

Maths In Motion
SPACE

Workbook

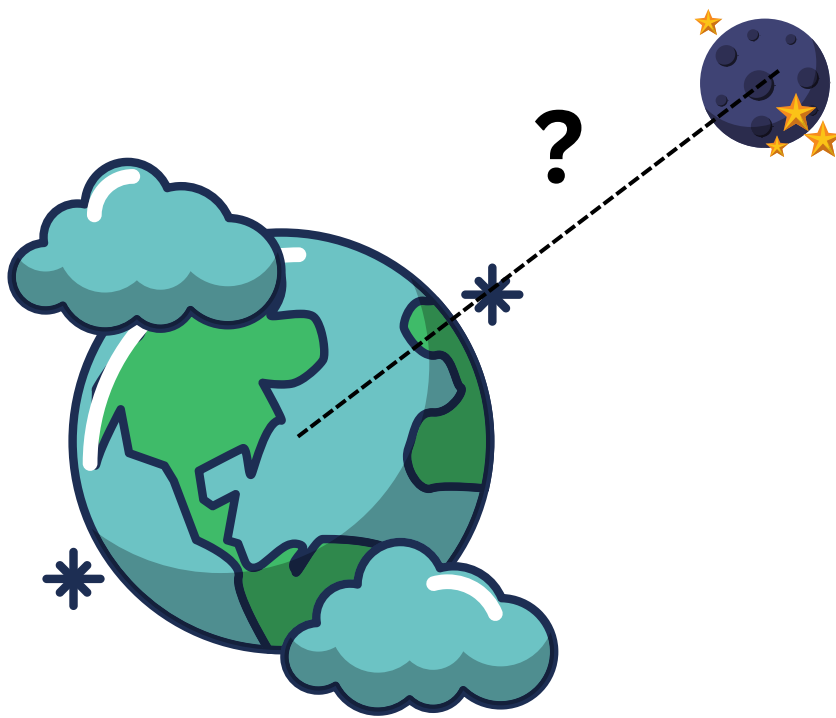
Lesson 2: The Moon

To join in please bring:

**Playdough, piece of string (at least 50cm long),
and egg (can make one out of playdough), a
calculator**



How far is it to the moon?



What shape did you create with your palydough and string?

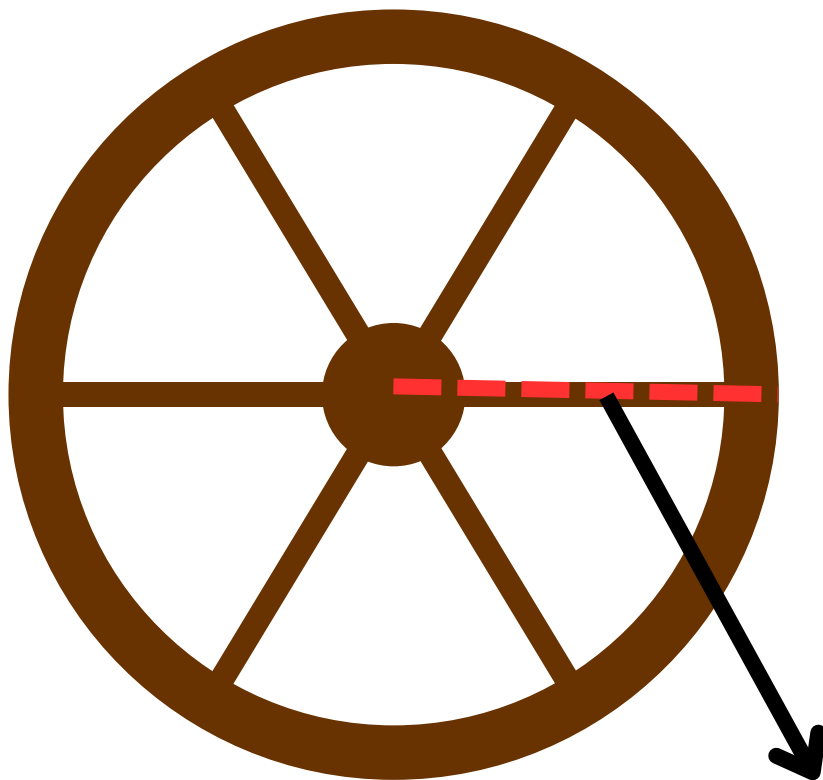
Draw it:

Circles

The **radius** is the distance from the to the of the circle.

