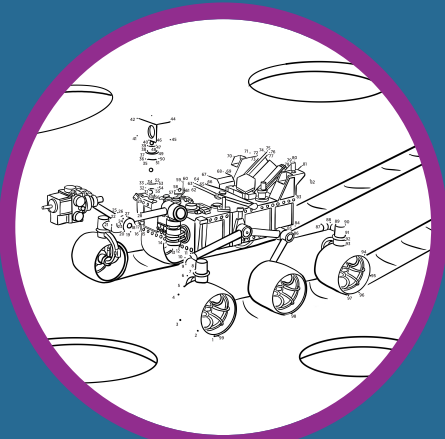
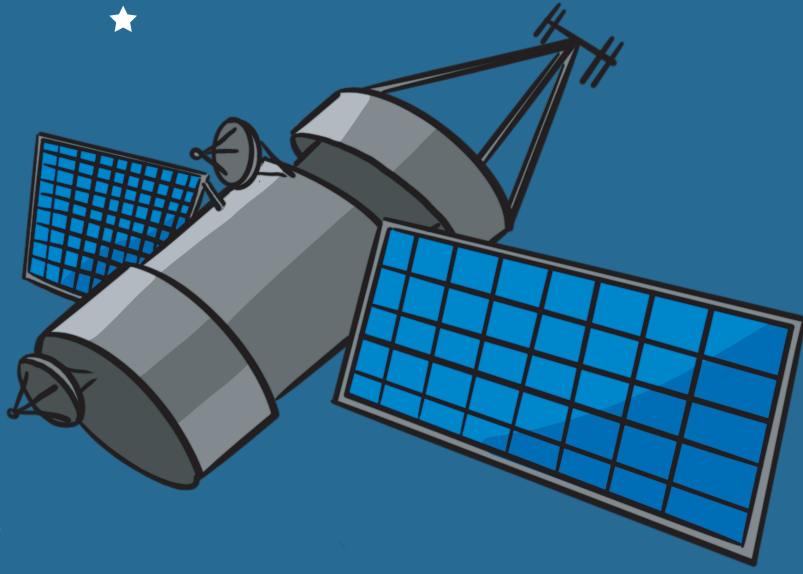


