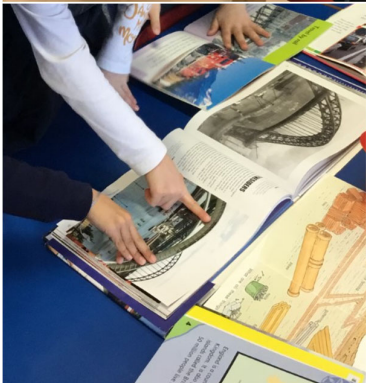


STEM Week at Paganel – March 2023


Year 1

Year 1 have been researching Golden Gate Bridge and working together to collect research about this bridge. They found out where the bridge is located and that it is 90 years old. This inspired Year 1 to carry out some of their bridge building during continuous provision. They also looked through a variety of books to find out about different famous bridges too. They then used play dough as their chosen material to create prototypes and build a bridge that they will later test.



Year 2

Product Analysis : Chosen Bridge to research.



Where is this bridge?
London

How old is the bridge?
137 Years old

What materials were used to make this bridge?
Stone Stone Steel Concrete

What is the bridge used for?
to help move the traffic

Who might use this bridge?
Cars and people



Product Analysis

John A. Roebling

bridge structure between

that spans the

Superiority was

in being

it was built in 1867-1883

The Brooklyn Bridge

was a great

idea

the bridge

center with

a massive

construction

the bridge

is 1,595

long

a bridge

connecting

Manhattan

to

Long Island

The bridge

was built

with

steel

and

stone

the bridge

was


the

longest

bridge

in the

world



Stick in your picture of your bridge and annotate around it.

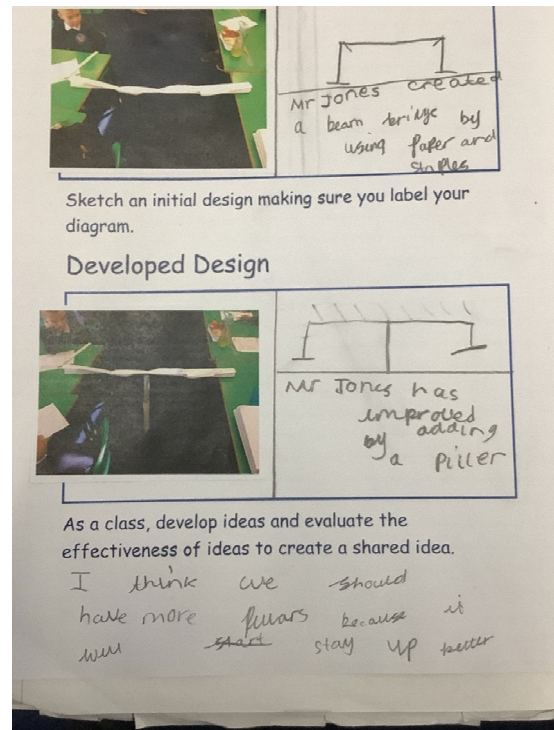
Think about the following:

- Materials—Concrete
- Size/measurements—3,989 ft
- Structure
- Durability
- Purpose—connected the boroughs of Manhattan and Brooklyn

How do the materials impact the durability?

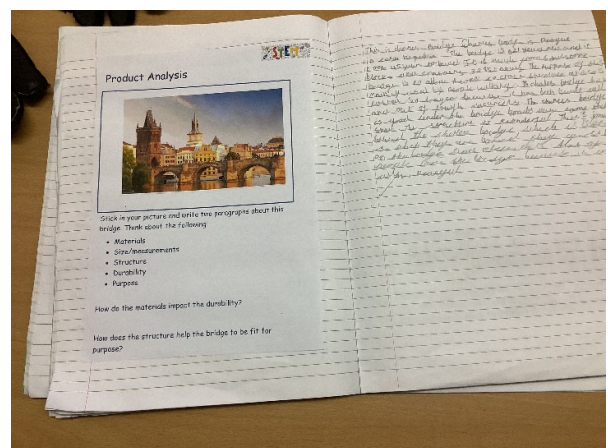
Make the bridge stronger

How does the structure help the bridge to be fit for purpose?



