

## The Inner Planets: Mercury and Venus

### **Planet 1 – Mercury**

1. Why doesn't Mercury have an atmosphere? Give at least two reasons.
2. How does Mercury's composition compare to that of the other inner planets?
3. Why is so little known about Mercury, relative to the other planets?
4. Mercury is often compared to the Moon. Give at least one way in which it is different.

### **Planet 2 – Venus**

5. As recently as the 1950s, many people envisioned Venus as a wonderful paradise with lush vegetation, fed by incessant rains, hidden beneath its thick clouds. What is it really like down there, and how do you imagine that these optimists were first proven wrong?
6. Venus is about the same size, mass, and composition as Earth. How are they different? Speculate about the reason for these differences.
7. Earlier in this course, we discussed the rule of thumb that everything in the solar system goes counterclockwise. Venus' rotation is an exception: it spins clockwise as seen from above the north pole. What is the leading theory for why Venus is so anomalous in this way?
8. Venus' surface has a uniform age of about 800 million years. How do we know this? What are its implications for the way surface processes seem to act on this planet?