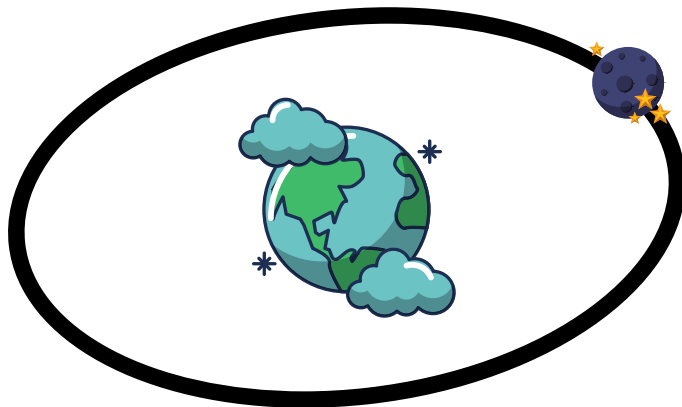
It is the same length, no matter which direction is it going.

Measure the radius:



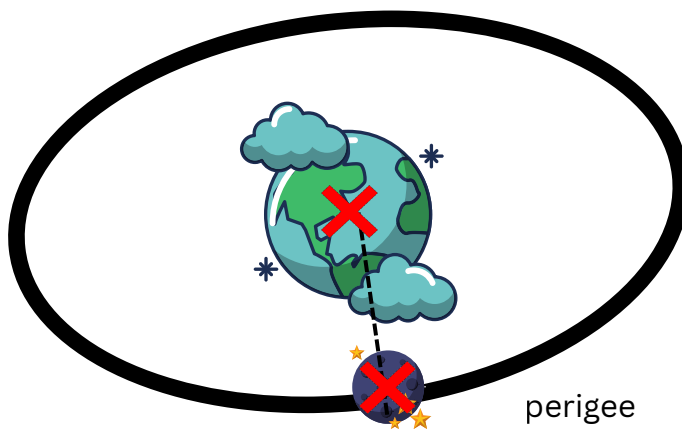
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The moon's orbit

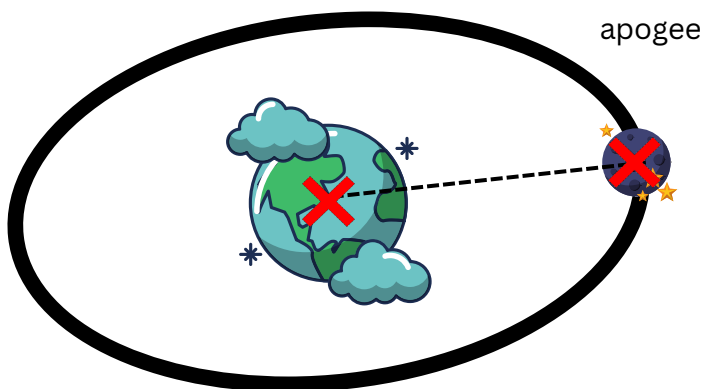


The moon orbits
in an

.....



At the **perigee**
(closest point) it is
..... km
from the earth



At the **apogee**
(furthest point) it is
..... km
from the earth

Apollo 11's flight path



Why do you think it didn't go directly to the moon?

