

# Astronomy Evaluation

## Teacher Section

**Overview:** Kids will demonstrate how well they understand important key concepts from this section.

**Suggested Time:** 45-60 minutes

**Objectives:** Students will be tested on the key concepts:

- Understand how objects in our solar system, including the sun, the planets, their moons, asteroids, and comets fit together in our solar system.
- Demonstrate how the laws of physics are used to predict motion of objects.
- Be able to perform real experiments using scientific instruments, like telescopes to take observational data.

Students will also demonstrate these principles:

1. Collecting and interpreting data from an experiment
2. Making valid observations based on their actions in lab

### Materials (one set for entire class)

- |               |                          |
|---------------|--------------------------|
| • string      | • 3 peppercorns          |
| • flashlight  | • beach ball             |
| • index card  | • 2 marbles              |
| • pencil      | • 2 pins (with pinheads) |
| • tennis ball | • 2 shooter size marbles |
| • marble      | • scissors               |

### Lab Preparation

1. Print out copies of the student worksheets, lab practical, and quiz.
2. Have a tub of the materials in front of you at your desk. Kids will come up when called and demonstrate their knowledge using these materials.

### Lesson

The students are taking two tests today: the quiz and the lab practical. The quiz takes about 20 minutes, and you'll find the answer key to make it easy to grade.

# Astronomy Grade 8 Evaluation

## Student Worksheet

**Overview:** Today you're going to take two different tests: the quiz and the lab practical. You're going to take the written quiz first, and the lab practical at the end of this lab. The lab practical isn't a paper test – it's where you get to show your teacher that you know how to do something.

### Lab Test & Homework

1. Your teacher will call you up so you can share how much you understand astronomy. Since science is so much more than just reading a book or circling the right answer, this is an important part of the test to find out what you really understand.
2. While you are waiting for your turn to show your teacher how much of this stuff you already know, you get to get started on your homework assignment. The assignment is due next week, and half the credit is for creativity and the other half is for content, so really let your imagination fly as you work through it. Choose one:
  - a. Design a new solar system with a two stars (binary) in the center orbiting each other. Write a short story or skit about the planets, moons, asteroids, and comets in your new solar system from the perspective of one of the stars in a binary star system.
  - b. Make a poster that teaches the main concepts of our solar system, including the sun, planets, moons, asteroids, comets, and Kuiper Belt objects. When you're finished, you'll use it to teach to a class in the younger grades and demonstrate each of the principles that you've learned.
  - c. Write and perform a poem or song about the sun. This will be performed for your class.