Local Superclusters Lesson Plan

Time: 40 minutes

Goals: To gain an understanding of the content, structure and distances to the galaxies in our Local Superclusters.

Objectives: Students will:

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

Materials:

- Internet connection with a computer for viewing "Local Superclusters" segment on YouTube

Directions:

- Introduce the 'Local Superclusters' segment as our first view large enough to see that galaxies congregate into walls around voids. Point out that this segment will take us out to see a galaxy a billion light years from us.
- Show the video.
- Review what they saw:
    - The Great Coma Wall of galaxies.
    - Superclusters: Hydra, Centaurus, Perseus-Pisces, and Coma.
    - The Great Attractor.
    - Einstein rings.

Assessment:

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

- Are the 5 Stephen's Quintet galaxies all in the same general vicinity?
  Answer: No – one of them is much closer to us than all the others.
- What force of nature creates Einstein Rings?
  Answer: d) Gravity.
- How many stars are there in our Local Superclusters?
  Answer: d) 250 thousand trillion stars in our Local Superclusters.

Local Superclusters quiz

- Are the 5 Stephen's Quintet galaxies all in the same general vicinity?

- What force of nature creates Einstein Rings?

  a) Electromagnetic energy
  b) Electron exclusion pressure
  c) Supernova
  d) Gravity

- How many stars are there in our Local Superclusters?

  a) 100 trillion
  b) 100 thousand trillion
  c) 200 thousand trillion
  d) 250 thousand trillion