MSEF

Massachusetts Science
+ Engineering Fair

Science Fair Project Planning Template

Make a copy and adapt for your use, adapt for engineering projects as needed

Student Name: _____

Project Draft Title: _____

TASKS Planning Template

Task	Details / Notes	Due Date	Teacher Check When Complete
Name/Title			
Question			
Hypothesis			
Variables			
Materials			
Procedure			
Conduct Experiment (3 trials)			
Create Table			
Create Chart or Graph			

Question

Write the scientific question you want to investigate:

Hypothesis

What do you think will happen? Why?

_____

_____

_____

Variables

➢ **Independent Variable (what you will change):**

- _____
- _____

➢ **Controlled Variables (what you will keep the same):**

- _____
- _____
- _____

➢ **Dependent Variable (what you will measure):**

- _____

_____

Materials

List all materials with **units and amounts**:

_____

_____

Get teacher approval for safety: ☐

_____

Procedure

Write step-by-step instructions for how to conduct your experiment:

1. _____
2. _____
3. _____
4. _____

(continue as needed)

_____

Conducting experiment Template

Trial #	Independent Variable	Observations / Notes	Measurement (Dependent Variable)	Explanation	Teacher Check
1					
2					
3					
4					
5					

Data & Graphing

➢ **Circle The Graph Type:**

- Bar Graph
- Line Graph
- Other: _____

➢ **What do the axes represent?**

- **X-axis**: _____
- **Y-axis**: _____

➢ **Why did you choose this graph?**

_____

_____

_____

➢ **What patterns did you notice?**

_____

_____

_____

Science Fair Timelines

School Fair Date: ***Regional Fair Date:*** ***State Fair Date:***

Step 1: Plan

Week	Task	Details / Notes	Due Date	Teacher Check
1-2	Pre-work: choose a topic	Start notebook/background research		
3	Question or Problem Formulation - 3 draft ideas	Explore feasibility and rules		
4	Submit statement and background research to teacher	Include variables, possible solutions		
5	Draft research plan for teacher review, modify as needed	Independent, Controlled, Dependent		
5	List Materials	Units and amounts		
5	Write Procedure	Step-by-Step instructions		

Step 2: Submit

Week	Task	Details / Notes	Due Date	Teacher Check
6	Submit final paperwork to teacher for approval			
6	Collect signatures (parent, teacher, any other adult)			
7	Submit forms to zFairs for approval	Pre-approval required for restricted areas (see manuals)		

7	Wait for approval (up to 2 weeks)	Plan ahead, Prep your research paper while you wait		

Step 3: Do the work

Once approved, time to experiment and explore.

Week	Task	Details / Notes	Due Date	Teacher Check
9	Gather and prep supplies	Pay attention to delivery estimates		
9	Setup your notebook for data	What variables/data do you need?		

Consider using a chart like this to collect data in your notebook for your experiment

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Conducting Experiment Trials

Trial #	Independent Variable	Observations / Notes	Measurement (Dependent Variable)	Explanation	Teacher Check
1					
2					
3					
4					
5					

Week	Task	Details / Notes	Due Date	Teacher Check
10-11	Collect Data, test, modify, adjust	Big changes to protocol may need to be re-approved		
11	Perform initial analysis	Run tests again if possible, at least 3 times		

12	Once you have the info you need, clean-up	Dispose of materials required; Reflect on what you learned in your notebook		

Step 4: Prepare for the Fair

Week	Task	Details / Notes	Due Date	Teacher Check
13	Finalize your data analysis	Visualize in graphs and charts		
14	Draft your research paper	Aim for approx 5 pages		
15	Create a mock-up of your project display	What's the MOST IMPORTANT to include		
16	Practice Oral Presentation	Speak slow and steady, show engagement		
17	Finalize all materials based on feedback	You're ready for the Fair!		