# 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 "Colliding Galaxies" segment on YouTube

**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?
  **Answer**: 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?
  **Answer**: 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