

Topics: Solar System,
Astronomy

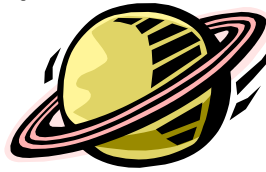
Materials List

- ✓ 9 pony beads of different colors (same selection for each student)
- ✓ 30 cm (12") of leather strap or equivalent
- ✓ Copy of the Student Sheet

This activity can be used to teach:

- Science & Engineering Practices (Next Generation Science Standards: Grades 4-8)

Solar System Bracelets



Having students create models can serve both as an effective review method as well as a performance-based assessment. By requiring students to make clearly justified choices in how they construct their models, teachers create a rich opportunity for students to apply learned vocabulary. Creating a “Solar System Bracelet” is simple to do, yet requires careful thought and reasoning to create and justify a good model.

To Do and Notice

1. After a unit on the planets in the Solar System, present students with a set of materials and a copy of the handout. Ask students to create a bracelet that represents the Solar System.
2. The 9 beads represent the Sun and the eight planets. Students need to choose a bead to represent each of the planets and must string them accordingly.
3. Students then use the handout to explain the reason for each bead choice, using specific information about the particular space object in their justifications.

Rubric for Assessment

- 4 –Student shows excellent understanding of the Solar System by completion of the bracelet and explanation table. Students make appropriate bead choices for the Sun and nine planets. Explanations in the “reasons for choice” table provide clear, accurate and significant details about the planets using appropriate vocabulary. Errors, if present, do not distract from an overall understanding of the Solar System.
- 3 –Student shows good understanding of the Solar System by completion of the bracelet and explanation table. Students make appropriate bead choices for the Sun and nine planets. Explanations in the “reasons for choice” column provide clear reasons for choices, but may lack detail. Some errors and minor omissions may be present
- 2 –Student shows some understanding of the Solar System by completion of the bracelet and partial completion of the explanation table. Students make bead choices for the Sun and planets. Some of the explanations in the “reasons for choice” column provide appropriate reasons for choices, but may lack detail or are flawed. Errors and omissions are present.
- 1 –Student shows little understanding of the Solar System by partial completion of the bracelet and some completion of the explanation table. Student’s bead choices are random, inaccurate, and/or incomplete. Explanations are incomplete, inaccurate, or highly flawed. Errors and omissions are present throughout the task.

Web Resources (Visit www.raft.net/raft-idea?isid=391 for more resources!)

In August, 2006 the IAU redefined the term "planet" and classified Pluto, Ceres, and Eris as dwarf planets. See the following web site for details:

<http://solarsystem.nasa.gov/planets/profile.cfm?Object=Pluto&Display=Overview>

For Solar System information see: www.jpl.nasa.gov/solar_system/index.cfm

Solar System Bracelets



Using the beads and leather strap, create a bracelet representing the Solar System. Choose one bead to represent the Sun and assign the other beads for each of the eight planets.

- String your chosen “Sun” onto the leather strap
- String the “planets” in correct order onto the leather strap
- Using the chart below, explain the **reasons** for your **choices**, providing **specific details** about the space object.
- Complete the bracelet by putting both ends of the leather strap through the sun bead creating a loop. When it is on the wrist, this loose end can be pulled so that it fits the wrist as desired before being tied off.

Solar System object	Bead color	Reason for choice (include specific details and facts)