

Making Craters - Student Worksheet

Impact craters are formed when impactors fall and crash into a planet's surface. Your task is to create and measure impact craters.

Materials

- Large tray or box per group
- Clean sand to fill the tray or box
- A selection of different size balls (e.g. golf ball, cricket ball, shot put) or sand filled balloons, to represent different impactors.
- A ruler or tape measure per group
- OPTIONAL: Camera to record impacts (slo-mo videos are great!)

Method

1. Select four balls or balloons of different size that will be your impactors.
2. Decide on a set height to drop the impactors and record this height.
3. If videoing your experiment, set up the camera, ready to record.
4. Drop the smallest impactor and carefully remove it from the tray, trying not to disturb the crater formed.
5. Measure the diameter of the crater it forms. Note any other observations of the crater's appearance. Record these values on the worksheet.

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6. Smooth the sand over, filling in the crater.
7. Repeat the test with the different sized impactors, recording all data on this worksheet.

Hypothesis

When we increase the size of the impactor, the diameter of the crater will increase/decrease/stay the same (circle one) because _____

Variables

In this experiment:

We will **change** _____
(independent variable)

We will **measure** _____
(dependent variable)

The things we will keep the **same** (controlled variables) are:

Diagram

Draw a labelled diagram of your experiment

Name _____

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Results

Height of drop (cm) _____

Size of Impactor	Diameter of crater (cm)	Observations

Evaluation

Was this experiment a fair test? How could you change the experiment to make it better?