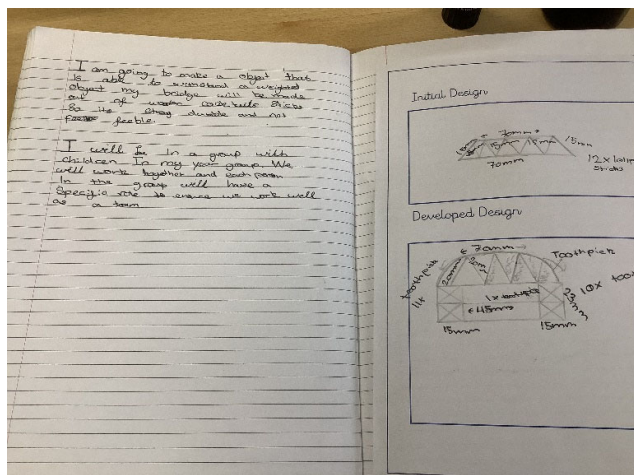
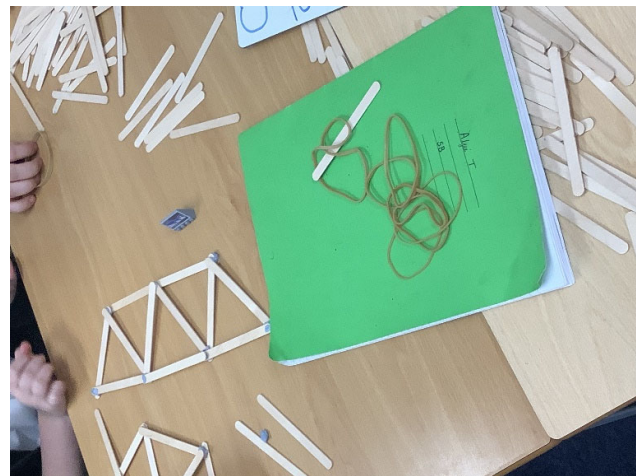
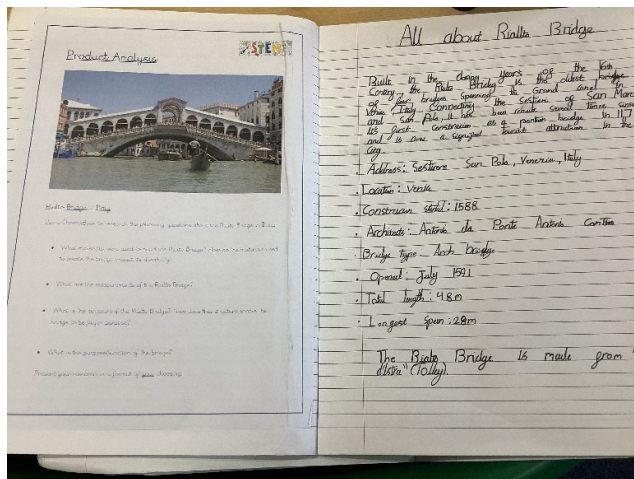
Year 4

Year 4 were able to say that STEM stood for Science, Technology, Engineering and Maths. They then talked about how all of these would be important aspects of the coming week. Children carried out some research on chromebooks to find out more about Charles Bridge in Prague. They discovered that the bridge was hundreds of years old – 821 years in fact – and that it was made from stone. “I think this bridge has lasted so long because it has been built well and made of tough materials.” – Raha. Children then sketched an initial design, pinpointing what they wanted their design to look like and how it would be made. They created prototypes and talked about how reinforcing their structures by layering paper would make their bridge sturdier and durable.



