**Video: “The Universe: How Big, How Far, How Fast?”**

1. About how many galaxies might exist in the observable universe?
   1. About how many stars can each galaxy contain?
2. Why is it hard for the human mind to comprehend the numbers of the universe? How can we try to begin to comprehend the size of the universe?
3. If we were to compare our solar system and our sun to a monster truck rally, how can we describe and compare the sizes of the various planets to each other and to the sun?
4. What is the name of the most massive star that astronomers have most recently discovered? How hot can it get?
5. What do we call the most massive, most dense type of stars? What is it (how is it formed)?
6. How many Earths can theoretically fit inside the Sun?
7. Name at least 3 different stars that are larger than the sun. Is our sun truly that large in comparison?
8. What would happen if Betelgeuse were to be located inside our solar system?
9. How far is Earth from the Sun? How far is Neptune from the Sun?
10. How long is the Neptunian year?
11. How is it possible that, despite such vast distances from the sun, the planets still revolve around the Sun?
12. What is a light year? What does one light year equal to? What is the speed of light?
13. How does the speed of light help us study and learn about distant objects in the universe?
14. Is the universe motionless? What does the sun orbit?
15. How fast does the Earth orbit around the Sun? How fast is the Milky Way galaxy traveling? Comparing these speeds to how fast we travel on Earth, what does it mean about our motion on Earth?
16. Which stars are our “closest” neighbors? What would happen if any other star were closer to us?
17. Any other interesting facts/information? Reflections?