Introduction

1. Name as many astronomical objects (planets, stars, etc.) as you can.

2. Describe what something astronomical (e.g. the night sky, the sun or moon, etc.) means to you in about 100 words – or, you can write a poem, draw something, create music, or anything else you want.

The Universe

3. Was the universe created in an alien laboratory?

4. Describe as precisely as you can, exactly where you are in the Universe — you can use galactic, celestial, and geodetic coordinates too.

5. If you could send a message to the other end of the universe, what would it be?

6. Briefly describe the composition, size, age, and origin of the universe.

7. What is the Big Bang?

Stars, Galaxies, and Black Holes

8. Harness the power the nearest star to construct a *cosmic death ray*.

_____

9. What is a *quasar*, and what is the likely source of its power?

_____

10. Name five galaxy types, and give examples.

_____

_____

_____

11. What is a black hole? How do we know they exist?

_____

12. Could a Black Hole be used for intergalactic or time travel? How?

_____

_____

_____

13. Name three candidate black holes. Can you find them in the Night Sky?

_____

14. Name two variable stars currently visible in the Night Sky.

_____

15. What's the difference between *physical* and *optical* multiple stars?

_____

16. What's the difference between *open* and *globular* star clusters?

_____

The Solar System

17. Make a table of planets and their basic properties. (see *Table 1*)
18. What's the difference between a *planet* and a *dwarf planet*?

_____

19. Roughly how many moons are there in the Solar System? _____

The Seasons

20. What is the cause of the seasons and what is seasonal lag?

_____

_____

21. Which *planetary phenomenon* is the best time to view a planet?

_____

Coordinate Systems

22. What is the simplest way (coordinate system) to point out an object in the sky?

_____

23. What are two types of telescope mounts?

_____

24. What is the best type of telescope mount for *tracking* objects in the sky?

_____

Extra-terrestrial Life

1. Are we alone? _____

Table 1: Physical Properties of the Solar System

	AU	Radius	Volume	Mass	Gravity (g)	Year	Day
Sun	*92M mi*					*250M years****	
Moon	*224K mi*					*27.32 days*	
Mercury							
Venus							
Earth	*1.0*	*6378 km*	*$1x10^{12}$ km^3*	*$6x10^{24}$ kg*	*9.81 m/s^2*	*365 days*	*24 hours*
Mars							
Ceres							
Jupiter							
Saturn							
Uranus							
Neptune							
Pluto							