2000 NSO The Solar System **"Worlds of Change"** **Answer Key**

1. [2] Jupiter is a gaseous planet and therefore has no solid surface.

2. [3] Dark. Fewer impact craters. Lava flows butted against features with higher elevations.

3. [3] Near. Older highlands and younger maria on the near side. Far side is heavily cratered.

4. [2] Ejected surface material and fragments of the meteorite itself.

5. [2] Those with rays are younger [or] those without rays are older.

6. [2] By a lava flow.

7. [2] Rille. Hadley crater is embedded upon the rille.

8a. [1] A "shattered" comet

8b. [2] For these fragments to impact in a straight line, the satellite had to be rotating.

8c. [1] They are the youngest features on Ganymede.

9. [2] So few impact craters on Mars as compared to the number on the Moon.

10. [3] Mars has much less mass than Earth, therefore it has less gravity thus permitting volcanoes to grow to a much larger size.

11a. [2] Steep, well-defined slopes

11b. [2] Very few craters have impacted upon this larger crater as compared to the area surrounding the crater. [Responses to 11a and 11b may be reversed.]

12. [4] Two points each for any two of the following: they're flattened; they display rounded and indistinct slopes; the larger crater partially covers the crater in the upper right; and there are smaller craters within them.

13. [2] The small impact crater located down and to the left of the central peak should be circled on the photo.

14. [1] Callisto	19. [1] Ganymede	24. [1] V	29. [1] I
15. [1] Io	20. [1] IV	25. [1] III	30. [1] II
16. [1] Europa	21. [1] VI	26. [1] VI	31. [1] III
17. [1] Europa	22. [1] I	27. [1] V	
18. [1] Io	23. [1] II	28. [1] IV	