Weight

$$\text{Weight} = \text{Mass} \times g$$

g = acceleration
due to gravity



Earth:

Mass =

Weight =

50 kg



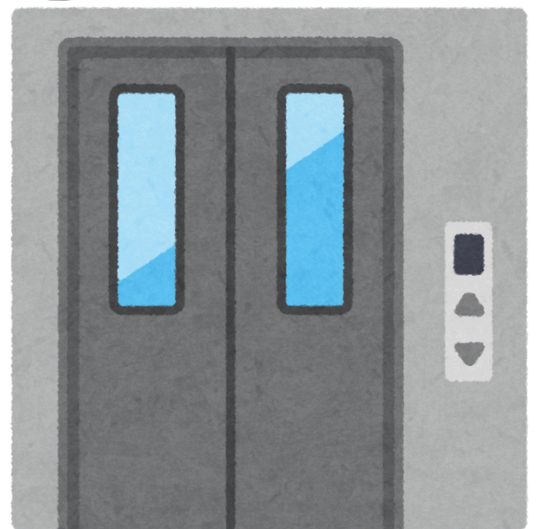
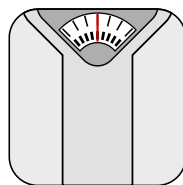
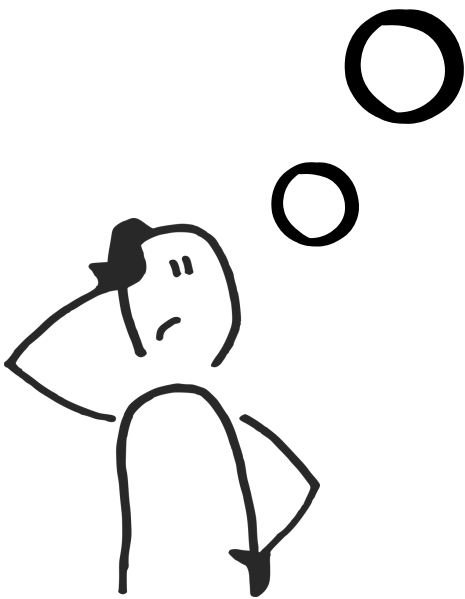
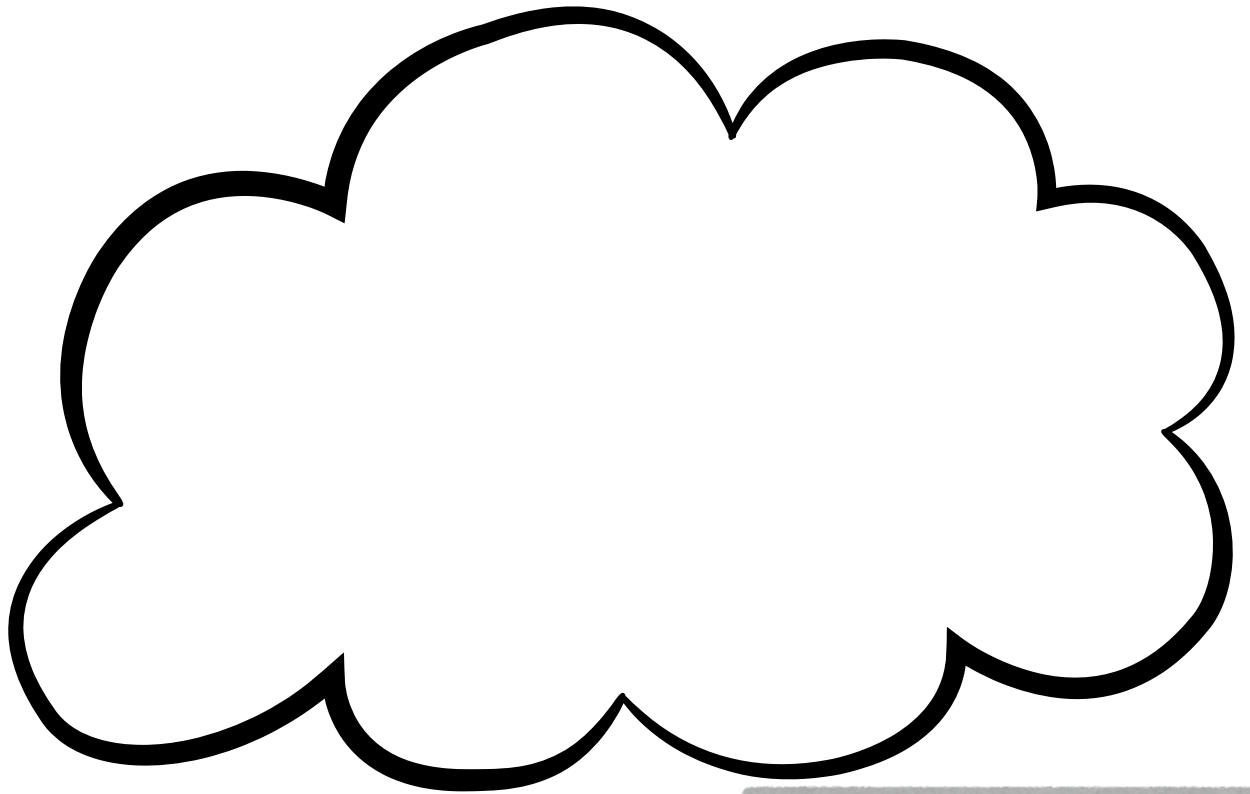
Moon:

