

Viewing Guide for *Harmony of the Worlds*
(Cosmos: A Personal Voyage, Episode 3)

Name: _____

- 1) How is **astronomy** different from **astrology**?
- 2) What does Sagan mean that "we live in an in-between universe"?
- 3) What is a "law of nature"?
- 4) Why did all ancient peoples pay so much attention to the sky?
- 5) According to Sagan, what is the fundamental question at the root of modern science?
- 6) What is **retrograde motion**? How did Ptolemy and Copernicus each explain it?
- 7) How did Ptolemy's model effectively "prevent the advance of astronomy for 1500 years"? (When does science progress?)
- 8) What was Kepler's opinion of geometry? {How about *yours*?}
- 9) What was Kepler's "phantasm," his revelation which inspired his work?
- 10) Why did Kepler decide to go to work with Tycho?
- 11) What *is* science, according to Sagan?
- 12) What do eight minutes of arc have to do with our story?
- ★13) What are Kepler's three laws of planetary motion?