

Test a phase-wheel model

**Same Moon.
Three checked views.**

Use evidence to explain
new, half and full Moon.



Retrieve the lit-side rule

01

Where does moonlight come from?

02

What stays round while the Moon looks different?

03

Choose drawings, pre-cut circles or adult-operated kit.

Prepare your model safely

01

Use a ball, low-power torch and three drawn/card circles.

02

Keep the torch direction fixed; never shine it at eyes.

03

Keep room light, or choose the still-diagram route.

Check three positions

- 01
Near the light direction: check the new-Moon view.

- 02
To the side: check a half-Moon view.

- 03
Opposite the light: check the full-Moon view.

Make your three-view strip

- 01
Draw three equal circles or arrange pre-cut examples.

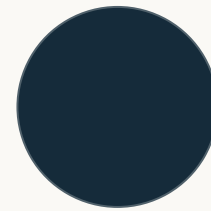
- 02
Shade the part not seen lit; label new, half and full.

- 03
Keep every circle the same round shape.

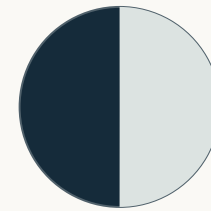
Explain what changed

The visible lit part changed
because our view of the
Moon's sunlit half changed.

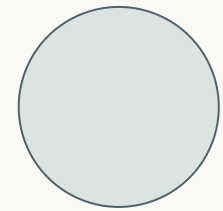
The ball did not change shape.



New



Half



Full

View from Earth • schematic

Pause for a shared check

01

Ask an adult or chosen partner to use the same viewpoint.

02

Check one view against its label.

03

Did the ball change shape, or the visible lit part?

Correct one label or view

01

Correct one phase label or shaded circle.

02

Explain what your model showed.

03

Add a model limit if this is your stretch route.

Reset the room and kit

01

Restore agreed room lighting.

02

Return ball, torch, cards and pencils.

03

Keep your labelled strip and explanation.

Say what helped or hindered

01

Did the model or still drawing help you understand?

02

Would a different light level, label or explanation help?

03

Point, sign, speak privately, or pass.

Check the agreed change

You asked for_____. We changed_____.

Did it help? What else needs explaining?

Exit: choose your explanation

- 01
Supported: does the Moon make its own visible light?
-
- 02
Standard: how long is one orbit around Earth?
-
- 03
Stretch: why are ordinary phases not Earth's shadow?
-

Check and keep one improvement

01

Moonlight is reflected sunlight.

02

One orbit is about 27.3 days; phase cycle about 29.5 days.

03

Ordinary phases come from our view of the sunlit half.
