

Cosmos Counting

Target Standard Communication

- Organize and consolidate their mathematical thinking through communication
- Communicate their mathematical thinking coherently and clearly to peers, teachers, and others
- Analyze and evaluate the mathematical thinking strategies of others
- Use the language of mathematics to express mathematical ideas precisely

Related Standard Number and Operations

- Develop and use strategies to estimate the results of whole-number computations and to judge the reasonableness of such results

Teaching Plan

Materials

Hubble image of numerous galaxies
Cosmic Counting activity sheet

Implementation

1. Provide each student with a copy of the attached Hubble image of galaxies also found online at: (<http://opposite.stsci.edu/pubinfo/pr/2000/08/index.html>)
2. Ask students to determine how many galaxies are visible in this image from the Hubble Space Telescope. Working in pairs, have students estimate and then actually count the galaxies in this field of view.
3. Students should record their answers on the **Cosmic Counting** activity sheet and share their estimation strategies with their partner.

Name: _____

Cosmic Counting: Partner Problem Solving

Partners: _____

Write the problem you are trying to solve in your own words:

Solve the problem. You may use the space below to record your thinking!

After solving the problem, write down the steps you completed to get to your solution:

Hubble Space Telescope Image of Galaxies



Image courtesy of NASA: [NASA](#), A. Fruchter and the [ERO Team \(STScI, ST-ECF\)](#),
found online at: <http://oposite.stsci.edu/pubinfo/pr/2000/08/index.html>