

# Investigating Craters Method

Independent variable: composition of surface material.

## Equipment:

- three plastic trays – one filled with gravel, one with sand and one with flour
- ball of modelling clay
- metre ruler
- 30cm ruler

## Method:

1. Position the first tray on the floor or a flat surface low to the ground.
2. Make sure the material in the tray is smoothed out and reasonably flat.
3. Hold the metre ruler vertically so that it is measuring 1 metre in height above the tray. If you push the ruler into the material to the bottom of the tray, you might find it easier to ensure that the same height is used each time.
4. Another person should hold the clay ball level with the top of the metre ruler.
5. Drop the ball into the tray.
6. Carefully lift the ball from the tray and measure the diameter of the impact crater using a ruler.
7. Record your results.
8. Repeat the steps to record three readings for each material.



# Investigating Craters Method

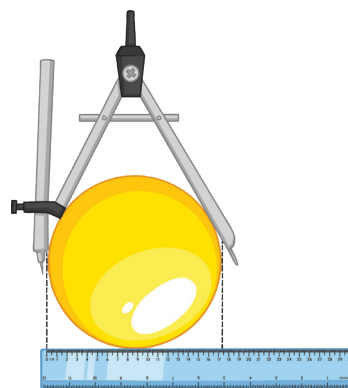
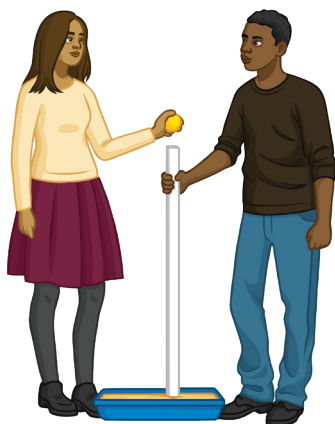
Independent variable: diameter of asteroid.

## Equipment:

- plastic tray filled with sand
- balls of modelling clay: 1cm, 5cm and 10cm diameter
- compass
- metre ruler
- 30cm ruler

## Method:

1. Position the tray on the floor or a flat surface low to the ground.
2. Make sure the sand in the tray is smoothed out and reasonably flat.
3. Hold the metre ruler vertically so that it is measuring 1 metre in height above the tray. If you push the ruler into the sand to the bottom of the tray, you might find it easier to ensure that the same height is used each time.
4. Check the diameter of the clay ball:
  - Use a compass and position it so that it is as wide as the widest point of the clay ball.
  - Measure the distance between the two arms of the compass using a ruler.
5. Another person should hold the clay ball level with the top of the metre ruler.
6. Drop the ball into the tray.
7. Carefully lift the ball from the tray and measure the diameter of the impact crater using a ruler.
8. Record your results.
9. Repeat the steps to record three readings for each diameter of clay ball.



# Investigating Craters Method

Independent variable: mass of asteroid.

## Equipment:

- plastic tray filled with sand
- cricket ball
- tennis ball
- plastic air-filled ball (e.g. a ball from a ball pit)
- compass
- metre ruler
- 30cm ruler

## Method:

1. Position the tray on the floor or a flat surface low to the ground.
2. Make sure the sand in the tray is smoothed out and reasonably flat.
3. Hold the metre ruler vertically so that it is measuring 1 metre in height above the tray. If you push the ruler into the sand to the bottom of the tray, you might find it easier to ensure that the same height is used each time.
4. Check the diameter of the ball:
  - Use a compass and position it so that it is as wide as the widest point of the ball.
  - Measure the distance between the two arms of the compass using a ruler.
5. Another person should hold the ball level with the top of the metre ruler.
6. Drop the ball into the tray.
7. Carefully lift the ball from the tray and measure the diameter of the impact crater using a ruler.
8. Record your results.
9. Repeat the steps to record three findings for each ball.

