

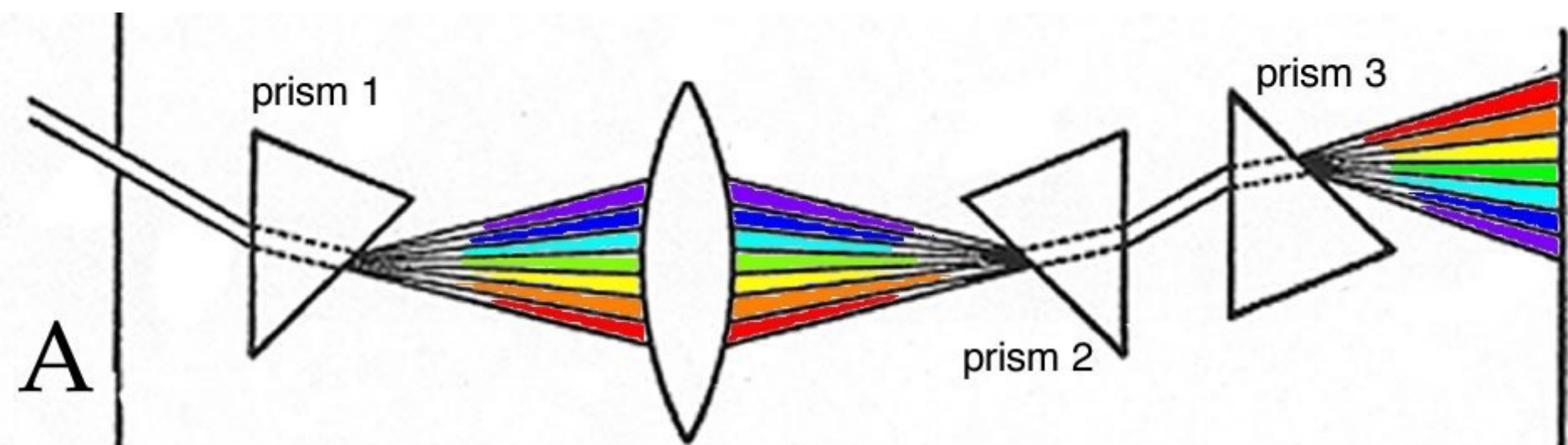
chapter 1 finish

questions from NB chapter 1
(Tamar / Keegan)

What were the presumptions about light before Newton's prism experiment?

How did Newton test them experimentally?

What kinds of "control" experiments might you add ?



How was “invisible” light detected?

Scientific method: Feynman

- How would you use Occam's razor to distinguish between two equally accurate models?
- What does it mean when there are two theoretical explanations for the same phenomena? How might you resolve this situation?
- Outline your approach to deciding whether a particular idea, model, or hypothesis is scientific.

Q: What is the difference between a theory (model / hypothesis) and a law?

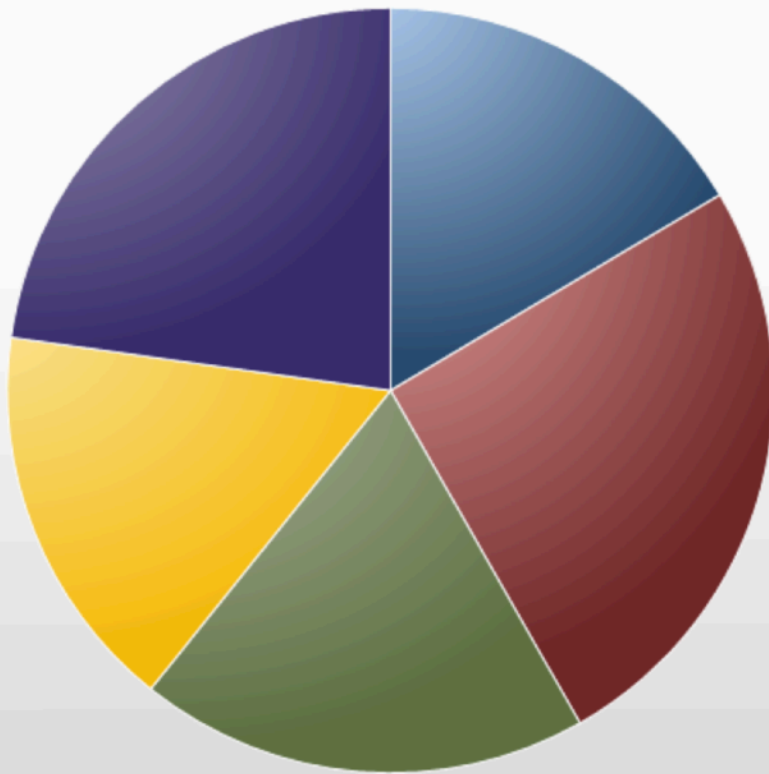
What are the steps that make science a social (rather than a personal) enterprise?



Revelation is necessarily limited to the first communication – after that it is only an account of something which that person says was a revelation made to him; and though he may find himself obliged to believe it, it can not be incumbent on me to believe it in the same manner; for it was not a revelation made to ME, and I have only his word for it that it was made to him. – Thomas Paine, The Age of Reason.

When you think about a scientific idea or argument, what would make such an idea non-scientific (or just plain ugly). Pick all that apply...

explain your thinking



- extraneous details
- un-observable features
- assumptions that contradict ideas established in other scientific disciplines
- the absence of unambiguous predictions
- the presence of a political or ideological agenda

chapter 1 questions to answer

- A news story reports that spirit forces influence the weather. Produce a set of questions whose answers would enable you to decide whether the report was scientifically plausible.
- If “science” concludes that free will is an illusion, would you be wise or silly to start behaving like a machine?
- How would you describe the major differences between scientific thinking in physics and biology?

How is science different from trans-science?

Can science tell you what is right and what is wrong?

Can scientific conclusions about the universe negatively influence religious / political beliefs?

chapter 1: questions to ponder

- Is attaining “truth” and developing a theory of everything the goal of science?
- How should we, as a society, deal with the tentative nature of scientific knowledge?
- What distinguishes scientific from trans-scientific conclusions?
- What factors determined how people and governments should act in the face of scientific evidence?

Have a good labor day weekend...

Wed. 6 Sept	Chapter 2.1 Life's origins and diversity	24-33	Complete beSocratic #3
Friday 8 Sept	Chapter 2.2 Life's origins and diversity	34-41	Complete beSocratic #4