

TEST #3 – section 2
Dec 8, 2015

1. What is the *panspermia* model and how does it explain the origin of life on Earth?
2. Why do we believe that water is the best liquid for life, and where in the solar system can we hope to find water in liquid form?
3. What are some of the main features of Martian weather? Discuss the differences between the north and south hemispheres, seasonal changes, terrain features and current geology.
4. What are the prospects for life on Titan? Make your case by discussing all factors that might make Titan habitable, and explain whether we can hope for complex life to develop there.
5. How do we define the habitable zone? In case of our solar system, what defines the soft (optimistic) and the hard (pessimistic) boundaries? Does the body need to be in the habitable zone to be habitable, and is a body necessarily not habitable if it is outside the habitable zone? Fortify your answer with examples.
6. Discuss the habitability of Earth through time. What can we say about habitability in the past, present and future? How exactly will Earth fare once the Sun becomes sufficiently brighter to trigger a moist greenhouse effect? Provide the details of geological transformation that Earth will undergo.