

DT
MARBLE
RUN

Spring 2 2024

Class Lynher

First we thought about what we already knew about structures and then defined a free standing structure. We looked at some in class and thought about why they needed to be stable. Then we used construction materials to make our own free standing structures and see what they had in common.



We investigated and explored existing products in relation to marble runs. We then looked at how these free-standing structures worked. We had to work out how they made the marble travel and if we could decrease its speed.

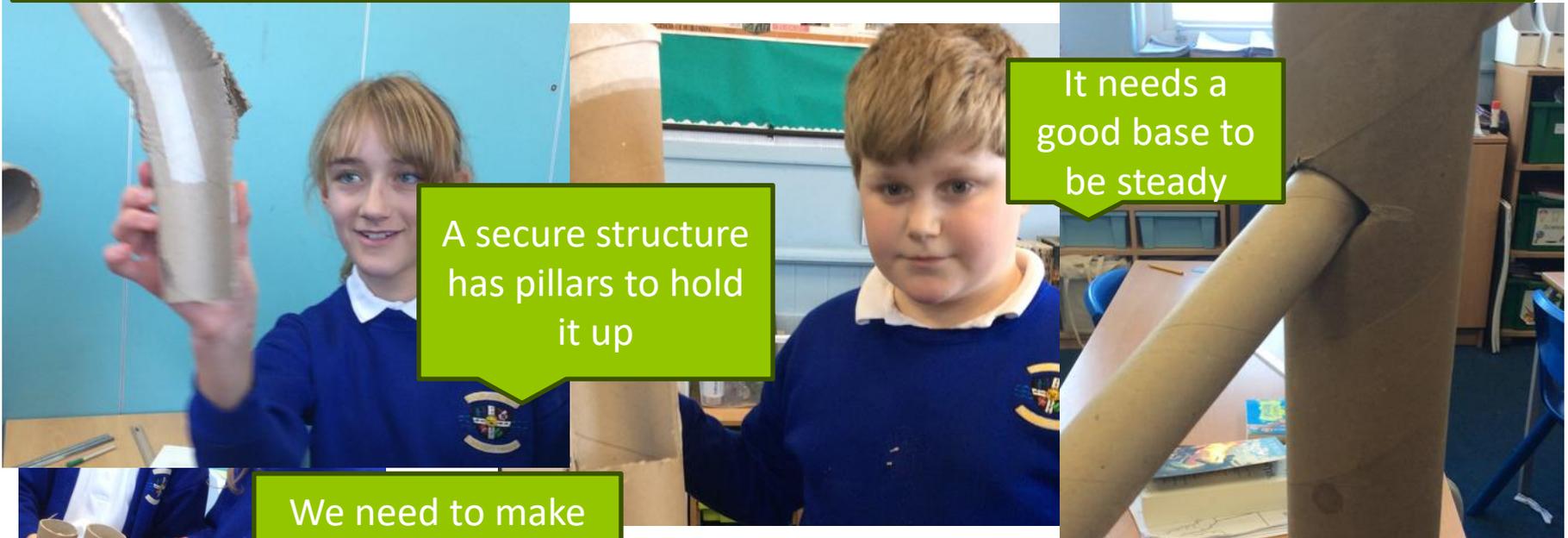
We had to work out how the components joined together



When building the marble run we notice if there is a steeper incline the marble travels faster



We looked at how to join the cardboard tubes together using a Stanley knife. We made a fan to help join them together and made a hole in the larger tube and smaller tubes inside. We created bends using cuts to make a fan and joined them together using masking tape



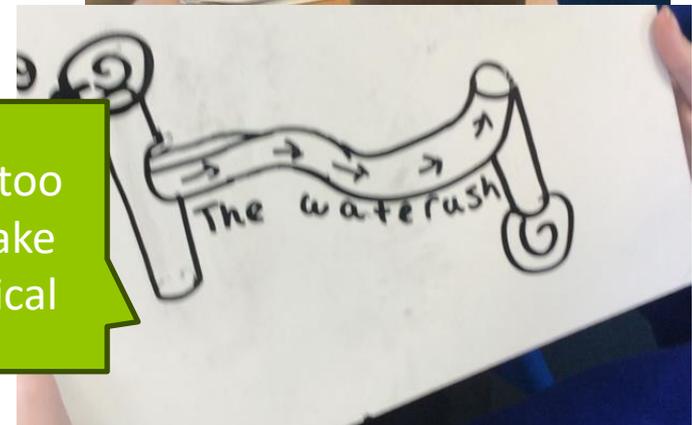
A secure structure has pillars to hold it up

It needs a good base to be steady



We need to make sure it has some momentum, so does need a gentle slope

We cannot make it too steep – so don't make the bridge too vertical



We used our skills and knowledge we had so far and completed our marble runs in our teams.

