

SJCSD STEM Expo Scientific Project Planner

Name(s): _____

✓	Due Dates	Tasks
	January 8 – January 20	Choose topic: identify a real-world problem and write a testable question -possible solution- (Pg. 2)
	January 8 – January 20	Get approval from your teacher. (Pg. 2)
	January 20 - January 29	Research your topic. Write science terms and paragraph draft. (Pg. 3-4)
	January 29 – February 5	Write hypothesis. (Pg. 5)
	January 29 – February 5	Design experiment: list variables and write procedures. (Pg. 6)
	January 29 – February 5	List and gather materials. (Pg. 7)
	February 5 – February 21	Conduct experiment multiple times. Record observations and data. (Pg. 8)
	February 21 – February 28	Create a table, chart, or graph of the data. (Pg. 9-10)
	February 21 – February 28	Draw conclusions. Explain how you would improve your experiment. (Pg.11)
	February 28 – March 10	Print/write neatly final Research Summary.
	February 28 – March 10	Make the project trifold display.
	March 12	Present project at school STEM expo.

Testable Project Question

As you begin your science or engineering project consider the use of science, engineering, technology, and mathematics: “Will you design or build something based on your interest that solve a real-world problem?” “Is this something that you can test to solve a problem or answer a question that you would like to know more about?”

Make sure your question:

- ✓ Can be answered with an experiment that you can safely carry out.
- ✓ Has measurable results.

Brainstorm possible questions or problems that you are interested in learning more about.



Once you have decided on your project question, write it on the lines below and then get approval from your teacher to begin your project.

Project Research

Spend some time learning more about your topic. Use reliable internet sources, books from the library, your science book, or other resources. Not only do you want to be an expert on your topic, but you also want to teach others about your topic. This information will be used to create your hypothesis and develop your experiment. Don't forget to cite your resources.

Facts Learned	Source

Project Hypothesis

Based on your research, decide what you think the outcome of your project will be. Be sure to explain **WHY** you think that will be the outcome. Remember, it is okay if your hypothesis is proven incorrect when you complete your experiment; that is how scientists make discoveries.

List some possible outcomes to your testable question.



Decide which outcome is the most likely and write your hypothesis in complete sentences.

Project Experiment

Write out the procedures you are going to follow. Remember that your experiment needs to follow the scientific process or engineering design process. There are different types of variables in scientific experiments: independent, dependent, and controlled.

Independent Variable: The ONE, and only one, variable you change in your experiment. This is the one thing you are testing.

