Name _____ Date _____

# Stepping Out the Solar System Answer Key

**Part 1.** Calculate the scale to fit the large area in which your class will model the solar system.

1. Distance across area = _____ total paces
2. Distance to Kuiper Belt = _____ Astronomical Units (AU)
3. If the Kuiper Belt is at the far edge of our area, how many paces should equal 1 AU?

   1 AU = _____ paces

Hint: If the area provides enough space, the distance from the sun to the Kuiper belt is approximately 40 AUs. If the distance you have available is 100 paces, the distance to the Kuiper belt is 39.5, and one AU is equal to 2.5 paces. (100 divided by 39.5 = 2.5) If your distance is different, calculate the same way. Number of paces divided by 39.5 will equal the number of paces required to represent an AU.

**Part 2.** Complete the table below and calculate the paces for each item listed. Calculate the number of paces for each planet's orbit, based on the data and the area you have to work in. Use the hint from Part 1 to help you calculate.

| Planet or Other Body | Distance in Astronomical Units (AU) | Distance in Paces |
|---|---|---|
| Sun | 0 | Answers will vary. |
| Mercury | 0.4 | Answers will vary. |
| Venus | 0.7 | Answers will vary. |
| Earth | 1 | Answers will vary. |
| Mars | 1.5 | Answers will vary. |
| Asteroid Belt | 2.8 | Answers will vary. |
| Jupiter | 5.2 | Answers will vary. |
| Saturn | 9.5 | Answers will vary. |
| Uranus | 19.2 | Answers will vary. |
| Neptune | 30.1 | Answers will vary. |
| Kuiper Belt | 39.5 | Answers will vary. |