Exploring
Earth
& Beyond



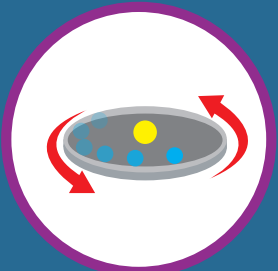
Space Discoveries



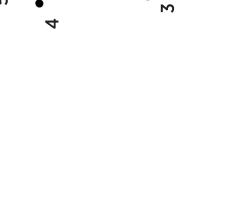
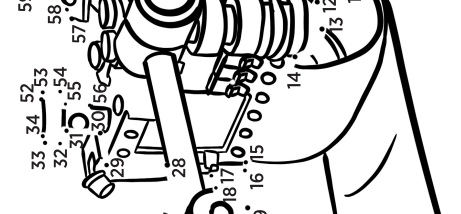
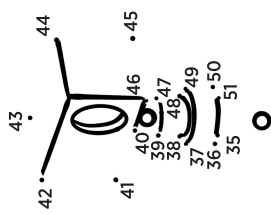
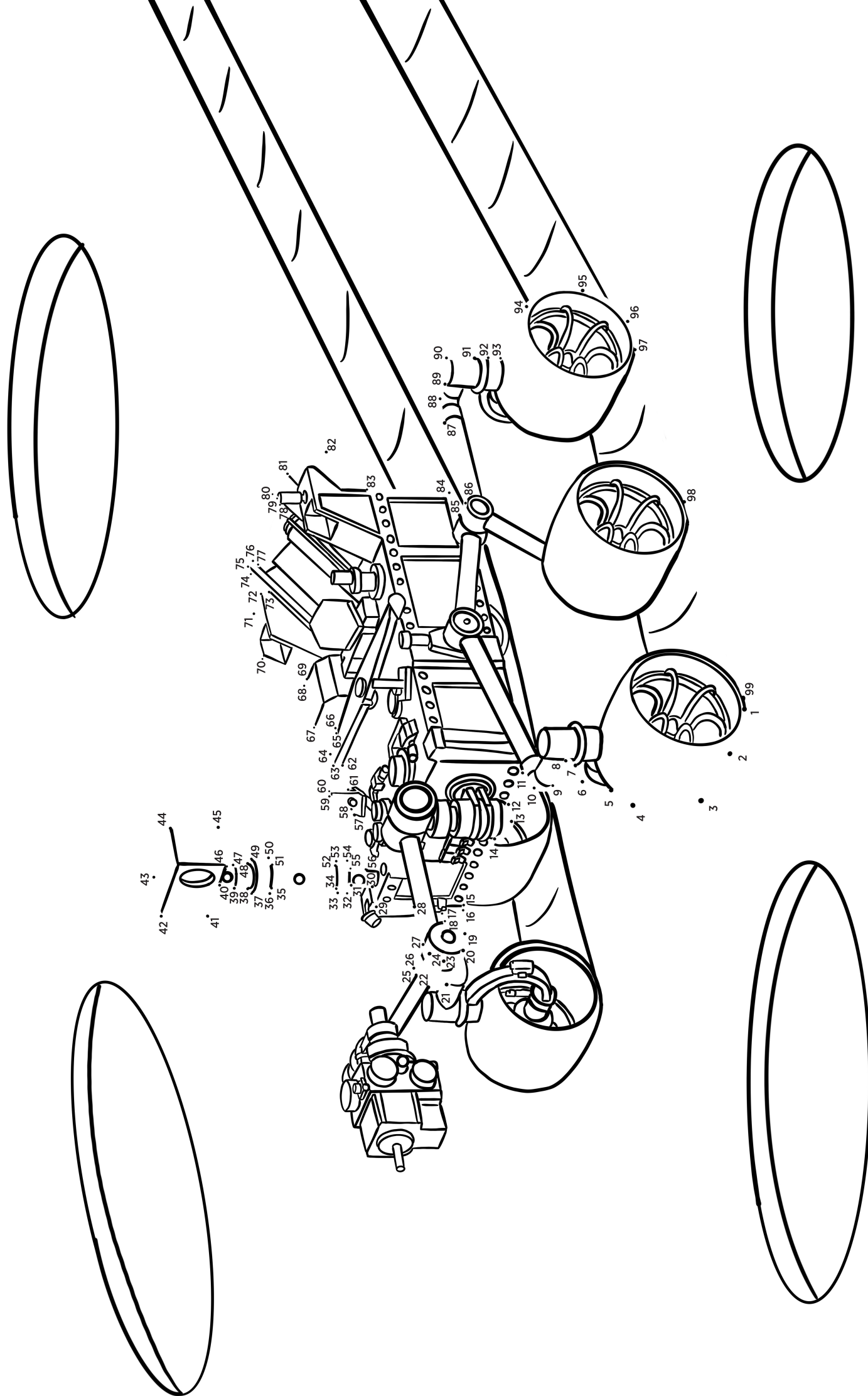
Drawing



