

Colliding galaxies

SCRIPT:

Imagine looking up at the night sky and watching a fireworks display of exploding stars...as another galaxy crashes into our own. Far-fetched?

It was – until scientists discovered that galaxies do crash into each other...and one day, it may happen to our own galaxy. Pictures from the Hubble Space Telescope show us huge galaxies – with oceans of stars – are crashing into each other. The stars go flying as if they were poured into a mixing bowl and stirred by the gravitational forces of other stars. New stars are formed and some explode. When it's over, scientists believe that two galaxies can slowly become one...forming a new and bigger galaxy with a rounder shape.

These big rounded galaxies are everywhere, suggesting that galaxies have been crashing into each other for a long time. In fact, scientists now calculate that our own neighboring galaxy, called the Andromeda Galaxy, is heading for us. At some point down the road, it will become very bright in the night sky...producing a fireworks display from the birth and explosion of stars.

The outcome for the Earth could be dangerous. But it's not supposed to happen for another five billion years. So, don't worry, we can all sleep easy tonight, and for millions of years to come.

Relevant NSES Standards

NSES Content Standard A: Understanding about scientific inquiry.

(Grades K-4) Scientists develop explanations using observations.

(Grades 5-8) Scientific explanations emphasize evidence.

(Grades 9-12) New technologies provide new evidence.

NSES Content Standard B: Physical science; position and motion of objects.

(Grades K-4) Position and motion can be changed by pushing and pulling.

(Grades 9-12) Gravitation is a universal force that each mass exerts on any other mass.

NSES Content Standard D: Earth and space science.

(Grades K-4) Objects in the sky. Stars (and galaxies)

NSES Content Standard E: Understanding about science and technology.

(Grades K-4) Tools help scientists make better observations.

(Grades 5-8) Technology provides better instruments for science.

(Grades 9-12) Science often advances with introduction of new technology.

NSES Content Standard G: History and nature of science.

(Grades 5-12) Science can change as new evidence becomes available.

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