

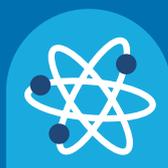
Suitable for
3-7 years

- ✓ Solo
- Pairs
- Groups

Sara's activity

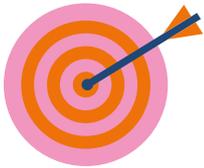
Space Rover Design App

How to guide



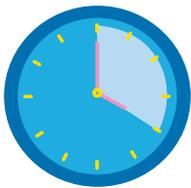
Sara's activity

Space Rover Design App



Aim

The aim of this activity is to find out more about space rovers and what components are included on them. Use our app to build a virtual model of Rovers for different missions – watch them launch to Mars and drive them around the planet. Then why not craft your own model Rover.



Timings

~30 mins



Materials and equipment

- **App:** follow link to access app. Children can name their Rover and print a picture of it on Mars so you might want to use a computer connected to a printer if you have one.
- **Worksheet:** print out our worksheet explaining all the components that can make up a Rover.
- **A range of materials for rover building.**
For this you could use items from the below list.
Note – this is not an exhaustive list so you could add more to your collection as you find things. Neither do you need to provide everything, but a good mix of different materials is useful.
 - **For building:** craft sticks, cardboard tubes, recycling items like toilet roll cardboard centres, plastic containers and milk bottles, bottle caps, drinking straws, cardboard, pipe cleaners, lids, paper cups and plates, scraps of wood, chopsticks, corks, ...

- **For connecting:** string, thread, glue, Sellotape, staples and stapler, clothes pegs, rubber bands, blue tack...
- **For decorating:** pom poms, googly eyes, feathers, glitter, beads and buttons...and/or pens, crayons or paint



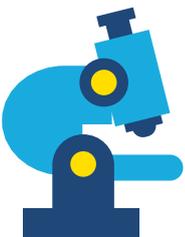
Safety

Supervise use of small parts



Instructions:

1. Introduce the topic of sending a mission to other planets to find out more about them. Read the book *Are we nearly there yet?* Or *Curiosity – The Story of a Rover*
2. Explain that the Rover needs to be able to travel around the planet and carry a range of scientific instruments to make measurements to find out more about the planet
3. Play the app – follow the onscreen instructions. Firstly, select a mission (each mission has a different mass and cost budget which will influence how you can build your Rover) and then select from options for different parts of your Rover, e.g. what type of wheels, what types of instruments
4. Craft your own model Rover out of a mixture of materials



How does it work?

When designing a Rover engineers have to make tricky decisions about what to include as there is always a limited cost and, as the Rover has to be launched into space, there is a mass limit as well. Engineers have to collaborate to agree on what to include as well as work together to make all the components lighter and lower cost. See the resource pack for information about each of the different components of the Rover.



Prompt Questions:

- What options have you selected for your Rover? Why?
- What do these parts do?



Extension Ideas:

Why not try other activities developed by our engineer Sara, like the dance-drama workshops Mission to Mars which take you through stages of astronaut training, or build your own spectroscope – instruments like this are included on space Rovers. If you are interested in robots in other applications check out Emilyann’s robot games or explore more about space junk with Jinglang or try our hula hooping satellite orbit activity developed by Adah and Jinglang.