

Outcomes covered by a Science Fair Project

GRADE 11 Chemistry

STSE

114-9 – explain the importance of communicating the results of a scientific or technological endeavor, using appropriate language and conventions

Skills

212-2 – define and delimit problems to facilitate investigation

212-3 – design an experiment identifying and controlling major variables

212-4 – state a prediction and a hypothesis based on available evidence and background information

212-5 – identify the theoretical basis of an investigation and develop a prediction and a hypothesis that are consistent with the theoretical basis

212-7 – formulate operational definitions of major variables

212-8 – evaluate and select appropriate instruments for collecting evidence and appropriate processes for problem solving, inquiring, and decision-making

213-3 – use instruments effectively and accurately for collecting data

213-6 – use library and electronic research tools to collect information on a given topic

213-7 – select and integrate information from various print and electronic sources or from several parts of the same source

214-3 – compile and display evidence and information, by hand or computer, in a variety of formats, including diagrams, flow charts, tables, graphs, and scatter plots

214-9 – identify and apply criteria, including the presence of bias, for evaluating evidence and sources of information

214-10 – identify and explain sources of error and uncertainty in measurement and express results in a form that acknowledges the degree of uncertainty

214-11 – provide a statement that addresses the problem or answers the question investigated in light of the link between data and the conclusion

214-12 – explain how data support or refute the hypothesis or prediction

215-1 – communicate questions, ideas and intentions and receive, interpret, understand, support, and respond to the ideas of others

215-3 – synthesize information from multiple sources or from complex and lengthy texts and make inferences based on this information

Attitudes

439 – Show a continuing and more informed curiosity and interest in science and science-related issues

440 – acquire, with interest and confidence, additional science knowledge and skills using a variety of resources and methods, including formal research

441 – consider further studies and careers in science and explore further science- and technology-related fields

442 – confidently evaluate evidence and consider alternative perspectives, ideas, and explanations

443 – use factual information and rational explanations when analyzing and evaluating

444 – value the processes for drawing conclusions

445 – work collaboratively in planning and carrying out investigations, as well as in generating and evaluating ideas