Year 5

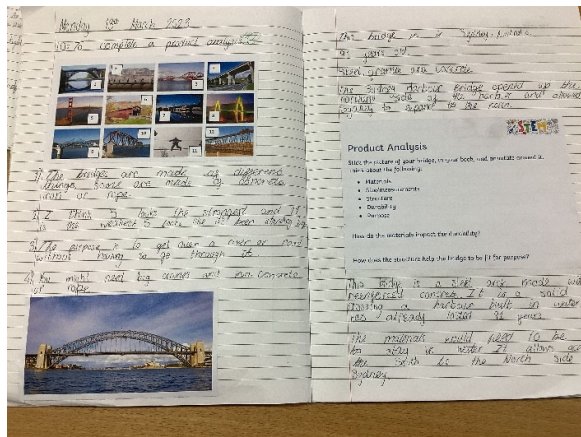
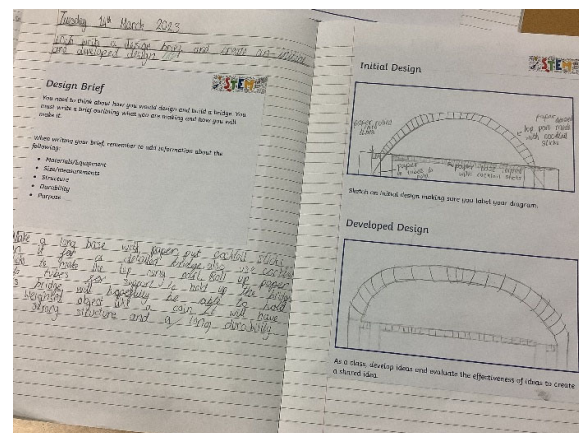
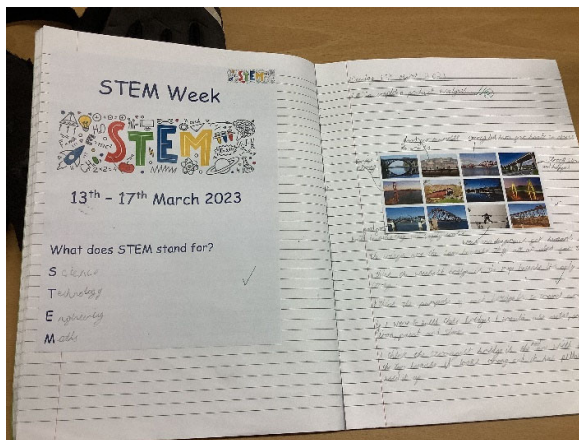
Year 5 started the week by carrying out a product analysis. They compared images of lots of different bridges and discussed the features of each bridge and how they differed from each other. "We researched bridges first because we find out more about bridges and the best way to make one because that's what we are going to do." – Dua. The children discussed how analysis is important because it will help them to know more about the structure of a bridge and what makes it strong. They know this is important because they will need that knowledge when making their own bridges. Year 5 created prototypes using lots of different materials including lolly sticks, multilink blocks and lego. This meant that they were able to discuss in depth the importance of the structure and materials and how this has a big impact of the strength and durability of the bridge.



Year 6