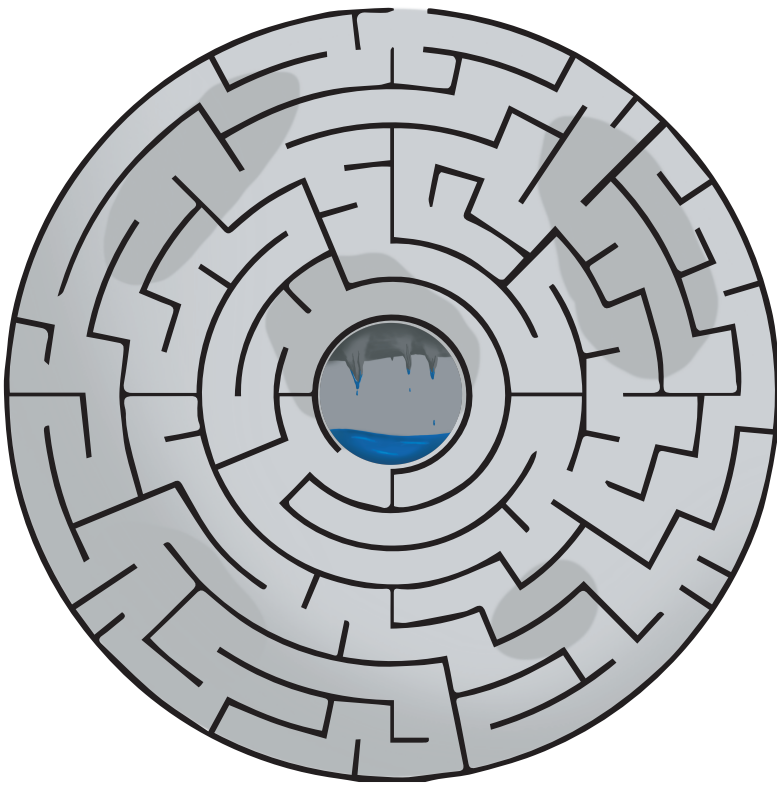
Crafts



Experiments



Can you help the astronomer find water on the moon?



Water is very important for any living thing, so when we look for life on another planets, we also look for water too! This is why scientists were very excited to find out that there is water (ice) on the moon!

Create your own exoplanet

An exoplanet is any planet which does not orbit our Sun, which means they are not part of our solar system. We have discovered over 4000 of them! Create your perfect planet below:

Name of planet

Draw & Colour your planet

Does your planet have a ring around it?
Yes or No?

How many moons does your planet have?

Temperature
Cold Hot

How big is your planet?
Small
Medium
Large

Fun fact about your planet

What is the weather like?

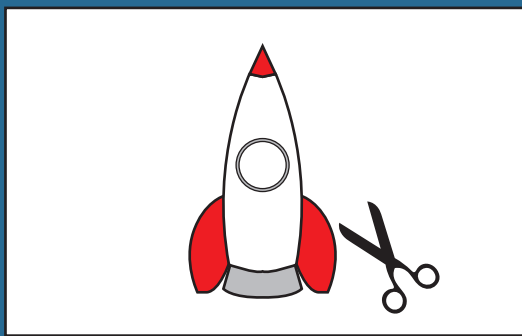
Straw Rocket

Materials:

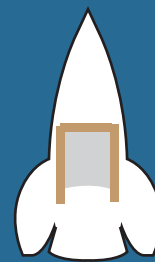
- Paper
- Colouring pens and pencils
- Scissors
- Tape
- Straws

Rockets and other spacecraft are essential to space travel because they allow us to go to distant places to observe and discover new things! Learn how to make one of your own below.

1) Draw and colour a rocket on a piece of paper. Once you're happy with your drawing, cut it out.

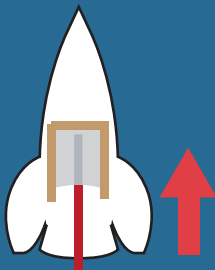


2) Stick a piece of paper loosely on the back of your rocket. You should leave just enough space for the straw to fit comfortably.

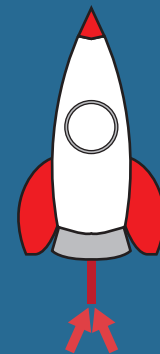


*Back side

3) Place the straw inside the pocket you have created with the paper. We're ready to launch!



4) Give your straw a big puff of air and it will take off!

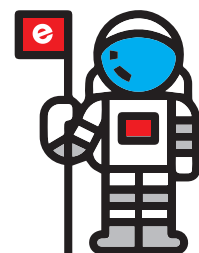


*Blow here

Does the rocket travel a longer distance if you change the angle at which you launch it? How can you design a rocket which will travel further?

Fact

Even though Neil Armstrong was the first man to walk on the moon, fellow astronaut Buzz Aldrin was the first man to pee there - thanks to a pee collecting device in his spacesuit!



4-6 years

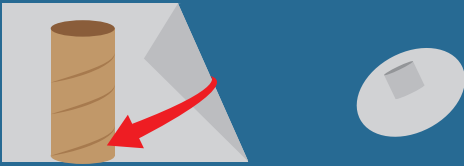
Make Your Own Satellite

Materials:

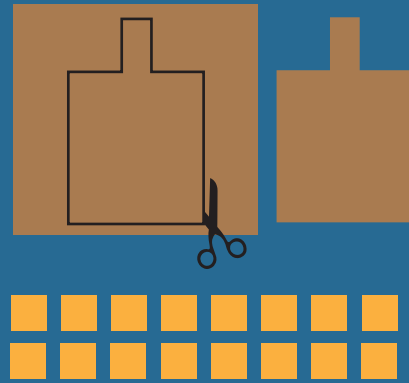
- Cardboard toilet paper roll
- Cardboard
- Coloured paper
- Pencil or pen
- Scissors
- Glue

The satellites we launch into space help us get a bird's-eye view of our planet to help us collect more information about our planet. They also look at space and help us make discoveries that we can't make from Earth. Make your own below!

