Deep Space Math

Activity 5 - Making Craters

Did you ever wonder how craters are formed? Well, now’s your chance to find out! You are about to embark on a journey to the moon where crater creation is at its best!

Have you ever heard of a meteorite? A meteorite is a massive lump of rock that travels through space. By doing this activity, you will discover how the size and speed of a meteorite’s impact can affect the properties of a crater.

For this activity you will need the following:

• a bag of flour
• a box of cocoa (only if available)
• three small round pebbles (approximately 1 cm)
• three medium round pebbles (approximately 2 cm)
• three large round pebbles (approximately 3 cm)
• a newspaper
• a ruler
• a pen
• a shallow basin (at least 5 cm deep)
• experiment sheets (attached at end of activity)

Activity Instructions:

• Fill the basin with three or four centimetres of flour.
• Sprinkle a layer of cocoa on top of the flour (this makes the craters more visible).
• To test the size of the meteorite, hold three of your smallest pebbles one meter above the basin and drop them one by one into the flour.
• From the same height, drop your medium-sized pebbles into the basin.
• Do the same with your large pebbles.
• Carefully remove the pebbles from the basin.
• Observe and compare the craters.

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Activity 5 - Making Craters - continued

- Record your results on the experiment sheet.
- To test the speed of the meteorite, select three medium sized pebbles.
- Smooth out the flour and cocoa.
- Drop the first pebble from one meter, the second from two meters and the third pebble from three meters high. You may need to stand on a chair.
- Remove the pebbles from the basin and observe the craters produced at all three speeds.
- Record your results on the experiment sheet. What do you notice about the craters? Are they the same? Are they different? Why?

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| **Experiment 2**       |
| **Speed of Meteoroid**  |
| Record the Crater Diameter for: |
| 1 m | 2 m | 3 m |
| What can you conclude? |
| | |
| | |
| | |

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Activity 5 - Making Craters - continued

Meteoroid Experiments

Experiment 1

Size of Meteoroid

Record the Crater Diameter for:

- Small
- Medium
- Large

What can you conclude?

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Activity 5 - Making Craters - continued

Meteoroid Experiments

Experiment 2
Speed of Meteoroid

Record the Crater Diameter for:

1 m  2 m  3 m

What can you conclude?

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