# Baldwin Elementary Science Fair Packet 2024-2025

Important Dates

All projects due (FIRM): January 13, 2025

Project Judging: January 15, 2025

**Greater Austin Regional Science and Engineering Fair:**

February 21st & 22nd


Baldwin Science Fair Coordinator:

Ellen-Michele Greenwood

ellen-michele.greenwood@austinisd.org

# Baldwin Elementary Science Festival 2025

Registration-Due December 6th.

Completed Projects-Due January 13th.

## Continuing in 2025

- The 2025 GARSEF- Greater Austin Regional Science and Engineering Fair- will be back in person at the Palmer Event Center which means that students will need a physical display board.

## Individual and team projects

Students may conduct a science project individually or in teams (max 3 students/team.) If team members are in different grades, they will be judged according to the higher grade level.

## Other Helpful Information

- How to do a Science Fair Project
- Judge Criteria Sheet
- Day of Fair FAQ
- 3M Science at Home Experiments
- Discovery Channel's Science Fair Central
- Science Buddies
- American Chemical Society's Parent's Guide

# Timeline for Baldwin Science Fair 2025

**December 6th**

- Registration Due

**January 13th**

- Project Due

**January 13th and 14th**

- **Students will present projects to their class and teacher.**

**January 15th**

- Baldwin's Science Fair will take place
- Students should be prepared to present projects to judges (**if OR when** judges have questions)

**January 16th**

- Baldwin's top 3 projects in grade levels 3-5 are notified of awards. K-2 will not be judged, but are welcome to participate.
- The top 3 projects for 3rd, 4th, and 5th grades are registered and submitted for Austin Energy Regional Science Festival by Ellen Greenwood

**February 21st- Friday Fair Setup-**

- Students who advance to the Regional Science Fair will need to bring their projects to the Palmer Event Center between 2:00-7:00.

  Set up can only be done by student, parent or teacher.

## February 22nd

- **Greater Austin Regional Science and Engineering Fair held**

Austin Energy Regional Science Festival

# HOWTO DO AN ELEMENTARY SCIENCE FAIR PROJECT

A Step by Step Guide

**PURCHASE NOTEBOOK (optional)**

It is a good idea to use a notebook as a journal or log book to write down everything you do before, during, and after your project.You can date every entry and note what you did and how much time you spent on each item. Don't forget to take pictures or create drawings throughout the process. Begin writing in your journal when you start brainstorming ideas and continue adding entries until after the Regional Fair concludes.This will give you a great overview of your science fair project.

## STEP 1 - BRAINSTORMING GENERAL IDEAS

- What are your interests or likes? Sports, dance, computers, animals, food, gross stuff, building things… etc.
- What kind of science interests you?
    - Plants (Botany)
    - Animals (Zoology)
    - Human Body (Anatomy)
    - Electricity, Gravity, Force, Light (Physical Science)
    - Chemicals,Acids/Bases (Chemistry)
    - Memory, Illusions,Training (Psychology)
    - Volcanoes, Rocks,Weather (Earth Science)
    - Product Testing (Consumer Science)
    - Surveys (Statistics)
- Based on your interests, what things could you test, change or vary on purpose?What things could you measure or observe?
- Look at project idea books and/or web sites to see if there is something that sparks your interest and fits with your abilities.
- Check the list of projects that are not allowed to make sure you don't choose any of those types of projects.

## STEP 2 - CHOOSE VARIABLESTO INVESTIGATE

- What part of the experiment will you change (IndependentVariable)? For example, you could change the type of soil you are growing your plants in.
- What change will you measure or observe (DependentVariable)? For example, you could measure the height of the plants (growth rate) or the number of leaves.
- What part of the experiment will you keep the same (ControlledVariables)? For example, you could use the same plants, amount of water, and sunlight when growing your plants.
- This will go in the "**Variables**" section on your project board.

## STEP 3 -WRITE EXPERIMENTAL QUESTION/PROBLEM

- What question will the experiment answer? This should include what will be changed (Independent Variable) and what will be measured (DependentVariable). For example, How will changing the type of soil affect the growth rate of a plant?
- This will be the "**Problem/Testable Question**" on your project board.

**STEP 4 - BACKGROUND INFORMATION**

- What additional information will help you determine the possible answer to your question? ● Begin background research by taking notes from books, websites or articles that talk about your subject. These will be your " **References**." You must have at least 3 sources. You will know you have completed your research when you can discuss your topic in your own words for about 5 minutes. ● Make sure you have explained all important words that are part of your project. For example, if you are using a special tool to take your measurements, make sure you explain what it is and how it works.
- Once research is completed, begin organizing all the information into paragraphs. This will be the "**Background Information**" section on your project board.

**STEP 5 -WRITEYOUR HYPOTHESIS**

- If you are doing an experiment, formulate a " **Hypothesis.**" A hypothesis is a guess at what you think will happen when you test your experiment.
- Use the format:" If (this is changed), then (this will happen), because (reason)".
  For example," If the space between soil particles is made smaller by adding humus, then the plants will grow taller because less space between particles will hold water in the soil long enough for the roots to absorb it."
- If you are doing an engineering project, this will be your design goal.

