

Joseph Priestley's standards of good science



**ASSIGN
BUSTER**

Honors Chemistry period 3 Good Science Joseph Priestley opinion of what the standards of good science are very strong from the very beginning of his article titled, *Of Developmental Air, and of the Constitution of the Atmosphere*. He states that what he's saying in the cyclones of his writing tends to greatly encourage philosophical investigations. He talks about how instead of just believing in chance or well known philosophies before going into scientific experiments, it's better to base your experiments off of such prior knowledge and then add in real observations and interpret what you'd found. En Priestley says, " This does not appear in the works of those who write synthetically upon these subjects; but would, I doubt not, appear very strikingly in those who are the most celebrated for their philosophical acumen, did they write analytically and ingenuously," he's showing that he believes scientists and anyone else who performs an experiment to any scientific measure should write about what they experience analytically and ingenuously.

This means that instead of writing short passages about something say religious or with a biased attitude, and skipping over the important and useful observations, he believes that one should write with all of the important details (such as making observations using the five senses and measurements). He does not believe in using theory. He believes in analyzing data, rather than basing opinions off of pre-conceived theories. Just from this information, Priestley favors deductive reasoning, which leads away from big ideas to see how the details work out in the real world.

He's distanced from big ideas and patterns (or inductive reasoning), and would rather use details that anyone could acknowledge with their sight,
<https://assignbuster.com/joseph-priestleys-standards-of-good-science-essay-samples/>

smell, taste, hearing, and touch. Priestley can connect with Plato in the fact that Plato favored deductive reasoning over Inductive. He also connects with Aristotle, who believed that reality is the observed physical world. He does not connect at all with the Scholastics who were around A. D. 1500's. They believed that knowledge is based on accepted authority (which Priestley clearly states he does not believe).

He connects with the Constructivist who were around the 20th Century in the sense that they believed observations are context bound. That's really his only connection between the two though, because Priestley did not believe in theories much at all. Priestley connects the most with the group called the Empiricists. From dates back to the early 1600's to the mid 1700's, Empiricists were all about experiments. Robert Bacon, and Early Empiricist, believed that experience is superior to argument (which could come from long accepted theories), and that experience science is a valid route to truth, making observation key to science.

Priestley says in his article, "That this was not only our judgments, properly so called, but even the perceptions of our senses: or we may take a maxim so strongly for granted, that the plainest evidence of sense will not entirely change, and often hardly modify our persuasions; and the more ingenious a man is, the more effectually he is entangled in his errors; his ingenuity only helping him to deceive himself, by evading the force of truth. He's stating that many people overlook simple observations and facts (or truths) because they believe in theories and biases. He believes that an ingenious man is deceiving himself by distancing himself from the truth. Joseph Priestley has clearly written in this article that he believes the standards of good science <https://assignbuster.com/joseph-priestleys-standards-of-good-science-essay-samples/>

lies within good observations and not getting tangled up in the errors of theories, biases, and pre-conceived thoughts that are widely accepted.

He connects mostly with Empiricists, where they believed in experimentation and observation as well. They did not base their knowledge off of theories either. Priestley was a scientist that based his knowledge off of experimentation and observation. He had veered himself away from theories, and turned to what was right in front of him, which was using his senses without prejudice and gathering all the information he could to make scientific conclusions.