Mass =

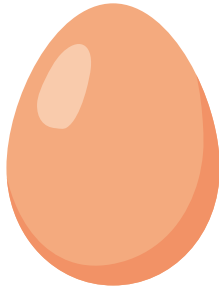
Weight =

Weight in a lift/elevator

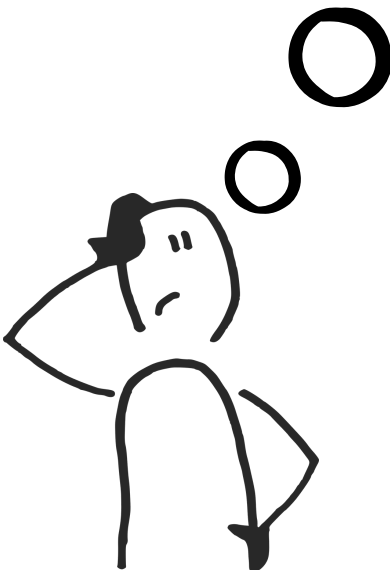
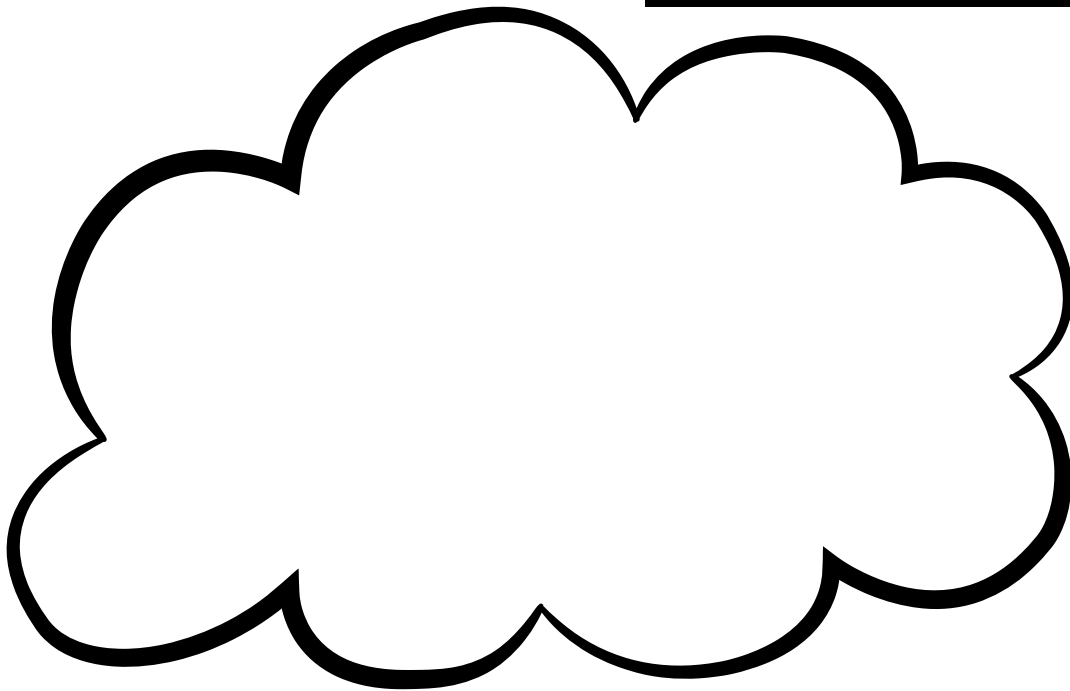
What do you think would happen if you weight yourself whilst in a lift/elevator?



