Science Fair Project Timeline and Grade sheet

Below is the timeline and grade sheet for your Science Fair Project. You **should keep ALL papers in your Science Fair Project folder** that was provided. They should be in order according to the timeline below. When something is due, **turn in the WHOLE FOLDER.**

	Project Section	Due Date	Grade
1	**Topic** **Question** **Purpose**	**Sept. 7th**	
2	**Research** **Hypothesis (If-Then)**	**September 28th**	
3	**Procedures** **Materials** **Variables** *Test and outcome variables as well as controls* **Safety Concerns**	**October 12th**	
4	**Science Fair Journal Check** *Corrections and Additions*	**October 19th**	
5	**Data & Table** **Results & Graphs** **Conclusion**	**November 10th**	
6	**Abstract-(do in class starting Nov. 13)** **Completed Science Journal**	**November 19**	
7	**Completed Backboard** **Extra Credit**	**November 27th**	

What Do I do?

Topic:

- Select a topic that can be answered only by conducting an experiment.
- Write your **topic as a question** to be investigated.

Purpose:

- One sentence to explain why you are doing this investigation. Try to relate your purpose to the real world. The purpose can be stated like this: **"The purpose of this project is...."**

Research Log

- **Completed research notes template**
- 1 page of research notes that gives information about your topic so that you can create a strong hypothesis

Hypothesis:

- A hypothesis states what you think is going to happen when you investigate a question.
  Question: Do all brands of paper towels absorb the same amounts of water?
  Hypothesis: If this is done…then this will happen…

Materials:

- List all materials used in your investigation. Include what, how much, and what kinds of materials you used. Keep in mind quantities are important. Be sure to ONLY use METRIC units.

Good Listing:

- 3- 15x15 cm square each of: Brawny, Gala, Scott, Generic Paper Towels
- 250 ml beaker
- 750 ml water at 20 C
- 1 - 20x20 cm square cake pan
- Celsius Thermometer
- Clock with a second hand

Poor Listing:

- Paper Towels
- Cup
- Water
- Container
- Thermometer
- Clock

Variables:

- List the 3 types of variables in your experiment.
  - **Test Variable(Independent Variable):** What **you change on purpose** in your experiment.
  - **Outcome Variable(Dependent Variable):** What changes by itself because you manipulated (changed) something in your experiment. **What you are measuring.**
  - **Control (Variables Held Constant):** Everything else in your experiment must **stay the same** (constant).

Procedure:

- List each procedure, step by step.
- This is like a recipe. Anyone who reads them will be able to replicate (copy) your experiment and get the same results.
- Example of a step-by-step procedure:

1. Cut 3 - 15x15 cm square pieces of each brand of paper towel.
2. Label each cut piece with the brand name.
3. Pour 50 ml of 20 C water into a 20x20 cm square pan
4. Place 1 square of the generic brand paper towel into the water.
5. Leave in the water for 30 seconds.
6. Remove paper towel.
7. Squeeze the paper towel back into the empty measuring cup.
8. Record the amount of water in the data table.
9. Dry the pan.
10. Repeat steps 4-8 for each brand of paper towel.
11. Repeat the entire process 2 more times for each brand of
12. paper towel.

Collecting Data:

- The data collected during the experiment needs to be quantifiable (measurable). All measurements in your investigation must be made in METRICS.

Volume:	milliliter (ml) liter (L)	1000 ml = 1 L
Length:	millimeter (mm) centimeter (cm) meter (m) kilometer (km)	10 mm = 1 cm 100 cm = 1 m 1000 m = 1 km
Mass:	milligram (mg) gram (g) kiligram (kg)	10 mg = 1 g 1000g = 1 kg
Temperature:	Celsius (C)	

Tables:

- Make as many rows and columns as you need.
- Label the rows and columns.
- Fill in data in the appropriate spaces in the form of tallies or numbers.
- Find totals or subtotals as necessary.
- Write a title above the table.

Graphs:

- Line Graphs (for time)
  - Draw and label the vertical and horizontal sides (axes).
  - Choose a scale that suits the data.
  - Place the dots on the graph to represent the data.
  - Connect the dots in order.
  - Write a title above the graph.
- Bar Graphs (for comparison)
  - Decide whether to make the bars vertical or horizontal.
  - Draw and label the sides (axes).
  - Choose a scale; calibrate it to fit the data.
  - Draw the bars to represent your data.
  - Write a title above the graph.

Conclusions:

- Before you write your conclusion, carefully examine all of your data (tables & graphs). Ask yourself these questions:
    - Did I get the results I expected to get? If not, how were the results different?
    - Were there any unexpected problems or occurrences that may have affected the results of my experiment?
    - Do I think I collected enough data to form a conclusion? (Did I do enough trials?)
    - Do I need to revise my original hypothesis? (If you do need to write a revised hypothesis, DO NOT use it to replace your original hypothesis for your project!)
- Your conclusion should include:
    - Statement of support or non-support of the original hypothesis.
    - Description of any problems or unusual events that occurred during your investigation.
    - What you would do differently next time.
    - Revised hypothesis (if data did not support your original hypothesis).

Abstract:

- ALL projects must have an abstract.
    - We will use the official abstract entry form.
    - Abstracts **will be completed in class** as specified.