Have small groups of students discuss all or a portion of the items in the bulleted list below and classify them as either true or false. Ask students to think about others’ perceptions and express their own views clearly and persuasively.

- Science is a collection of facts.
- Science is complete.
- There is a single Scientific Method (a way of doing science) that all scientists follow.
- The process of science is purely analytical and does not involve creativity.
- When scientists analyze a problem, they must use either inductive or deductive reasoning.
- Experiments are a necessary part of the scientific process. Without an experiment, a study is not rigorous or scientific.
- “Hard” sciences like physics and chemistry are more rigorous and scientific than “soft” sciences such as sociology or psychology.
- Scientific ideas are absolute and unchanging.
- Because scientific ideas are tentative and subject to change, they can’t be trusted.
- Scientists’ observations directly tell them how things work (i.e. knowledge is read from nature, not built).
- Science proves ideas.
- Science can only disprove ideas.
- If evidence supports a hypothesis, it is upgraded to a theory. If the theory garners even more support, it may be upgraded to a law.
- Scientific ideas are judged democratically based on popularity.
- The job of a scientist is to find support for his or her hypothesis.
- Scientists are judged on the basis of how many correct hypotheses they propose (i.e. good scientists are the ones who are “right” most often).
- Investigations that don’t reach a firm conclusion are useless and not publishable.
- Scientists are completely objective in their evaluation of scientific ideas and evidence.
- Science is pure. Scientists work without considering the applications of their ideas.
- Science is a solitary pursuit.


Please visit the above mentioned sites for an explanation of common scientific misconceptions. Have students review the sites’ content then discuss the above statements and support if each statement is true or false based on what they learn from each site.