We all had to have a role in our teams



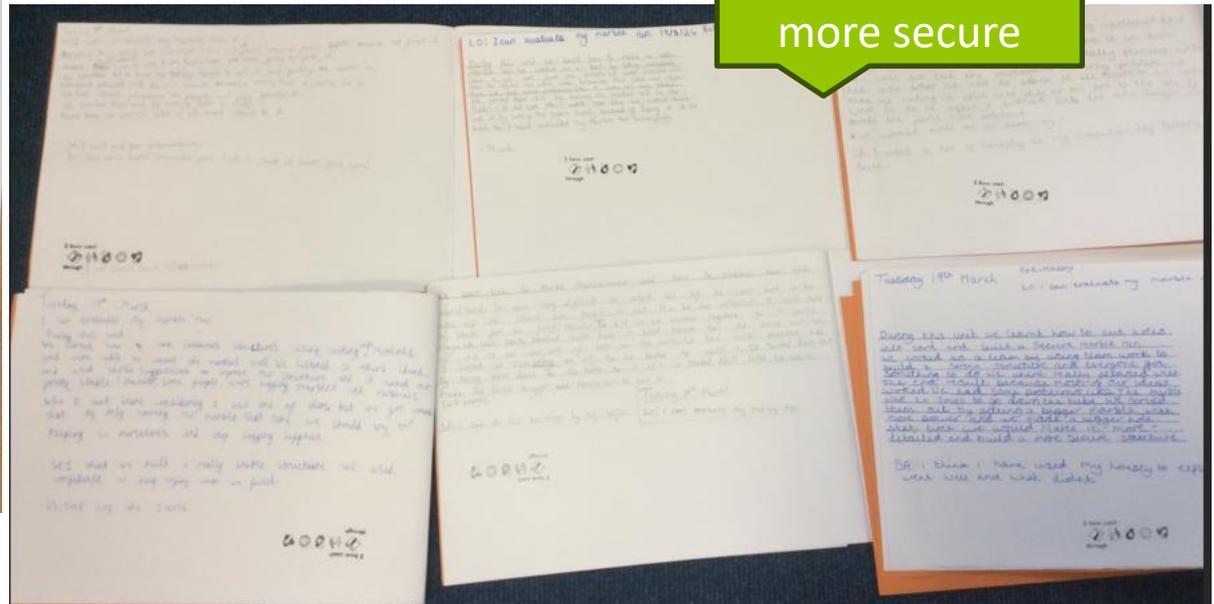
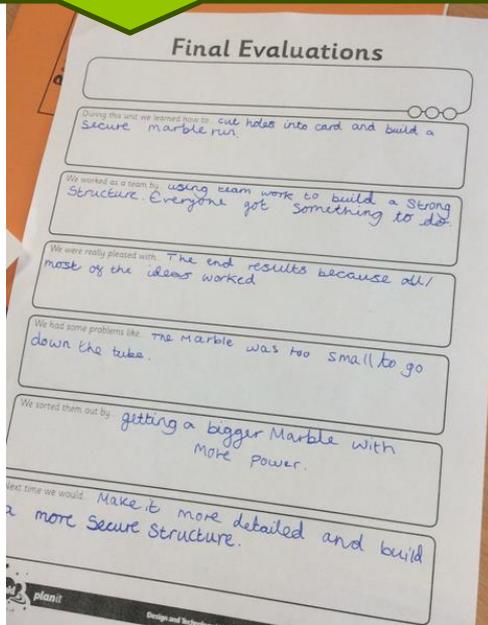
It proved tricky to ensure the marble travelled slowly and with control

We evaluated our marble runs and thought about what we had learnt. We also reflected on what did and did not work.

It was difficult to cut some of the cardboard with the Stanley knives, we had to break through the layers

We had to make our marble run more stable

I preferred the fan join as it seemed to be more secure



What I have learnt before:

We have made wooden structures using triangles for strength



Forever facts

I know that a wide base can help give a structure stability

The iterative process is used by real designers

To be safe with craft knives use a metal ruler and a cutting board and keep your hand away from the blade

Skills

I can make stable joins

I can test and evaluate commercial designs

I can create bends

I can identify what works and what to improve

Exciting Books



Our Endpoint

I can make a marble run to carry a marble slowly

Subject Specific Vocabulary

free standing	standing alone or on its own foundation free of support or attachment
stability	the strength to stand
structure	a building or other object constructed from several parts
iterative process	understanding what you are designing by <u>actually creating it</u>
aesthetic	relating to art or beauty
component	a part of a project

Personal Development

Real life knowledge it links to: understanding materials and their properties, knowing that you can gain knowledge by doing. Jobs for the future could be: engineer