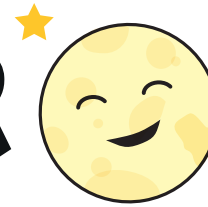




SUPER POWER: Lunar Cycles!

MOON CALENDAR



YOU WILL NEED

- Paper.....
- Kitchen foil.....
- Stick.....
- Light source e.g. lamp or torch.....

LAB NOTES...

BUILD TIME
10
MINS

TO MAKE YOUR MOON CALENDAR...

1. Watch the video of Nanogirl making her moon calendar!
2. Scrunch up the paper into a ball.
3. Cut enough foil to cover the paper ball with two separate foil sheets.
4. Scrunch the foil sheets on top of the paper then rub on something hard to make the surface as smooth and round as possible.
5. Push the ball onto one end of your stick.
6. Hold the stick upright, in front of you and above your head with the foil ball at the top.
7. Turn off the lights and close the curtains.
8. Turn on your light source, and stand between it and your foil moon. Make sure that your head isn't casting a shadow on the moon.
9. You are the Earth, the light is the Sun and your foil ball is the moon.
10. Take a look at the reflection of the Sun's light on the surface of the moon. Rotate yourself around keeping the moon in front of you until you see a shadow appear on one side of the moon.
11. As you keep rotating, you'll see that different parts of your moon are in shadow while other parts are lit by your lamp Sun.

THE MOON ORBITS THE EARTH

once every 28 days. We call this a 'lunar cycle,' and we can use the shape of the moon we see in the sky to tell us where in the lunar cycle we are. The different shapes of the moon are caused by how much of the sun's light can reflect off the surface of the moon. This changes depending on its position relative to the earth.

The lunar cycle happens the same way every time, which means that if we keep track of it, we know how many days have passed. Many cultures around the world based their calendar on knowing how many lunar cycles needed to pass between important events, such as planting crops and then harvesting them.

In the lunar cycle, there are eight main shapes that we can see and label. We call these shapes "phases".

When we can see all of the moon that faces the earth being lit up, we call it a 'full moon'. As it gets smaller (we call this 'waning') it goes to a quarter moon and eventually looks totally black which is called a 'new moon'. As the light starts to let us see the moon again, we call it 'waxing' and eventually after 28 days we end up back at the full moon again.



FULL MOON: round like a cookie! There is only one full moon per lunar cycle.



GIBBOUS: more than half, but less than a full moon is illuminated. You'll see this shape twice per lunar cycle, so there is a waxing gibbous and a waning gibbous moon.



HALF MOON: the moon looks like a semi-circle, halfway between new and full. You'll see this twice per lunar cycle.



CRESCENT MOON: only a small sliver of moon can be seen, in a crescent shape. You'll see a waxing crescent and a waning crescent moon.



NEW MOON: There is only one new moon phase per lunar cycle, and you can't really see the moon.

What phase is the moon in today? Keep a moon diary and record what you see every night.

Do you think that the moon stays in the same place in the sky every night, or does it move across the sky like the Sun does?

The moon is not a light source, it only reflects the Sun's light.

What does this tell us about the surface of the moon? Is it likely to be solid or liquid, moving or still?

Do you think that the moon would look different if you were an astronaut hovering above it in space?