

Name: \_\_\_\_\_

Period: \_\_\_\_\_

## Into the Universe with Stephen Hawking

### Time Travel Questions

- 1) If Stephen could travel back in time, he said he would like to visit what famous astronomer? \_\_\_\_\_.
- 2) Time is often considered the \_\_\_\_\_ dimension.
- 3) We live in a three dimensional world, where objects have a length, a width, and a \_\_\_\_\_. This is described with the fast car on a mountain road.
- 4) What is the name for tiny tunnels through space and time? \_\_\_\_\_ holes.
- 5) The most famous paradox (confusing situation) is usually called the grandfather paradox, but Stephen renames his the \_\_\_\_\_ paradox.
- 6) Stephen says that time travel to the \_\_\_\_\_ is probably not possible due to feedback, but that time travel to the \_\_\_\_\_ is something that could happen.
- 7) How many satellites are above the Earth in our GPS system? \_\_\_\_\_
- 8) What causes the clocks in the GPS satellites to run faster than they would on the surface of Earth? The \_\_\_\_\_ of the Earth.
- 9) What object at the center of our galaxy would make time travel to the future possible because it is super-massive? A \_\_\_\_\_
- 10) For every sixteen-minute orbit of this object as seen from Earth, the crew on the spaceship would experience only \_\_\_\_\_ minutes on their watches. Their time has slowed down!
- 11) 186,000 miles per second is the speed of \_\_\_\_\_.
- 12) If you could travel at this speed you could go around the Earth how many times in one second? \_\_\_\_\_ times
- 13) If the passengers on the train spend one week traveling at the speed of light going around the Earth, they will get out and how many years will have passed for everyone else while they were traveling? \_\_\_\_\_ years.
- 14) The fastest man-made object that ever flew was the rocket on which Apollo mission? Apollo \_\_\_\_\_.
- 15) If the future spaceship could travel at 99% of the speed of light, one day on the spaceship would be the same as 1 \_\_\_\_\_ back on Earth. The ship would be truly flying into the future!