**STEP 6 -WRITEYOUR EXPERIMENTAL PLAN**

- Make a list of the "**Materials**" that you will need to conduct your experiment. Include specific amounts with units of measurement.
- Write up your "**Procedure**," or the steps that you will follow when doing your project. Be detailed so that someone reading your project board could do your project, using just your instructions. ● Make sure to include the safety precautions you will follow at the beginning of the procedure. ● If you are doing an experiment,remember that an experiment must consist of at least 2 groups. One group is the "Control" and the other is the "Variable." Both groups are identical, except for one specific element. The "Variable" is the specific element that is different; it is the very thing that you are trying to test. (An example experiment might be to test a stain remover to see if it removes stains any better than washing with no stain remover. The stained garments, your wash technique, and drying technique would be exactly the same for both groups, with one exception. In theVariable group, you would use a stain remover. In the Control Group, you would not use a stain remover.) ● Use a timeline to plan how long it will take you to complete your project and create a project board. If you will need live subjects (people, plants, or animals), be sure to allow enough time. (Remember, plants take a while to grow.)

**STEP 7 - EXPERIMENT, BUILD,TEST,AND ANALYZE**

- Do your experiment and don't forget to take photos throughout the process.
- Record the "**Results**" which tells what happened. Remember that a good project will have results that you can clearly see or measure. If you can, use **photos**, a **chart**, and a **graph** to clearly show your results on your project board.
- After you complete your Results, form a " **Conclusion**" paragraph which answers the question in the "Problem/Testable Question" and talks about what happened in your experiment. State whether or not the results supported your hypothesis. It is okay if they didn't. Be sure to include ways to improve your project in the future.

**STEP 8 - CREATE YOUR PROJECT BOARD**

- Use the written sections you created as well as photos of your project to make your project

board.You can also use the project board template to help you with planning the board. ● Your project display should be on a sturdy tri-fold board available at local craft and office supply stores.Written material, drawings and pictures should be securely attached to the display board with glue or tape. Do not use staples.They will poke out the back of the board. ● Projects will be displayed on tables that are 36 inches high**. Size of display area may not exceed the following measurements: 15" deep, 48" wide, and 72" high.** Due to space limitations, displays that exceed these measurements cannot be accepted.

- **Electricity for your display will not be available but you can use household batteries with your project.**.
- Pay close attention to the layout of the project board.The order of information should make sense and be visually interesting. Be sure to include all the required elements.
- Add a creative "**Title**".
- Be sure to list the person who took the photos on the board and/or any websites where you got your graphics or photos under "**Photo and Display Credits**".
- Make sure your project board does not have any items not allowed in the exhibit hall. (Check Display Safety Rules)
- Be sure you understand and are able to talk about what you've learned from your project. Practice presenting your project to an adult.

Austin Energy Regional Science Festival

# ELEMENTARY DISPLAY AND SAFETY PARENT INFORMATION FORM

## I. DISQUALIFIED PROJECTS

**No Elementary Division student project can involve:**

- Firearms, explosives or discharge air pressure canister devices (i.e. potato guns)
- **Growing bacteria or mold of any type**
- Causing pain,suffering,sickness or death of an animal
- Breaking Local/State/Federal Law
- Production of ANY amount of consumable alcohol
- Any activity or substance that presents a danger to the student, other people or the environment, including hazardous chemicals or radioactive materials

## II. PROJECT BOARD GUIDELINES

All student projects must follow the guidelines listed to be allowed to display in the festival exhibit hall.

**Items Not Allowed:**

- **No organisms; living, dead or preserved** (no plants or animals)
- **No water or chemicals, crystals, liquids**
- No human/animal parts or body fluids (for example, blood, urine)
- **No human or animal food**
- No poisons, drugs, controlled or hazardous substances
- No sharp items (for example:syringes, needles, pipettes, knives, tacks, nails)
- No pressurized tanks or containers
- **No glass** or glass objects unless part of a commercial product (eg: a computer screen)

- No batteries with open top cells (so that battery acid can be seen)
- **No dirt, soil, gravel, rocks, sand, waste products** , etc.
- No project, device, activity, or substance deemed hazardous to student health or safety
- No photographs or pictures of animals or people in surgical techniques, dissections or necropsies

**Discouraged Items**

- **Items for demonstrations are discouraged.** This is not a demonstration fair. Judges want to hear what the student learned. Photographs of the project will suffice.
- Expensive, breakable or fragile items

**Allowed Items**

- Photographs, drawings,stuffed animals/artificial plants or imitation (play) food should be used to depict the prohibited or discouraged items.
- Students should take photographs of project steps as a visual explanation of their effort. Students must ask permission before photographing other individuals for the display board.
- **Be sure to properly credit/list all sources of graphics and photographers on the display board ("Photograph taken by . . .").**
- Students may use a computer and printer for written parts of the project.

