

# ASTEROID STRIKE!

ASTEROIDS are rocks in space. When an asteroid enters Earth's atmosphere, it's called a meteor. If it hits Earth's surface, it's known as a meteorite.

Grab your hard hats, gang, and join NG KiDS as we investigate how scientists are hoping to stop deadly space rocks from colliding with our planet...



A 27m-wide asteroid screams towards Earth at 64,000kmph. As the rock slams into the atmosphere, a white streak appears in the sky above Russia and the meteor explodes with the force of 30 atomic bombs. Its shock wave shatters windows and damages walls in the city of Chelyabinsk. More than 1,200 people are injured.

It may sound like a Hollywood movie storyline, but that incident happened on 15 February this year. Amazingly, our planet is pummelled by space rocks *all the time*. Fifty thousand tonnes of material hits the Earth's surface every day — enough to fill 5,000 dumper trucks! Most of these space rocks are too small to do any damage. But a *really* big rock could be a really big problem.

Sixty-five million years ago, an asteroid nearly 10km wide wiped out almost every living thing on our planet — including the dinosaurs!

It might be millions of years before another asteroid that size hits us, but chances are high that it *will* happen eventually. So to prevent a disaster, scientists are using powerful telescopes to search the sky for dangerous space rocks. And they're working on ways to stop them should they spot one headed for a collision with Earth. Here are five of their ideas...



Most meteorites are small, like these.

By studying asteroids, we can learn how the solar system was created and how life on our planet formed.



A meteor (left) streaks through the sky over the city of Chelyabinsk. Its shock wave damaged many of the city's buildings (above).

1

## SHOVE IT

The easiest way to stop an asteroid may be to ram it with a spacecraft. If you do it early enough, a small galactic bump would be enough to change the asteroid's orbit and speed.

"Just a tiny change in speed (even as little as the speed of a crawling baby!) would make the asteroid pass by Earth instead of hitting us," says David Morrison, who studies asteroid impacts at the SETI Institute (Search for Extraterrestrial Intelligence), a scientific organization that looks for evidence of life elsewhere in the universe.

2

## PULL IT



A spacecraft approaches an asteroid...

You don't have to touch an asteroid to change its path. If you fly a spacecraft right next to the asteroid, the craft's gravity will pull on the asteroid just enough to change its speed. "Some of these objects are surprisingly fragile," says SETI space rock expert Peter Jenniskens. "Even a light bump could blow one apart and create smaller, but just-as-dangerous, asteroids. So if you can avoid touching it, that's best!"

3

## PAINT IT

The idea of decorating a deadly object might sound silly, but some scientists think it's the best idea. White reflects sunlight — that's why a white T-shirt keeps you cooler than a black one on a hot day.

Painting part of an asteroid white would cause the Sun's rays to bounce off the surface, giving the asteroid a slight push. Clever!