



Fernbank Science Center

Title: 6th Grade Experience: Impact Earth! (4645)

Level: 6th Grade

Location: Main Building

Type: Single Visit

Length: 1.5 hours

Limit: 1 team (4 classes)

Program Description

Impact Earth combines a 25-minute planetarium show with two half-hour presentations on meteorites and impact craters by two active research scientists in impact geology.

Impact Earth Planetarium Show:

Explore the past catastrophes and future risks to Earth from violent collisions with comets and asteroids big and small in a full-dome presentation narrated by astronaut Tom Jones.

Falling Skies:

Investigate the science of asteroids and meteorites and the ancient worlds from which they come, as students hold 4.5 billion year-old rocks in their hands. Learn how to identify rocks that have fallen from space, and explore the history of meteorite falls in Georgia.

The Cratered Earth:

Tour the world examining the scars of ancient asteroid and comet impacts. Learn how scientists discover new impact craters. And witness the dynamic formation of a small crater before your eyes!

Standards

S6E1(f): Describe the characteristics of comets, asteroids, and meteors.

S6E5(f): Explain the effects of physical processes (plate tectonics, erosion, deposition, volcanic eruption, gravity) on geological features including oceans (composition, currents, and tides).

Vocabulary

asteroid

comet

meteoroid

meteorite

impact crater

Meteor Crater

bolide

mass extinction

Chicxulub

Tunguska

shock wave

Pre-Visit Activity

Visit the website: <http://www.passc.net/EarthImpactDatabase/>

- A. Choose three (3) impact craters.
- B. List the name, location, and age.
- C. Compare and contrast their shapes. Develop a hypothesis to explain the differences.
- D. What type of meteor formed each one?

Post-Visit Activity

Visit the website: <http://impact.ese.ic.ac.uk/ImpactEffectsMap/>

(Start at <http://impact.ese.ic.ac.uk/> if the site fails for any reason.)

Fill in your current latitude and longitude and then play around with the size, density, velocity, and trajectory parameters of an asteroid aimed at your location.

Try at least three different sets of conditions and compare the effects.