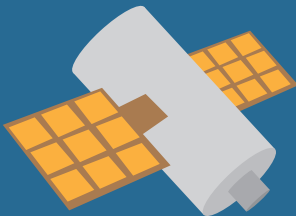
1) Cover your toilet paper roll with coloured paper. From the same coloured paper, cut out a circle which is the same size as your toilet paper roll. Cut a small strip of paper and create a small cylinder by rolling it up and glueing the ends together. Attach this piece to the circle you just cut out using tape or glue.



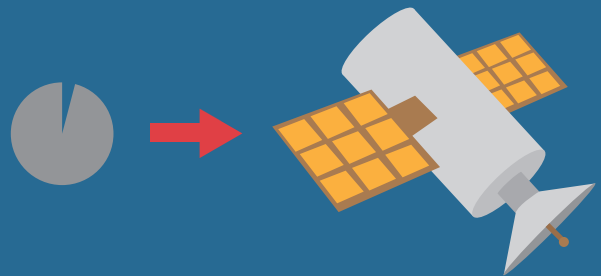
2) Draw and cut out solar panel shapes from the cardboard and decorate them however you'd like.



3) Fold the bottom part of the solar panels and add glue. Stick the solar panels to each side of the toilet paper roll. Use glue to stick the circle cutout you created on top of the toilet paper roll.



4) Cut another circle out of coloured paper. Cut a slit into the paper to make it into a cone. Cut an antenna shape and stick both of these to the satellite body.



Fact

On August 21st, 1957, Russia (USSR) launched Sputnik 1 which became the first satellite orbiting around the Earth. This was what opened the way for the Space age and also started the Space Race between Russia and the United States.



Orbiting Planets

Materials:

- Pie dish or other circular tray with a lid
- Plasticine (orange/yellow and blue colours)

The discovery made by Copernicus that the Earth moves around the sun was made less than 500 years ago. But have you wondered how each of the planets stay in orbit? Or how the satellites that help us make discoveries stay in orbit around the Earth? The model below will give you a glimpse into how gravity helps these objects stay in orbit!

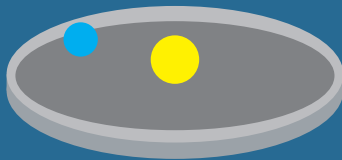
1) Roll a ball of orange or yellow plasticine to represent the Sun.



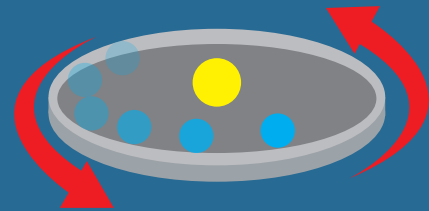
2) Stick it in the middle of the pie dish. Make sure it doesn't move around when you move the dish.



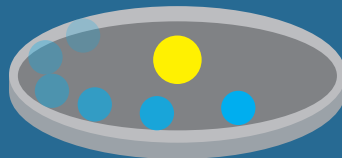
3) Make another ball of blue plasticine to represent Earth and place it at the edge of the pie dish.



4) Tilt the dish in different directions to make the Earth roll around the edge of the dish. This is how Earth orbits around the sun!



5) Notice how the Earth keeps moving in a circle even after you stop moving the pie dish – make sure you move it quite quickly!



7-9 years

Moon Craters

Materials:

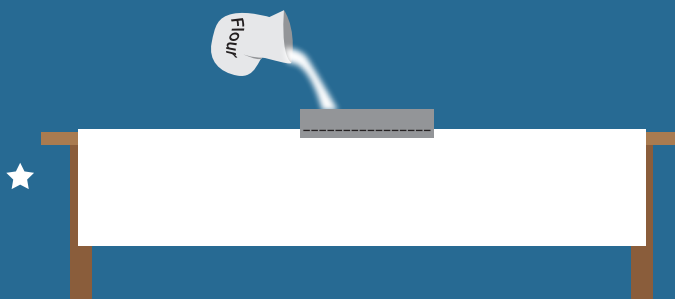
- Cake pan
- Flour
- Cake sprinkles
- Cocoa powder
- Spoon
- Old newspaper
- 2 or 3 small rocks of different sizes

Have you ever noticed that the moon has some light areas and some darker areas? Many of these are called craters - rock formations caused by rocks hitting the moon a long time ago. Have a look at how they were formed in the activity below!