Year 6 completed a product analysis on lots of different bridges and were able to discuss which bridge was the strongest and which was the weakest and give explanations for their opinions. They talked about the purpose of a bridge being to get from one place to another

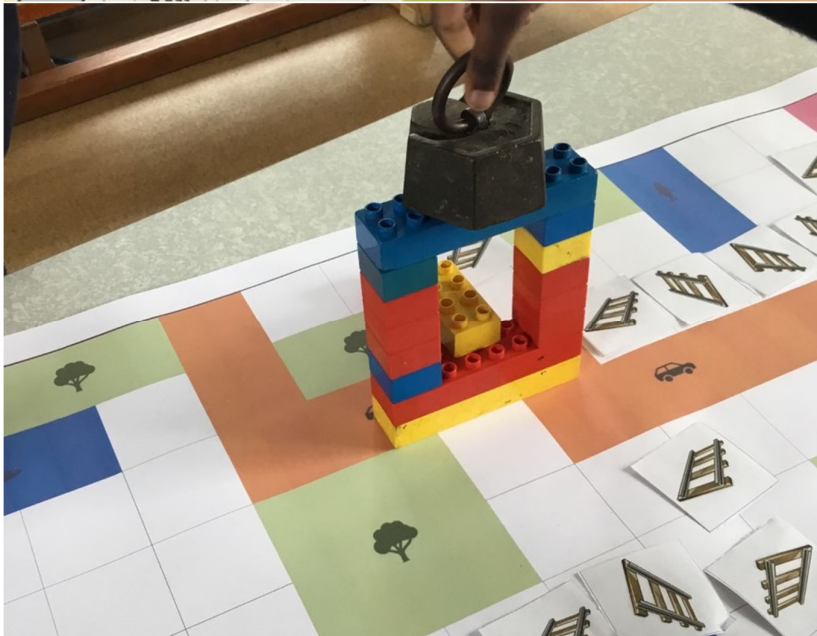
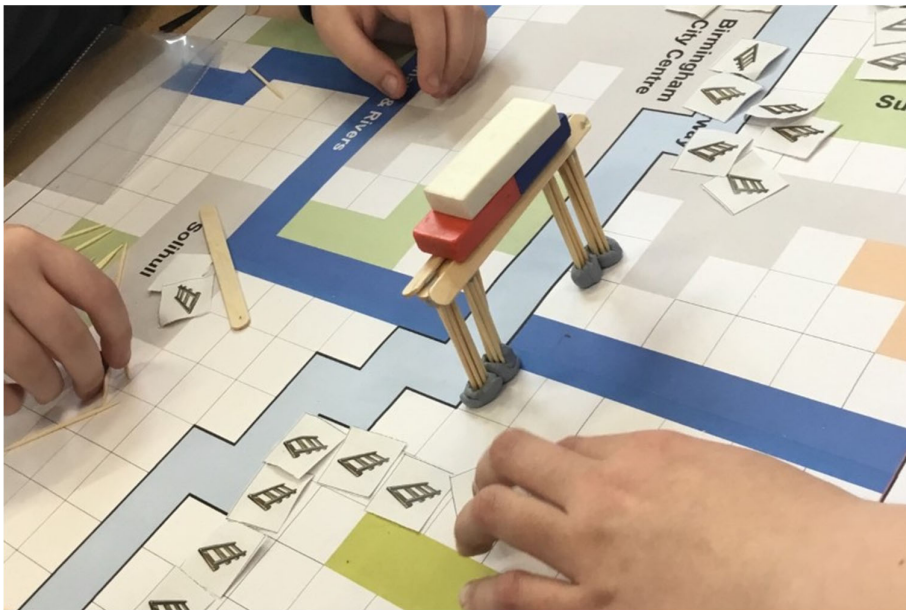
and how some bridges are used for different purposes. “Cars, trains, bikes, humans walking and animals might use a bridge to get over water. Boats would use a bridge too because they will go underneath it. Some bridges open and shut to let taller boats go underneath.” – Jake. They researched this and found that these bridges were called drawbridges. The children created an initial and developed design ensuring they labelled the parts of their bridge and shared their ideas with the rest of the class. Prototypes were made using paper and glue sticks and children found that twisting and rolling the paper made their structure stronger. Children also said that a shorter bridge would be stronger and a longer bridge could be reinforced by adding a ‘middle leg’. They then balanced scissors and other classroom objects on their bridges to test their strength.



