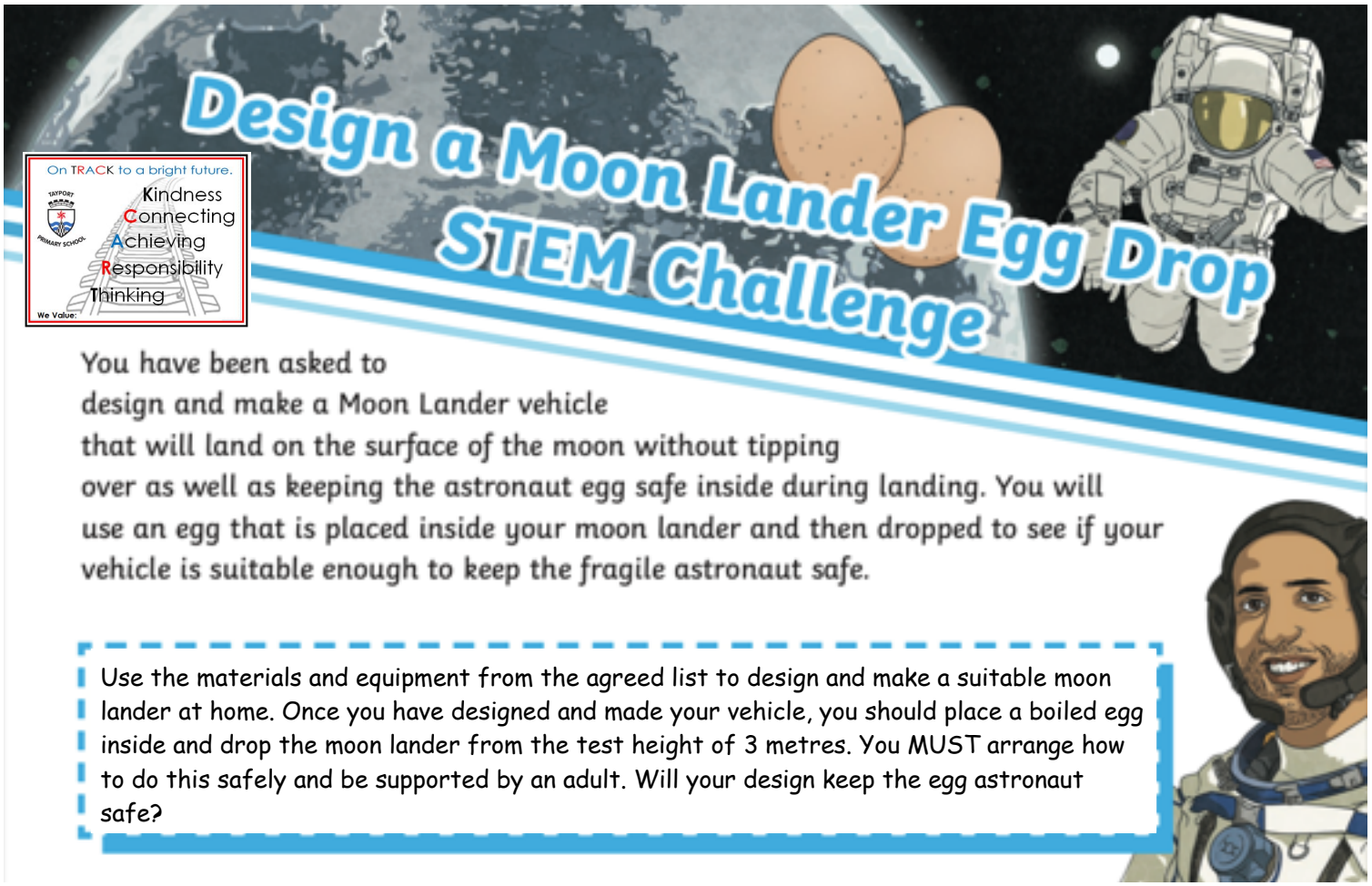

Design a Moon Lander Egg Drop STEM Challenge

On TRACK to a bright future.
Kindness
Connecting
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Responsibility
Thinking
We Value:

You have been asked to design and make a Moon Lander vehicle that will land on the surface of the moon without tipping over as well as keeping the astronaut egg safe inside during landing. You will use an egg that is placed inside your moon lander and then dropped to see if your vehicle is suitable enough to keep the fragile astronaut safe.

Use the materials and equipment from the agreed list to design and make a suitable moon lander at home. Once you have designed and made your vehicle, you should place a boiled egg inside and drop the moon lander from the test height of 3 metres. You MUST arrange how to do this safely and be supported by an adult. Will your design keep the egg astronaut safe?

Once you have completed your challenge please fill in the recording and reflecting sheet, with adult scribe/support if necessary, and bring it in to school with your completed model! Please bring Moonlanders to school on MONDAY 10TH OR TUESDAY 11TH June, not before or after this date. They should contain a fresh, non-cracked boiled egg astronaut please, for in school testing purposes. The STEM MAD Group will assess and evaluate the models, giving consideration to adherence to challenge rules, aesthetics and functionality of your design, as well as, of course, its success at keeping the egg safe! The result will then be announced at Learn 2 Learn assembly on 19th June. There will be a 1st, 2nd and 3rd place within both a P1-3 category and a P4-7 category. House Points and an ice cream with the Head Teacher up for grabs!

MATERIALS AND EQUIPMENT

You can use any common household material such as cardboard, paper, plastic etc.- think junk modelling. You can also use adhesives- glue, sellotape etc, as well as mouldable materials- clay, plasticine, fimo etc.

Some challenge rules -

The moon lander must be able to be opened and closed to let the astronauts in and out

The moon lander must be built from at least 3 different materials

The moon lander must have room for an egg inside.

Some design ideas-

The moon lander might have legs that bend to absorb the force of landing.

The moon lander could use straps to keep the egg from moving around inside.

The moon lander might have a specific shape to help it balance on landing.

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We Value:

Design

What equipment will you need?

- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____

What materials will you use?

- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____

Draw and label your design.

Design a Moon Lander Egg Drop

STEM Challenge

Student Recording Sheet

Did your moon lander keep the astronaut egg safe or did the egg break? _____

Did your moon lander follow your design or did you need to make changes during production?

_____

If you had to make some changes, what were they and why did you make them?

_____

_____

_____

_____

_____

_____

_____

_____

What would you do next time that was different and why? Think about different materials you could use to make your moon lander perform better or changes to your design.

_____

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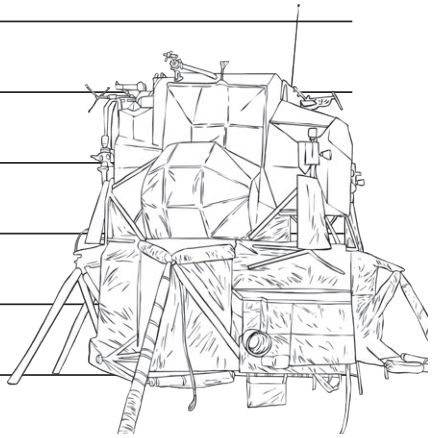

Design a Moon Lander Egg Drop
STEM Challenge

What did you use on your moon lander to make sure the landing was as soft as possible? Use your knowledge of materials to help you answer this question.

How does your design make sure that your moon lander will land upright and not fall on its side during landing? Use your knowledge of materials, forces and shapes to help you answer this question.

There is very little gravity on the moon. This means that there is almost no gravitational force on the moon lander. How could this information be used to change the design of your lander?