

Does the Sun go around the Earth, or does the Earth go around the Sun? One purpose of this workshop is to examine a common belief in the face of evidence. Instead of relying on what you may have been taught, you will use your own powers of observation and reason. What is the evidence in favor of each model of the universe? Which model is consistent with basic observations and common sense? Why? For example: Which body do you observe moving, the Sun or the Earth? Does it feel like Earth is moving?

These two tables list various criteria by which the Earth-centered and Sun-centered models have been judged. Based on your observations and reason, write a sentence describing how each model fits or fails to fit, in the second column. In the Success column, make a check (✓) when the model generally fits a criterion, and an (X) for criteria that don't fit.

This workshop will motivate your reading of Ch.1 of Big Bang by Simon Singh, from which these tables are drawn. A couple of lines are filled in as an example.

Criterion	Earth-Centered model (Sun goes around Earth)	Success?
1. Common sense		
2. Awareness of motion		
3. Falling to the ground	The centrality of Earth explains why objects appear to fall downward. Objects are attracted to the centers of large masses.	✓
4. Relative positions of stars changing or fixed?		
5. Predicting planetary orbits		
6. Retrograde paths of planets		
7. Simplicity		

<b>Criterion</b>	<b>Sun-Centered model (Earth goes around Sun)</b>	<b>Success?</b>
1. Common sense		
2. Awareness of motion		
3. Falling to the ground	There is no obvious explanation for why objects fall to the ground in a model where the Earth is not centrally located.	X
4. Relative positions of stars changing or fixed?		
5. Predicting planetary orbits		
6. Retrograde paths of planets		
7. Simplicity		

Which model fits your actual observations and reasoning better? \_\_\_\_\_

Any surprises? \_\_\_\_\_

Any new insights or questions? \_\_\_\_\_

Turn in this workshop at the end of class, and get it back after you have read the Singh assignment.

Reflect on how your understanding evolves in the course of reading and discussing these models.

Use this experience as a model for future investigations into other beliefs.