Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Pd:\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Activity 2: Why is There Abundant Life on Earth?**

Examine the information provided in the table below and answer the following questions. (Note: 0.8 MEarth means that the planet has a mass that is 80% the mass of Earth.)

|  |  |  |  |
| --- | --- | --- | --- |
| **Planet Name:** | **Venus** | **Earth** | **Mars** |
| **Planet Mass (MEarth):** | 0.8 M Earth | 1 M Earth | 0.1 M Earth |
| **Planet Radius (R Earth):** | 0.95 R Earth | 1 R Earth | 0.5 R Earth |
| **Distance from Sun (DEarth):** | 0.7 D Earth | 1 D Earth | 1.5 D Earth |
| **Average Surface Temperature:** | 456 oC | 10 oC | -95 oC |
| **Atmosphere:** | Thick | Medium | Thin |

A. Which of the characteristics listed in the table above allow life to flourish on Earth but not Venus and Mars? Explain your reasoning.

B. Describe how the characteristics identified in question A would change if the following changes were made.

i. The Earth was moved closer to the Sun.

ii. The Earth was moved farther from the Sun.

iii. The Sun's temperature was much hotter and it was much larger.

iv. The Sun's temperature was much cooler and it was much smaller.