All About Meteors

Engage

What To Do:
1. Observe the photograph below.

Photo courtesy Wikipedia Commons, Shane Torgerson

What do you notice?

What do you wonder?

Explore

Materials: Cocoa powder, flour, rectangular cake pan, 3 small rocks, 3 large rocks, newspaper, ruler

What To Do:
1. Your teacher will have filled the cake pan about ½ full of flour and spread out the cocoa powder on top in a thin layer using a ruler, so the top is smooth.
2. Spread several sheets of newspaper on the floor and place the pan in the center of the newspaper.
3. Have a volunteer stand on a chair above the pan of flour.
4. The volunteer should drop a small rock into the pan.

DO NOT THROW THE ROCK!!!!

5. Repeat two more times with small rocks.
6. Choose one crater and draw and color what you see in the observations below.
7. Measure the diameter of the crater in cm. Place the measurement in the table under the observation.
8. Smooth out the cocoa powder and flour and repeat with 3 large rocks.

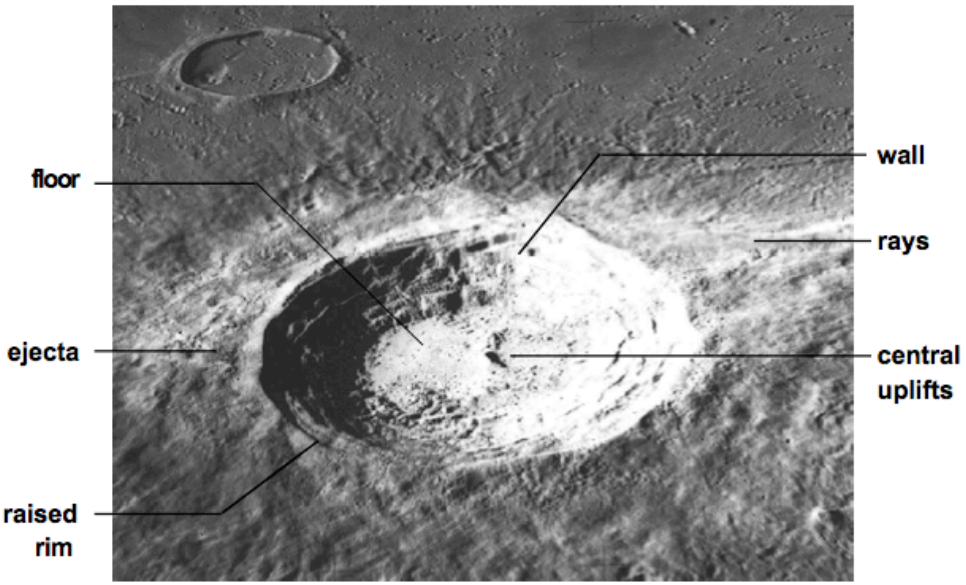
Small Crater Drawing	Large Crater Drawing
Crater Diameter:	Crater Diameter:

When the meteorite hits the ground something interesting happens. The soil below it explodes out of the crater and falls on top of the ground. This is called **ejecta**.

Sometimes the ejecta spreads out evenly and sometimes it goes out in **rays**.

Impact craters always have a **raised rim**, **a wall** and a **floor**.

Observe the picture below and look for these structures in your impact craters.
Label them on your drawings.
Label them on the picture you observed in the Engage.



ALL ABOUT METEORS

Explain

METEORIOD

METEOR

METEORITE

Elaborate

1. Watch the following video "Meteor. What is a meteor, meteoroid, and meteorite?" at https://www.youtube.com/watch?v=Z7k5VCwMAmU
2. Fill in the blanks with the words from the WORD Bank.

WORD BANK

comets	iron	burns	hits	
showers	pebbles	meteor	light	tail

1. Meteoroids come from _____ and asteroids.
2. Meteoroids can be the size of _____ to around 33 feet.
3. Most meteoroids are made of rock, _____, and nickel and are the size of baseballs.
4. Once a meteoroid enters our atmosphere it becomes a _____.
5. A meteor is a meteoroid that _____ up as it passes through the earth's atmosphere creating a streak of _____ in the sky.
6. Most meteors happen when earth passes through the trail of dust and debris associated with the _____ of a comet.
7. Meteor _____ are when many meteors occur at the same time in the same part of the sky.
8. If a meteor survives the trip thought Earth's atmosphere and _____ the earth's surface, it is now called a meteorite.

Watch the video Arizona's Jaw-Dropping Mile-Long Meteor Crater at https://www.youtube.com/watch?v=odGrgsLkfUQ
This is the picture that you saw in the Engage. Write one thing you learned in the space below.

Evaluate

Name _____ period _____

EXIT TICKET

All About Meteors

1. Which stage of a shooting star is found in space?

A. meteor
B. meteoroid
C. meteorite

2. One of the best preserved meteor craters is found in -

A. Texas
B. Arizona
C. Utah
D. California

3. When many meteors occur at the same time in the same part of the sky, this is called a –

A. Meteor Shower
B. Meteor Storm
C. Meteor Hurricane
D. Meteor Tornado

Conclusion: (metal, rock, meteoroids, meteorites, meteors)

Meteors can be made of _____ , _____ or a combination of both. When they are out in space they are called _____. When they enter the earth's atmosphere, they are called _____. If they make it through the atmosphere and land on the earth, they are called _____.