

Colliding Galaxies Lesson Plan

Time: 40 minutes

Goals: To gain an understanding of what it means for galaxies to collide with each other.

Objectives: Students will:

- Watch the "Colliding Galaxies" segment of the "How far away is it" video book
- Take a short quiz

Materials:

• Internet connection with a computer for viewing <u>"Colliding Galaxies" segment on</u> <u>YouTube</u>

Directions:

- Introduce the 'Colliding Galaxies'' segment as a focused look at interacting galaxies. Point out that this will include the possible future collision between the Milky Way and Andromeda.
- Show the video.
- Review what they saw:
 - The key factors for a collision's outcome are the size, mass, velocities and angle of collision.
 - Colliding galaxies in various stages of a collision including the Mice, the Owl and the Tadpole galaxies.
 - The simulated collision of the Milky Way with Andromeda.

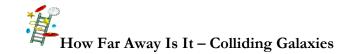
Assessment:

Take a simple quiz. Print and distribute the quiz on page 2. Here are the answers:

- When galaxies collide, do the stars crash into each other? <u>Answer</u>: No – because of the great distance between stars in each galaxy.
- Can a very small compact galaxy significantly disrupt a much greater galaxy in a collision?

Answer: Yes. The Tadpole galaxy is an example.

• How long does a galaxy collision process take? <u>Answer</u>: d) billions of years.



Colliding Galaxies quiz

- When galaxies collide, do the stars crash into each other?
- Can a very small compact galaxy significantly disrupt a much greater galaxy in a collision?
- How long does a galaxy collision process take?
 - a) A million years
 - b) 100 million years
 - c) 500 million years
 - d) Billions of years

