

LEARNING RESOURCE

MOON ILLUSION

SCIENCE AND TECHNOLOGY
EARTH'S PLACE IN OUR SOLAR SYSTEM

Years K–6
Stage 3

SEE

Look at the full Moon as it rises. You can watch our video or use the table (below right) to plan for the next one. What observations can you make about it as it rises?

THINK

As the Moon rises think about what you see. Why do you think the colour changes so quickly and the view gets clearer?

WONDER

If you watch the full Moon rise you may notice something strange known as the 'Moon illusion'. Can you imagine what a moon illusion might be? Explaining it is difficult but testing it is easy with the method below.

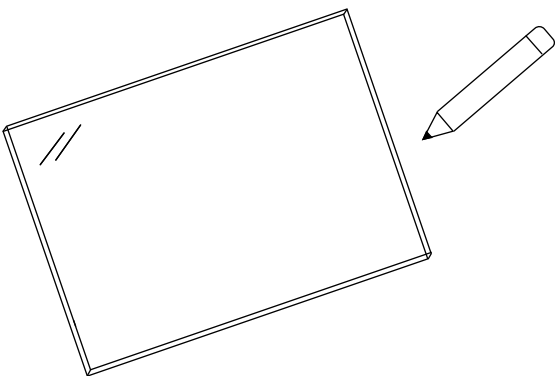
WHAT IS THE AIM:

To measure the size of the full Moon as it rises and then for a second time a few hours later for comparison.

By measuring the size in two positions we can answer the question 'Does the Moon's size change as it gets higher in the sky?'

WHAT WILL YOU NEED:

A piece of firm clear plastic, a marker and a clear easterly view on any of the dates in the Full Moon table below.



BIGGER OR SMALLER:

Mark in the table how many people think the full Moon will be bigger or smaller before you do your experiment.

SAME SIZE	BIGGER	SMALLER

EXPERIMENT METHOD:

Use the method illustrated on the following page to conduct your experiment.

Write your results below.

YOUR RESULTS:

Full Moon table for 2020:

MONTH	DAY AND DATE	MOONRISE
May	Thursday 7	5.13 pm
June	Saturday 6	5.19 pm
July	Sunday 5	4.57 pm
August	Tuesday 4	5:46 pm
September	Wednesday 2	5.34 pm
October	Friday 2	6.15 pm
November	Sunday 1	7.55 pm
November	Monday 30	7.42 pm
December	Wednesday 30	8.24 pm

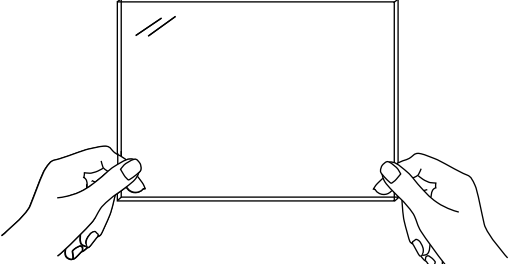
For 2021 and beyond, check the Moon Phase Calendar at:
maas.museum/sydney-observatory

LEARNING RESOURCE

MOON ILLUSION

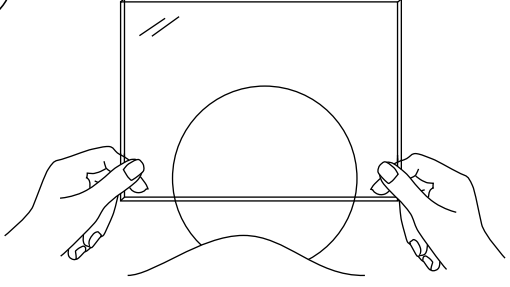
METHOD:

1



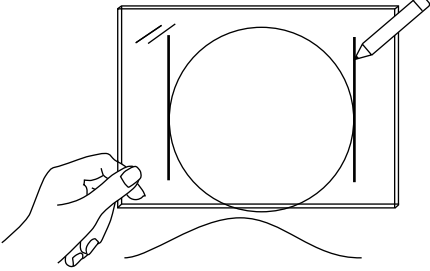
Hold a firm piece of clear plastic by the bottom left and right corners directly in front of you. Use both hands with arms outstretched.

2



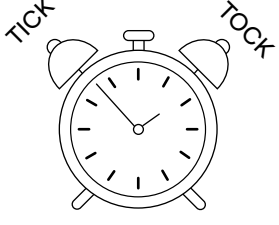
Watch the Moon rise through the plastic.

3



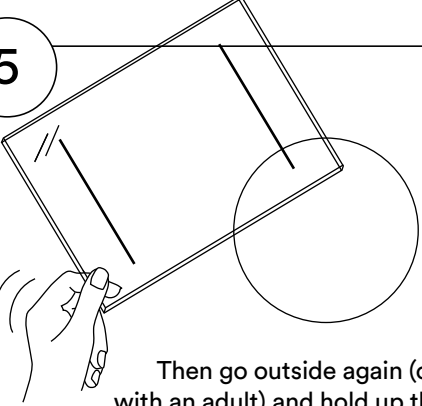
As soon as it is fully above the horizon use a marker to draw two vertical lines on the plastic to mark the edges of the Moon.

4




Go back inside and wait for a few hours.

5



Then go outside again (check with an adult) and hold up the plastic and place the Moon between the lines.

6



Describe your observations on the previous page.

A LITTLE MORE:

Use your favourite search engine to look for the Moon illusion and the related Ponzo effect. Then show your family your experiment so they can try it the next time the Moon is full.