**Display Board**

- Project display should be on a sturdy tri-fold board available at local craft and office supply stores.Written material, drawings and pictures should be securely attached to the display board.
- Projects will be displayed on tables that are 36 inches high**. Size of display area may not exceed the following measurements: 15" deep, 48" wide, and 72" high.** Due to space limitations, displays that exceed these measurements cannot be accepted. **Electricity for your display will not be available but you can use household batteries with your project.**

# Austin Energy Regional Science Festival
# JUDGING CRITERIA
# ELEMENTARY DIVISION

| | |
|---|---|
| 16 – 18 points | 1st |
| 10 - 15 points | 2nd |
| 5 - 9 points | 3rd |

Project # Judge # School:

Student: Grade:

Remember to give **POSITIVE VERBAL FEEDBACK** to the student!

| *Criteria* | *Basic* | *Average* | *Excellent* | *Score* |
|---|---|---|---|---|
| **Question**<br>*Indicates variables tested / changed and observed / measured effect* | *Minimal information about what was tested/researched and effects (outcome)*<br>***(1 point)*** | *Incomplete information about what was tested/researched and observed effects (outcome)*<br>***(2 points)*** | *Detailed information purpose of research, specific change, and how will determine effects (outcome)*<br>***(3 points)*** | |
| **Independence**<br>*Evidence the student generated and performed processes of project* | *Displayed in academic/adult language, shows little understanding of topic*<br>***(1 point)*** | *Mostly student-generated, understands general topic*<br>***(2 points)*** | *Displayed in student language, understands connections / details*<br>***(3 points)*** | |
| **Project Organization**<br>*Includes all details needed to replicate testing and/or design process* | *Minimal Information Lack of materials and steps of test/design* | *Incomplete Information quantities of materials* | *Detailed information quantities of materials* | |

| | | | | |
|---|---|---|---|---|
| | *procedures; cannot be replicated* ***(1 point)*** | *and general details of procedures limit exact replication* ***(2 points)*** | *and procedures support replication of project* ***(3 points)*** | |
| **Presentation of Data** *Critical sections are labeled and in logical order* | *No organized testing process, missing lists and needed sequence, no graphics used* ***(1 point)*** | *Steps of process shown using sequenced lists, labels, data in written and graphic forms* ***(2 points)*** | *Student created graphics indicating details of measured /observed outcomes* ***(3 points)*** | |
| **Verbal Presentation** *Communicates and presents verbally to a judge* | ***Student not Present*** ***(0 points)*** | ***Not all team members participated in interview or were able to answer questions*** ***(0 points)*** | *Student described and related achievements, answered judge's questions; if applicable: all team members participated in interview* ***(3 points)*** | |
| **Conclusion / Lessons Learned** *Answers the testable question or problem supported with relevant evidence.* | *General results difficult to relate to question and/or problem* ***(1 point)*** | *Results relate to question or problem without much evidence* ***(2 points)*** | *Student restated question or problem with supporting evidence and applied it to real world* ***(3 points)*** | |
| **Total** | | | | |

Austin Energy Regional Science Festival Name: _____
ELEMENTARY PROJECT RESEARCH PLAN School: _____
Required for All Elementary Projects

**Did you work with any of the following?**

- Firearms, explosives or discharge air pressure canister devices (i.e. potato guns) **Yes or No** • **Growing bacteria or mold of any type Yes or No**
- Causing pain, suffering, sickness or death of an animal **Yes or No**
- Breaking Local/State/Federal Law **Yes or No**
- Production of ANY amount of consumable alcohol **Yes or No**
- Any activity or substance that presents a danger to the student, other people or the environment, including hazardous chemicals or radioactive materials **Yes or No**

**If the answer is YES to any of the items above, you will not be allowed to participate in the Austin Energy Regional Science Festival.**

**Student(s):**

**School:**

**Grade:**

**Project Title:**

**Describe your experiment** (What were you trying to do, show, or find out ):

**Describe how you did it** (materials and procedure):

**What were your results** (What did you find out)?

**Bibliography:** Include at least three scientific sources (Google,Wikipedia, Encyclopedia **do not** count):

**What risks were involved?**

**What safety measures did you take?**

**Where did you do your project?**

Austin Energy Regional Science Festival Name: _____
ELEMENTARY PROJECT RESEARCH PLAN School: _____
Required for All Elementary Projects

**Who supervised you?**

Did you follow all the Austin Energy Regional Science Fest Elementary Rules & Guidelines? **Yes or No**

**If more than 1 page, add student name and school to the top of all pages.**

# Baldwin Elementary
# SCIENCE FAIR BOARD IDENTIFICATION FORM

*Complete this form and glue it to the center back of your display boa*

Name:_____Teacher:_____
____

Grade: _____

Project Title _____ ID
#_____(to be assigned)

*Complete this form and glue it to the center back of your display board.*