

DEFENDING THE FUTURE

Scientists believe that it's not a matter of IF an asteroid will hit Earth again; it's a matter of WHEN and WHERE.

As we see in *Asteroid Hunters*, even a small meteor would crash with enough energy to permanently change our world—not only would people need to be evacuated for hundreds of miles from the impact zone, but in today's global economy, the impact would be felt around the world.



PART 1 CURRENT PROJECTS

Asteroid Hunters gives us a glimpse at some of the work scientists and space agencies are doing to deflect future asteroid impacts and/or reduce their damage. For example, we meet Marina Brozović, a scientist at NASA's Jet Propulsion Laboratory who uses radar beams to study asteroids from the Mojave Desert.

What other technologies do you see in the film? Start with the three examples below. Record some details you learned about each one, and then add two of your own.

• Observer Probe:

• Nuclear Probe:

• Computer Simulation:

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PART 2 PLANNING COMMITTEE

Now, it's your turn. Get together with a group of classmates and imagine that you are a coalition of scientists, engineers, emergency managers, and political leaders. There is an asteroid headed for Earth that is expected to hit in 6 months.

A computer simulation estimates that after burning through our atmosphere, the asteroid will be approximately 150 feet in diameter when it approaches the surface, about double the 2013 Chelyabinsk meteor seen in the film. Your teacher will work with you to select a location to study. Use this sheet to outline your planning.

Location

- What are the unique hazards presented at this location?
- What advantages does this location have in terms of harm reduction?
- Besides safety of residents, what might be the ecological or economic effect of an impact in this location?

Deflection

- What method will you use to try to deflect or eliminate the asteroid? You can choose one discussed in the film or devise your own strategy.
- Why do you think this is the best option?

Evacuation

- If impact is inevitable, how will you keep people safe?
- Where will you send people, assuming you need to evacuate for hundreds of miles?
- How will you get food and water to displaced residents?
- How will you handle communications and electricity, if at all?
- What systems will you implement for keeping as much of the economy as possible intact?

Present Your Plan!

Once you've outlined a plan with your group, put together a presentation or model of your strategy for deflection and harm reduction to share with the class.

