Homeschool Science Fair

When: Tuesday, May 13, 1:30-3:00 p.m.

Where: Orillia Public Library, Program Rooms 1 & 2

Young scientists are invited to display their discoveries and share their experiments at the first OPL Homeschool Science Fair. Whether your child is passionate about chemistry, biology, physics, or earth science, this program offers an opportunity to learn using the scientific method, while connecting with other homeschool families. A $50 gift card prize will be awarded for the best entry, as determined by a panel of three judges.

Register to participate at www.orilliapubliclibrary.ca under the Programs & Events tab "Children and Families".

Science Fair Rules

- Students (ages 7 – 14) may work independently or in pairs on a project. Children younger than 7 may participate if paired with another child of the specified age, or if a guardian assists.
- Projects must be the student's own work; plagiarism is not allowed.
- **Safety first:** No projects involving hazardous materials like open flames strong chemicals, or weapons, or other dangerous materials are permitted.
- Live animals are not permitted.
- **Scientific method:** Clearly demonstrate the steps of the scientific method: question, hypothesis, experiment, results, conclusion.
- **Presentation:** Display your project on a well-organized board with clear visuals, labels, and explanations.
- **Data collection:** Collect accurate, reliable data, present it clearly in graphs or tables.
- **Research and citations:** Research your topic and cite all sources used.
- **Adult supervision:** Ensure that any experiments requiring potentially risky materials are conducted under adult supervision.

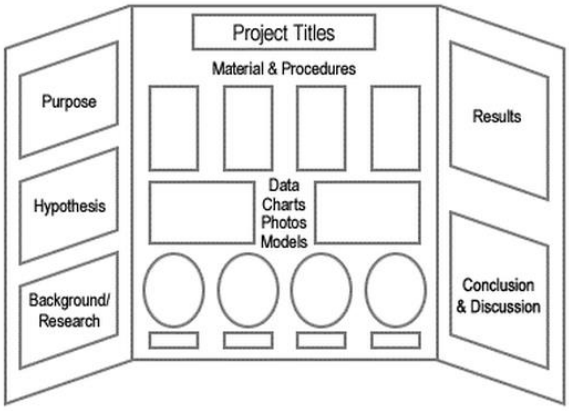
What to include in your science fair presentation:

- **Title:** A clear and concise project title
- **Question/Hypothesis:** The research question and your predicted outcome
- **Materials**: List of materials used to conduct experiment
- **Procedure:** A detailed description of the steps taken in your experiment
- **Results:** Presentation of your data through visuals like graphs or charts
- **Conclusion:** Summarize your findings and discuss whether your hypothesis was supported

Display Guidelines:

- Display board and project must fit within an 2.5’ by 2.5’ square when displayed. A standard 3’ tri-fold display board will fit into this space.
- There will be no access to electrical outlets.

Example:



Scientific Method

The Scientific Method is a dynamic and open-ended process that scientists use when they investigate a question they have.

DEFINING A QUESTION TO INVESTIGATE

As scientists conduct their research, they make observations and collect data. The observations and data often lead them to ask why something is the way it is. Scientists pursue answers to these questions to continue with their research. Once scientists have a good question to investigate, they begin to think of ways to answer it.

MAKING PREDICTIONS

Based on their research and observations, scientists will often come up with a hypothesis. A hypothesis is a possible answer to a question. It is based on: their own observations, existing theories, and information they gather from other sources. Scientists use their hypothesis to make a prediction, a testable statement that describes what they think the outcome of an investigation will be.

GATHERING DATA

Evidence is needed to test the prediction. There are several strategies for collecting evidence, or data. Scientists can gather their data by observing the natural world, performing an experiment in a laboratory, or by running a model. Scientists decide what strategy to use, often combining strategies. Then they plan a procedure and gather their data. They make sure the procedure can be repeated, so that other scientists can evaluate their findings.

ANALYZING THE DATA

Scientists organize their data in tables, graphs, or diagrams. If possible, they include relevant data from other sources. They look for patterns that show connections between important variables in the hypothesis they are testing.

DRAWING CONCLUSIONS

Based on whether or not their prediction came true, scientists can then decide whether the evidence clearly supports or does not support the hypothesis. If the results are not clear, they must rethink their procedure. If the results are clear, scientists write up their findings and results to share with others. The conclusions they draw usually lead to new questions to pursue.