

Challenge 1



LEGO

Materials

- 16 envelopes with LEGO
- LEGO challenge cards

Challenge

- Pupils to **work together** to complete the challenge card in the individual pack.
- Pupils can present to the class what they build, how and why.
- Extra cards included if needed.

Benchmarks

TCH 1-09a

Creates and justifies a solution to a given design challenge considering who is it for, where and how it will be used.
Uses appropriate tools and joining methods to construct a model.

LIT 1-02a

Listens and responds appropriately to others in a respectful way, for example, by nodding or agreeing, asking and answering questions.

Challenge 2



Paper Chain

Materials

- Paper
- Sticky Tape
- Scissors

Challenge

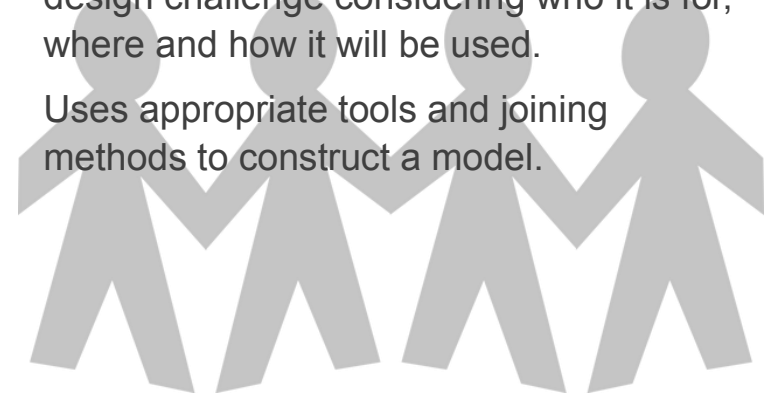
- Pupils to **work individually** to create the longest chain that they can using only one piece of paper.

Benchmarks

TCH 1-09a

Creates and justifies a solution to a given design challenge considering who it is for, where and how it will be used.

Uses appropriate tools and joining methods to construct a model.



Challenge 3



Paper Aeroplanes

Materials

- Paper
- Help cards
- Coloured pens/pencils

Challenge

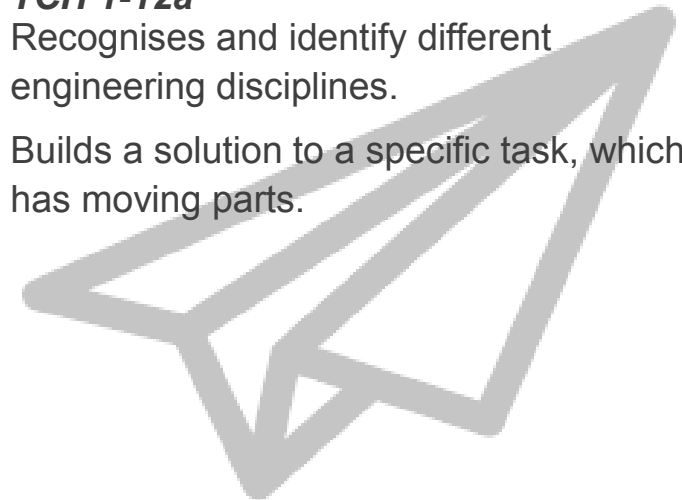
- Pupils to **work individually** to build and decorate a paper aeroplane.
- Pupils then test their aeroplanes to see which travels the furthest.

Benchmarks

TCH 1-12a

Recognises and identify different engineering disciplines.

Builds a solution to a specific task, which has moving parts.



Challenge 4



Tangrams

Materials

- Tangram sets
- Help cards

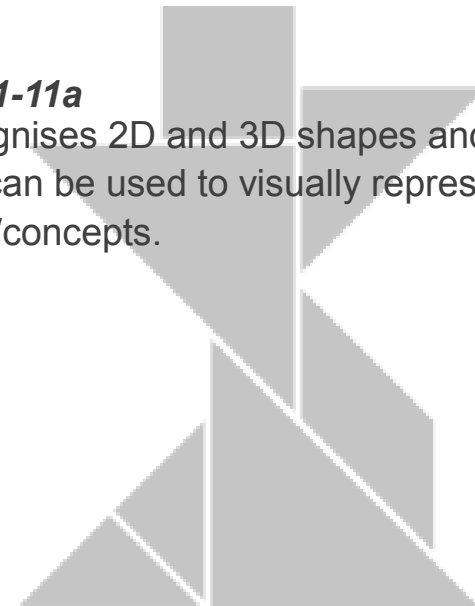
Challenge

- Pupils to **work individually** to complete challenges using the help card.
- Extra challenge can be offered by asking pupils to use all of the shapes to make a square.

Benchmarks

TCH 1-11a

Recognises 2D and 3D shapes and how they can be used to visually represent ideas/concepts.



Challenge 5



Straw Towers

Materials

- 10 art straws (per group)
- Sticky tape
- Whiteboards

Challenge

- Pupils to **work in groups** to discuss and plan on whiteboards.
- Pupils work together to build the tallest tower that they can.

Benchmarks

TCH 1-04d

Investigates a simple problem/challenge which includes given criteria.
Explores and identifies a range of ideas to solve challenge/problem.
Selects and uses resources to make the solution/ solve the problem.
Assesses the solution against the original criteria.

LIT 1-10a

Communicates clearly and audibly.
Contributes to group/class discussions, engaging with others for a range of purposes.
Takes turns and contributes at the appropriate time when engaging with others in a variety of contexts.
Listens and responds appropriately to others in a respectful way.

Challenge 6



Penny Surface Tension

Materials

- Plastic coins
- Droppers
- Cups
- Food colouring

Challenge

- Pupils **working in groups** to predict the number of drops each coin will hold.
- Pupils take turns using the dropper to count the number of drops on the coin.
- Pupils observe the drop that breaks the surface tension and causes the water to leak from the top of the coin.

Benchmarks

SCN

- Inquiry and investigative skills
- Collaborates to undertake investigations.

LIT 1-10a

- Communicates clearly and audibly. Contributes to group/class discussions, engaging with others for a range of purposes. Takes turns and contributes at the appropriate time when engaging with others in a variety of contexts. Listens and responds appropriately to others in a respectful way.

Challenge 7



Newspaper Hats

Materials

- Newspaper
- Sticky tape
- Coloured pens/pencils

Challenge

- Pupils **work individually** to create a hat.
- Pupils use only one piece of newspaper.
- The hats can be decorated using materials provided.
- The hats can be showcased in a newspaper hat catwalk.

Benchmarks

TCH 1-04d

Investigates a simple problem/challenge which includes given criteria.

Explores and identifies a range of ideas to solve challenge/problem.

Selects and uses resources to make the solution/ solve the problem.

Assesses the solution against the original criteria.

LIT 1-10a

Communicates clearly and audibly.

Contributes to group/class discussions, engaging with others for a range of purposes.

Takes turns and contributes at the appropriate time when engaging with others in a variety of contexts.

Listens and responds appropriately to others in a respectful way.