

Missouri Standards Addressed Through Science Fairs

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Science – Scientific Inquiry

7.1. A. Scientific inquiry includes the ability of students to formulate a testable question and explanation, and to select appropriate investigative methods in order to obtain evidence relevant to the explanation

7.1. B. Scientific inquiry relies upon gathering evidence from qualitative and quantitative observations

7.1. C. Evidence is used to formulate explanations

7.1. D. Scientific inquiry includes evaluation of explanations (hypotheses, laws, theories) in light of scientific principles (understandings)

7.1. E. The nature of science relies upon communication of results and justification of explanations

Science – Impact of Science, Technology and Human Activity

8.1. A. Designed objects are used to do things better or more easily and to do some things that could not otherwise be done at all

8.1. B. Advances in technology often result in improved data collection and an increase in scientific information

8.1. C. Technological solutions to problems often have drawbacks as well as benefits

8.2. B. Scientific theories are developed based on the body of knowledge that exists at any particular time and must be rigorously questioned and tested for validity

8.3. A. People, alone or in groups, are always making discoveries about nature and inventing new ways to solve problems and get work done

8.3. C. Scientific ethics require that scientists must not knowingly subject people or the community to health or property risks without their knowledge and consent

8.3. D. Scientific information is presented through a number of credible sources, but is at times influenced in such a way to become non-credible

The other science standards covered during any one project depend on the subject of that project.

Mathematics

Use mathematical models to represent and understand quantitative relationships.

Understand measurable attributes of objects and the units, systems and processes of measurement.

Apply appropriate techniques, tools and formulas to determine measurements.

Formulate questions that can be addressed with data and collect, organize and display relevant data to answer them.

Select and use appropriate statistical methods to analyze data.

Develop and evaluate inferences and predictions that are based on data.

Writing

Apply a writing process in composing text.

Compose well-developed text using standard English conventions

Write effectively in various forms and types of writing.

Develop and apply effective research process skills to gather, analyze and evaluate information.