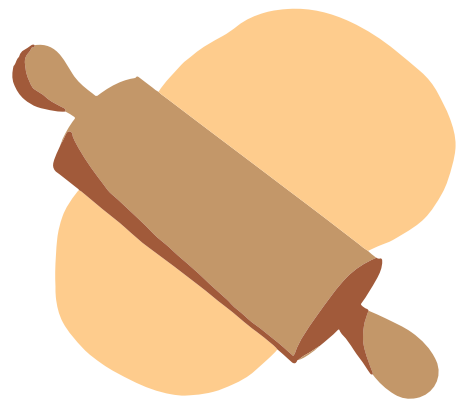
Shape of the moon



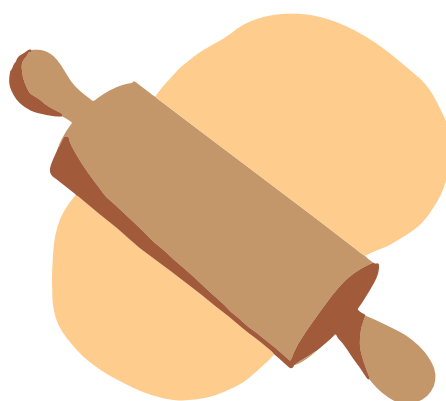
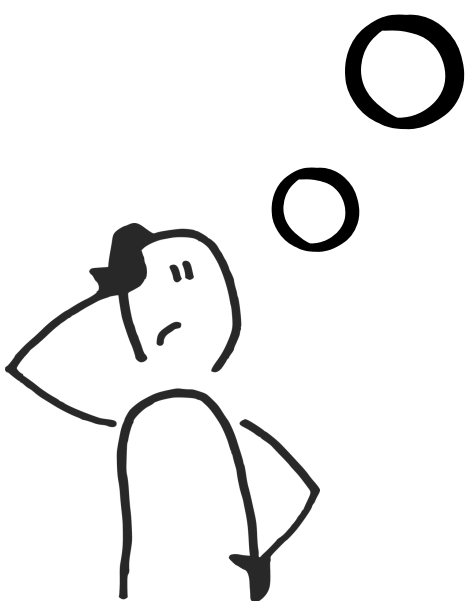
Why does the moon look round?



What would happen to some dough if you held it in the air?
Why?



Thought experiment



At home challenge:

Measuring the radius

Find as many circular objects as you can.

Measure the radius.

What units will you use? (cm, inches, m???)

Object:	Radius:

Create your own Moon Quiz:



Question 1

True

False

.....
.....

Question 2

True

False

.....
.....

Question 3

True

False

.....
.....

Create your own Gravity Quiz:



Question 4

True

False

.....
.....

Question 5

True

False

.....
.....

Question 6

True

False

.....
.....