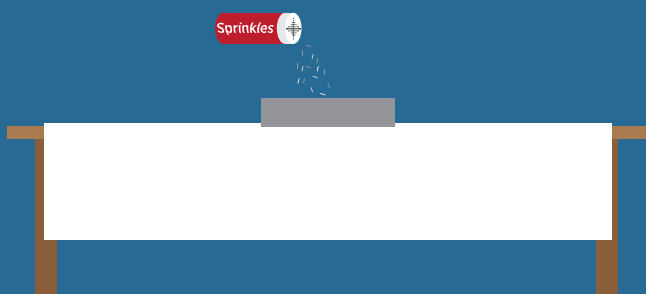
1) Find a cake pan or dish which is at least a few centimetres deep. This activity can get messy! Ask an adult to help you lay out some newspapers or if needed.



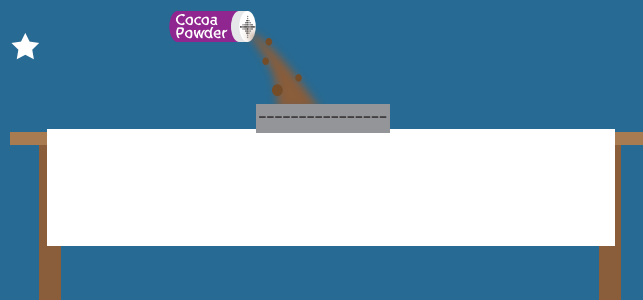
2) Spread flour evenly onto the cake pan until you form a layer which fills around half of the pan. This represents the Moon's crust.



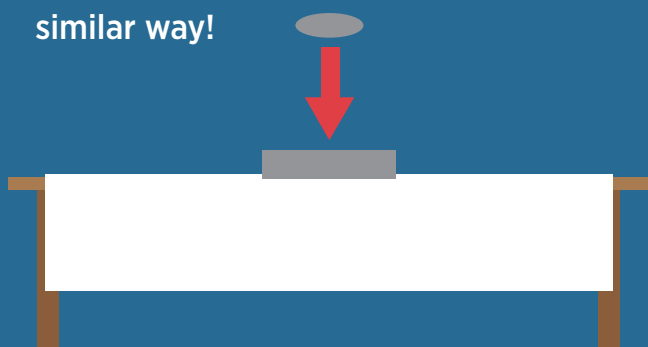
3) Next we'll be adding some rocks and minerals in the form of cake sprinkles. You don't need to completely cover the flour.



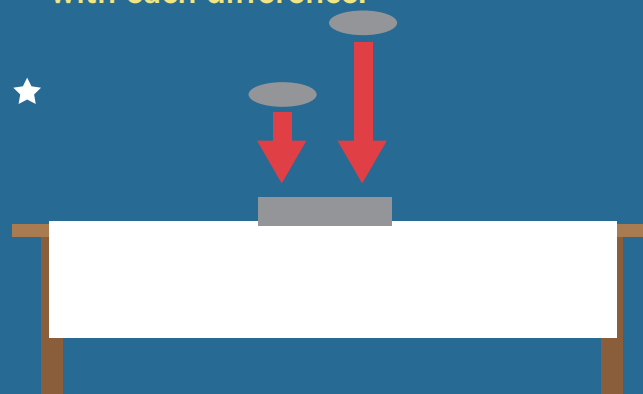
4) The final layer will be the Moon's surface made out of cocoa powder. Make sure to evenly coat the rest of the layers.



5) Hold one of the rocks as high as you can and drop it into the cake pan. This is what happens when a rock impacts the Moon. Once you remove the rock, the hole left behind will be a crater. The craters on the Moon were formed in a similar way!



6) What happens if you drop rocks of different sizes? Or if you drop them from a smaller or larger height? Observe what happens to the craters with each difference.