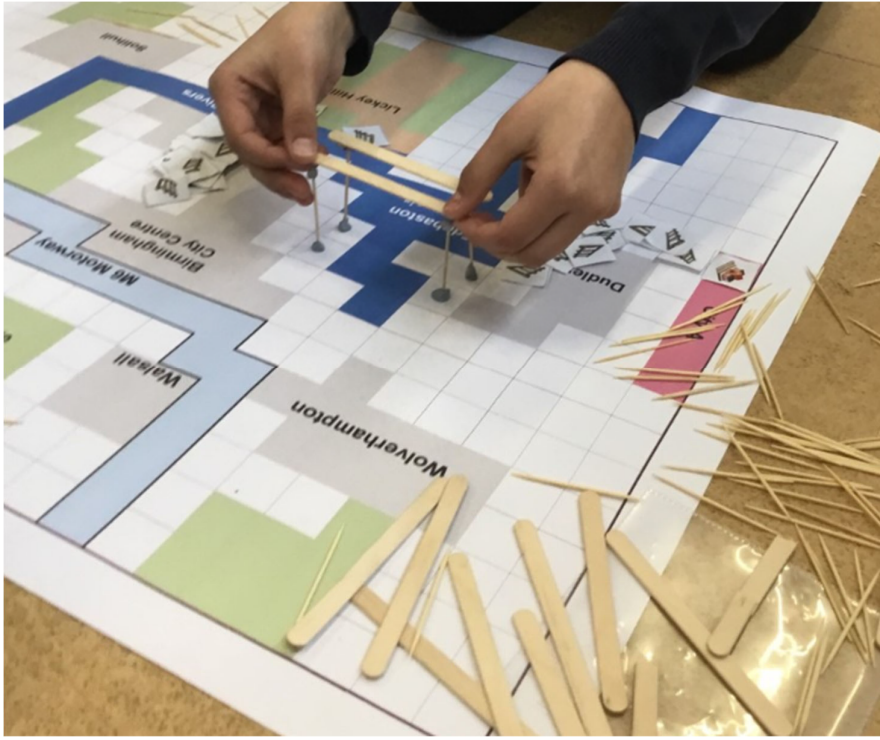
Our visitors

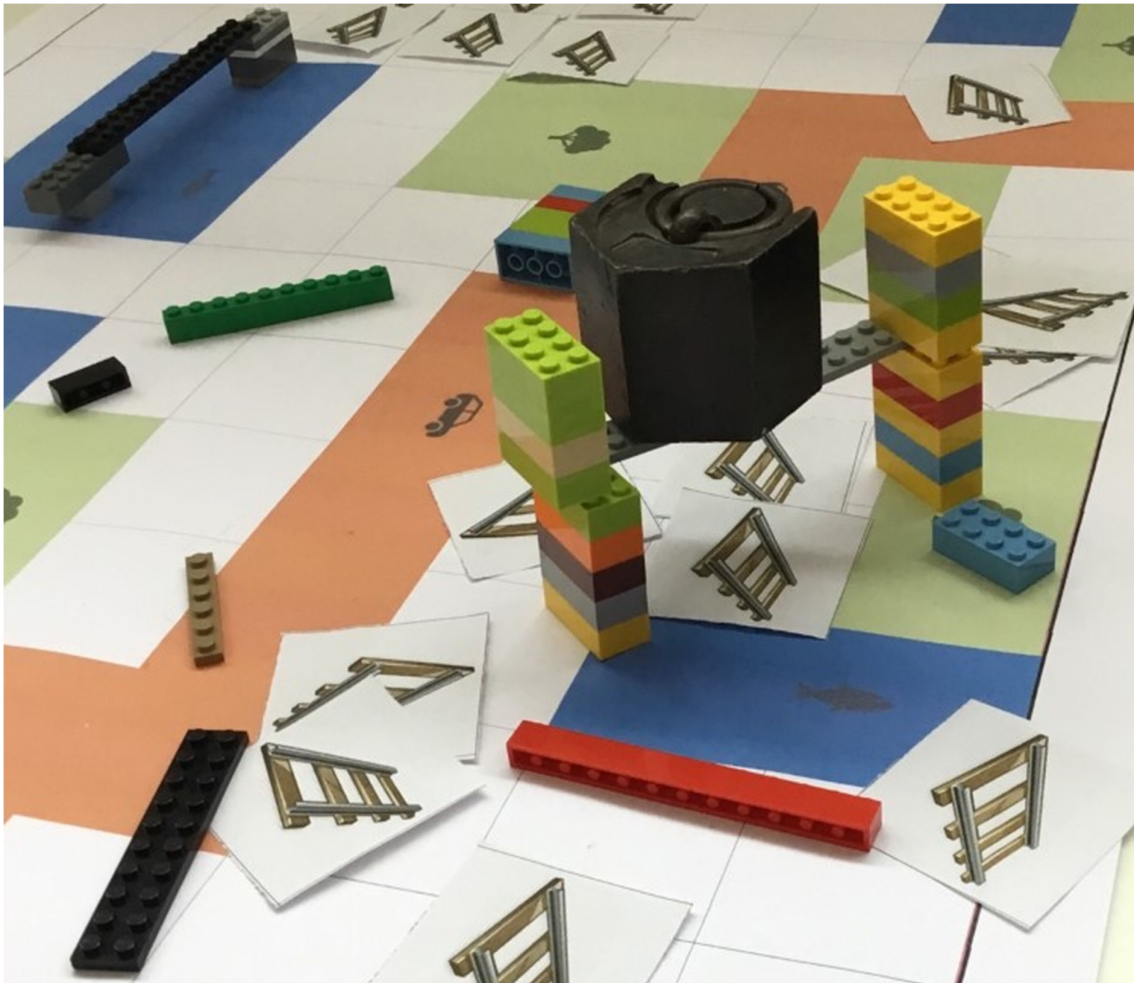
Paganel Primary School were lucky enough to have some volunteers join us during STEM week and help us build our bridges. They were from an engineering company called Mott Macdonald. They carried out a whole school assembly which informed pupils about their job role, career pathway and some projects they have worked on. They then supported the children in the “making” process of STEM week which enabled the children to ask our visitors various questions that they had come up with in class. The children built their bridges and tested their strength. Some classes even had a map of Birmingham to think about where they would build their bridge and why.

Check out the school Twitter page for more photos!









M M
MOTT
MACDONALD

Mott MacDonald

Paganel Primary School – STEM Day

Emily Czechowski
Amrinder Sethi



Pupil Voice

I really enjoyed building my bridge out of lots of different paper and putting a heavy weight on top.
Sienna 3A

I enjoyed learning all about Sydney Harbour Bridge. I learnt that most of the parts were made in Middlesbrough. Jimmie 6A

I enjoyed the whole process of building bridges. It was a good week. Ishaq 5B

I have enjoyed using the Lego to build my bridge and think about where it would go on the map. Sophie 2B
I enjoyed researching Tower Bridge and finding out facts. Melicah 2B

I enjoyed learning what STEM stands for.
Bariya 1B
I have learnt lots about Golden Gate Bridge. Harab 1B

I really enjoyed making our bridges in the hall, it was fun to see who built the strongest. Reiss 4A
I liked making my prototype out of paper and tested it. Eliza 4A