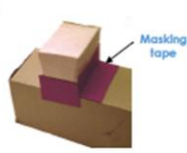
Card



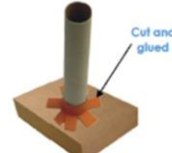
Foil on inside
surfaces



You can join boxes using tape, glue and tabs.

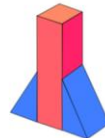


Masking
tape

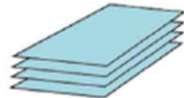


Cut and
glued

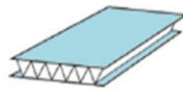
Wide bases make structures stronger.



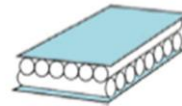
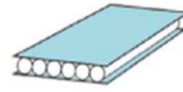
Stiffening and strengthening sheet materials:



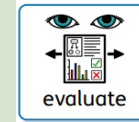
Laminating: glue together
layers of card



Corrugating: zigzag card in
between two layers of card
Ribbing: glue layers of straws
between card



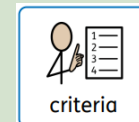
Tier 2 Vocabulary



To judge how a product
meets chosen criteria

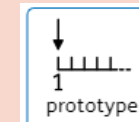


A plan or drawing of
your ideas



A list that shows you
what the thing you make
should be like

Topic (Tier 3) Vocabulary



A quick 3-D model used
to check a design



Something that is made



Computer Aided Design

National Treasures

British board games



Prior learning

Electrical circuits from science lessons on electricity

Working to design criteria (Y3)

Rights of the Child/Global Goals

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