Project Maleth

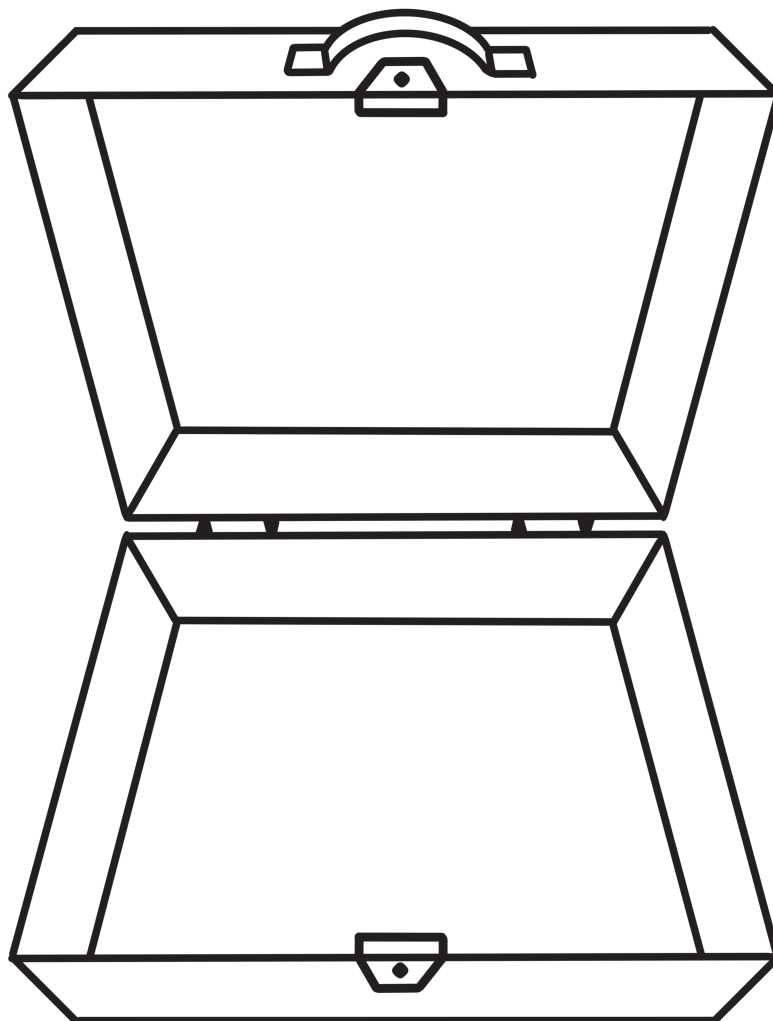
For the first time in history, Malta will be launching its own research in space! In the coming months, Maltese researchers and scientists will be sending a research capsule to the International Space Station (or ISS) to spend 45 days in space. The capsule will contain samples of bacteria, two cameras as well as an SD card which will be loaded with messages and paintings from children all around Malta.

What is the ISS?

The ISS is a huge spacecraft which orbits around the Earth and serves as a home where astronauts live and even conduct experiments!

Packing for Space

Imagine you had the chance to spend a weekend on the ISS! What would you take with you? Think about how much your items weigh and how much space they take up. Draw your packed suitcase below!

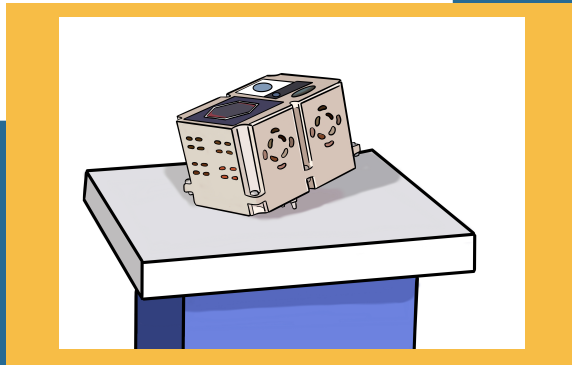


What's your message to space?

Would you like to send a message to space? A drawing, a message or a poem? Use the space below to draw or write anything you want to send to the International Space Station! Remember to sign your name, age and where you're from.

A large white rectangular area with rounded corners, intended for drawing or writing a message to space.

Please post a photo on Facebook and tag our page @esploramalta or scan the page and send it to programmes@esplora.org.mt. Deadline to participate is: 9th July



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