

LAB 4

Checkout Questions

Lab 4. Habitable Worlds: Where Should NASA Send a Probe to Look for Life?

1. Draw a model showing the relationship between Earth, the Sun, an exoplanet, its star, the Milky Way galaxy, and the universe.

2. What are three characteristics that make life possible on Earth?

3. An exoplanet is discovered that has the following characteristics:

- A diameter 1.7 times that of Earth
 - An orbital period of 42.6 days
 - An orbit semi-major axis of 0.8823 AU
- a. Based on the information provided, how confident can you be that this exoplanet is able to support life as we know it? Mark your answer on the line below

Not at all confident • _____ • Very confident

b. Explain your answer.

c. What additional information would make you more confident and why?

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4. A list of planet-star radius ratios is an example of evidence.

- a. I agree with this statement.
- b. I disagree with this statement.

Explain your answer, using an example from your investigation about habitable worlds.

5. Scientists assume the universe is a vast single system in which basic laws are consistent.

- a. I agree with this statement.
- b. I disagree with this statement.

Explain your answer, using an example from your investigation about habitable worlds.

