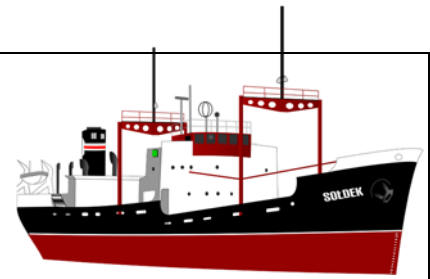


Name _____



Cosmic Challenges

Directions: Each space challenge uses place value in a different way. Read carefully, show your thinking when needed, and answer each question.

1. Supply Shipment - A cargo ship headed to the Moon is carrying 3,482,715 grams of food and equipment. The pilot accidentally reads the number as 3,428,715. Which two digits did the pilot switch, and how did that mistake change the value of the shipment amount?	Workspace
Workspace	2. Robot Repair - A repair robot needs a six-digit access code. The code has a 7 in the hundred-thousands place, a 3 worth 3,000, a 9 in the tens place, and zeros in the remaining places. What is the access code?
3. Planet Survey - Planet Nova has 6,205,418 glowing crystal formations. Planet Vela has 6,250,148. Without subtracting, explain which planet has more crystals and identify the first place value where the numbers are different.	Workspace
Workspace	4. Comet Tracker - A comet traveled 84.637 million kilometers during one part of its orbit. A scientist says the digit 6 represents six tenths of a million kilometers. Is the scientist correct? Explain what the 6 actually represents.
5. Alien Arcade - In an alien arcade game, your score must round to 450,000 when rounded to the nearest ten thousand. Write two different possible scores that would work. Score 1: _____ Score 2: _____	Workspace