

WORKSHEET
Science on Saturday

Planetary Defense: Avoiding a Cosmic Catastrophe

Video Link:

[Planetary Defense: Avoiding a Cosmic Catastrophe](#)

Presenters:

Megan Bruck Syal, Mary Burkey – LLNL Scientists

Dan Burns – Science Teacher – Los Gatos High School (ret.)

1. In what state can Meteor Crater be found?

2. What happened to most of Earth's impact craters?

3. About how many near-Earth asteroids are discovered every year?

4. About how many meters wide is the asteroid Bennu?

5. What type of planetary defense spacecraft uses a high-speed collision to deflect an asteroid?

6. What does DART stand for?

7. How many megajoules (MJ) of energy does a high explosive contain per kilogram?

8. What name do planetary defenders use to identify when a nuclear device completely breaks up an asteroid instead of just deflecting it?

9. If Earth had only months to deflect an asteroid and it was 500 meters in diameter, what would be the best choice for defending Earth from it?

10. For planetary defense we need to _____ more asteroids, computer model asteroids and impacts better, develop mission _____ to prevent asteroid impacts, cooperate _____ on impact prevention and preparation, and prepare emergency procedures in the event of an impact.