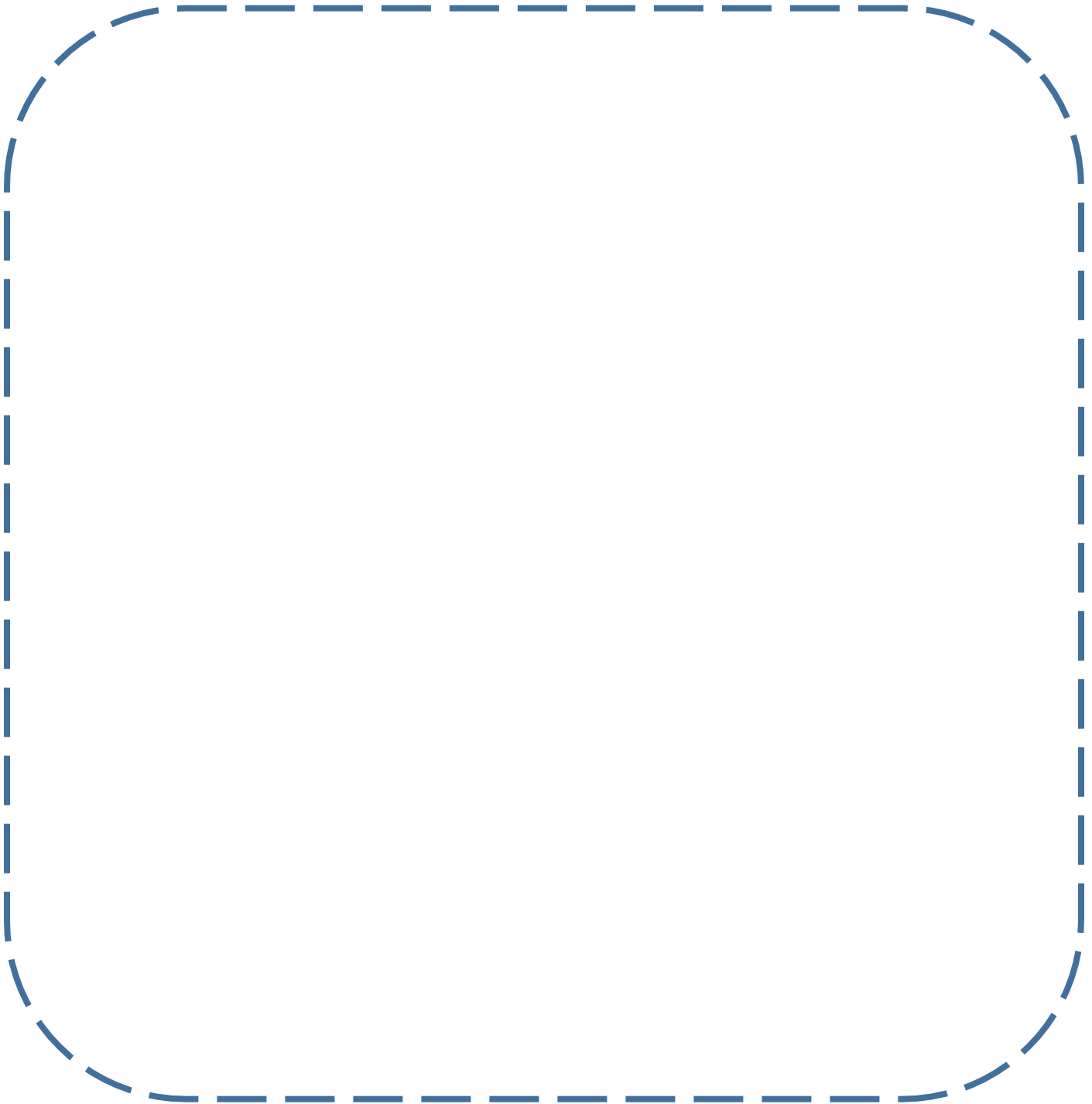
Dependent Variables: What is being observed and measured throughout the experiment. This is the data you are collecting.

Controlled Variables: Those that remain the same throughout the experiment so that the scientist knows the data collected is only the result of the change to the independent variable.

Independent Variable what I will change	
Dependent Variables what I will observe based on the change	
Controlled Variables what I keep the same	

Materials:

List all materials needed to complete the experiment. Be specific about type, size, amount, brand, etc.

A large, empty rounded rectangle with a dashed blue border, intended for listing materials. The rectangle is centered on the page and occupies most of the middle section.

Observations and Data Collection:

Scientists conduct an experiment many times to get the most accurate and reliable data, so make sure you also conduct your experiment multiple times. During your experiment, you need to collect data and record observations.

Observations

Data

Add diagrams, charts, or graphs here:

Display

<p>Hypothesis</p> <div data-bbox="131 688 548 877" style="border: 1px solid black; height: 90px;"></div> <p>Materials</p> <div data-bbox="131 1045 548 1297" style="border: 1px solid black; height: 120px;"></div> <p>Procedures</p> <div data-bbox="131 1415 548 1738" style="border: 1px solid black; height: 154px;"></div>	<p>Question/ Title</p> <p>Data</p> <p>Charts, graphs, photos, drawings</p> <div data-bbox="615 989 1032 1745" style="border: 1px solid black; height: 360px;"></div>	<p>Research Summary</p> <div data-bbox="1102 772 1482 1119" style="border: 1px solid black; height: 165px;"></div> <p>Results</p> <div data-bbox="1102 1226 1482 1745" style="border: 1px solid black; height: 247px;"></div>
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Project Component Rubric

Name(s): _____

Project Title: _____

Component	Points Possible	Comments
Question is testable through experimentation.	1 2 3 4	
Research is relevant to the question being tested.		
Hypothesis clearly states expected outcome based on observations.		
Procedure is clearly outlined and presents a controlled experiment.		
Results are communicated clearly through graphs/charts and include a well written explanation.		
STEM Fair/Expo Project Planner is complete.		
Display board includes all components.		
Total Points		

The St. Johns County School District will inspire good character and a passion for lifelong learning in all students, creating educated and caring contributors to the world.

