



# “Spiders in Space”

## Orion’s Quest Mission IX

### Mission Worksheet: Part 1

“Spiders in Space” is a study of 2 spiders, one living in a habitat onboard the International Space Station 200 miles above Earth, and the other living in an identical habitat on Earth. Each spider habitat was continuously photographed during this experiment and some of those photos are now available for your analysis. In this mission you will be asked to do a series of activities online. Each activity uses space-based (FLIGHT) photos and an equal number of earth-based (GROUND) photos. To start this mission, record your predictions in Part I below and then move on to the activities detailed in Parts II through V.

#### Part I.

##### Predictions

A. The first activity will ask you to compare the growth of the spider in space with that of the spider on earth. What do you predict will happen to the size of each spider during the experiment? Compare one to the other. **Use complete sentences. Be sure to state WHY in your prediction.**

| Spider         | Predictions |
|----------------|-------------|
| Ground Spiders |             |
| Space Spiders  |             |

B.. The second activity will ask you compare the location of spider web HUB for the spider in space with that of the spider on earth. Use what you have learned about orb weaving spider webs on earth and the conditions in space to predict what differences there might be in the location of the web HUB within each habitat. **Use complete sentences. Be sure to state WHY in your prediction.**

| Spider         | Predictions |
|----------------|-------------|
| Ground Spiders |             |
| Space Spiders  |             |

C. The third activity will ask you compare the orientation (direction the spider is facing) of the spider on the web in space with that of the spider on earth. Use what you have learned about orb weaving spiders and the conditions in space to predict what differences there might be in the orientation of the spiders in the photos. **Use complete sentences. Be sure to state WHY in your prediction.**

| Spider         | Predictions |
|----------------|-------------|
| Ground Spiders |             |
| Space Spiders  |             |

D. The fourth activity will ask you compare the symmetry (look) of the webs made by the spider in space with that of the webs made by the spider on earth. Thinking about shape, size, detail, position in the habitat, hub location and more, predict what differences there might be in the way the webs of the spiders look. **Use complete sentences. Be sure to state WHY in your prediction.**

| Spider         | Predictions |
|----------------|-------------|
| Ground Spiders |             |
| Space Spiders  |             |

