

Week 2:

This week, you are going to complete theme that looks at rocket design and astronaut fitness to plan and organise a trip to Mars.

Session 1:

Rocket design

It takes a number of days to travel to the moon. Mars is even further away so it will take years to get there. What will you need inside the rocket to stop you from being bored? With the schools closed and not being allowed to go out and about much, you are already getting a sense of what it could be like to be trapped in a small place for ages. What foods would you need? What entertainment?

Design the inside of your rocket so you could comfortably travel to Mars in it. Draw a diagram and label each of the features explaining why you have them.

Session 2:

Outside rocket design:

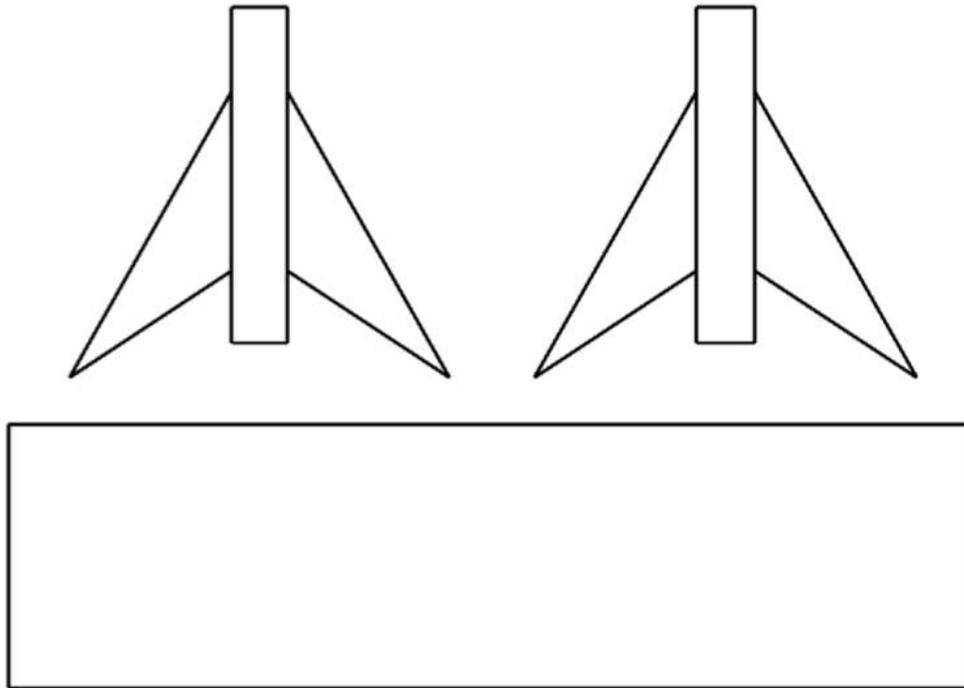
What is the best shape of rocket to get to Mars? It needs to be fast and smooth in flight and go in a reliable direction.

Create a number of rockets – alter one feature and see what effect that has on the speed or distance it can travel. If you don't have a straw at home, simply create one using a roll of paper!

Soda-Straw Rocket Template

1. Carefully cut out the rectangle. This will be the body tube of the rocket. Wrap the rectangle around a pencil length-wise and tape the rectangle so that it forms a tube.
2. Carefully cut out the two fin units. Align the rectangle that extends between the two fins with the end of your body tube and tape it to the body tube. Nothing should stick out past the body tube! Do the same thing for the other fin unit, but tape it on the other side of the pencil, so you have a “fin sandwich.”
3. Bend the one fin on each fin unit 90 degrees so that each fin is at a right angle to its neighbor. When you look along the back of the rocket, the fins should form a “+” mark.
4. Using the sharpened end of your pencil, twist the top of the body tube into a nose cone. Measure your nose cone from its base to its tip and record the length on your Data Log and on the rocket itself

(For the Data Log, create a chart on a piece of paper with columns labeled “Rocket Length” and “Distance Traveled.” For every attempt, fill in the log).
5. Remove the pencil and replace it with a soda straw. Blow into the straw to launch your rocket! Record the distance it travels on your Data Log.



Session 3:

Imagine you have started a holiday company taking trips to Mars. Create a leaflet advertising the adventure. Use some great language to persuade people it will be the best experience they have ever had. You could complete it on a leaflet template in purple mash or in your books.

Session 4:

You need to keep fit in space and whilst on holiday because your muscles can be damaged when there is no gravity. Design a fitness routine to strengthen your arms, legs and stomach and keep them fit. Remember you must be able to complete it in a rocket capsule so make sure you can do everything in your sitting room. Challenge you family to take part in your fitness routine.

Session 5: Astronauts must complete a range of tasks accurately and so must have great memories. Design a memory challenge that you can use to improve your memory ready for a trip to space. Write a set of instructions for the game and draw a diagram of how it is played. Play with your family – who has the best memory?