**Buxton’s Nature of Science Activity**

In this activity we will continue to reflect upon our beliefs about the nature of science. You will consider statements that represent a variety of perspectives on scientific inquiry and the values and processes that underlie it. You will use these statements to clarify your own thinking about the nature of science.

Procedure:

1. Below you will find a wide range of statements about science. These statements represent a variety of perspectives on scientific investigation and the values and ideas that underlie it.
2. Read the statements and select three statements that you strongly agree with and three statements that you strongly disagree with.
3. Join with a partner and discuss the statements you chose and why you agree and disagree with each statement. Then together select four statements that you can both agree on.
4. Work together with your partner to write a paragraph entitled “What we believe about science.” Use the four statements that you agreed upon to guide the substance of your paragraph (but you don’t have to copy the language directly from the statements – you can put the idea into your own words).
5. Be ready to share your ideas with the class.

Quotes about the nature of science:

“Only science can tell us what is really true about the world.”

“Science is fundamentally responsible for most of our modern woes.”

“Science is a powerful tool for understanding the natural world.”

“Science and religion are fundamentally at odds.”

“Scientific progress has made possible some of the best things in life and some of the worst.”

“Scientists should have much greater influence in government.”

“Scientific knowledge is of much greater value than any other type of knowledge.”

“Science is always changing and therefore is not very reliable.”

“The scientific methods should be followed in all fields of study.”

“Science is one of several valuable ways of knowing.”

“Science and technology always operate in somebody’s interest and serve some groups of people better than others.”

“Science begins with observations, which lead to generalizations.”

“Science and technology are two sides of the same coin.”

“Unless an idea is testable it is of little or no use.”

“Good science cannot be done without good theories.”

“Observation is central to all of science.”

“There is no one scientific method.”

“Theories serve to give direction to observations, that is, they tell a person where to look.”

“Facts do not speak for themselves; they must be interpreted by theory.”

“The destruction of nature is often done in the name of scientific progress.”

“The predominance of men in the sciences has led to bias in the choice and definition of the problems scientists have addressed.”

“A scientist should not allow preconceived theoretical ideas to influence observation and experimentation.”

“Money spent on projects such as NASA space flights would be better spent on health care for those in need.”

“If theory without observation is empty, then observation without theory is blind.”

“Scientific knowledge is always objective and self-correcting.”

“Scientific facts are manufactured through social negotiations.”

“Formal and informal networking among scientists is crucial for the success of scientific research.”

“Before beginning an experiment, a scientist should have an expectation of what will happen.”

“Seeing is believing.”

“Women and people of color are underrepresented in many areas of science because they have not been treated in the same encouraging ways as have white men.”