Canyon View Science Fair

Thursday, February 27th
5:00-8:00pm

The Purpose of the Science Fair

The purpose of the science fair is to provide an independent opportunity for students to explore the world of science. Early exposure to science and math is critical as it allows students to develop problem-solving skills that are important in our technology and science driven world.

Why Participate?

Science is fun! Development of a Science fair project promotes independent inquiry-based thinking and can create a passion for science. Student scientists also use other essential skills such as math, reading, writing, and presentation skills when they organize the experiments, analyze their findings, and prepare to present.

Who can Participate?

All students TK-5 at Canyon View are invited to participate individually or in teams of up to three scientists.

How to Enter

Registration will be completed online this year. Use the QR code to the left or find it at: https://bit.ly/2025CVESScienceFair.

Registration is due by Wednesday, February 19th.

If you have any questions, email the committee at **cvsciencefair@gmail.com**.

Students will leave their projects in the MPR after the science fair. Classrooms will visit the science fair on March 1st. Students will bring projects home on March 1st.

Need Ideas?

Remember that you can ask your teachers, librarian, neighbors, engineers, scientists, or anyone who might know more about your topic for help or ideas! Please feel free to use these valuable community resources.

Science Fair Rules:

1) All students must be registered by a parent or guardian.

2) All project applications will be reviewed by the CV Science Fair committee. The Science Fair Committee reserves the right to remove any project that violates the Science Fair rules, may endanger public safety or is inappropriate. This decision is final. If you have any questions about the safety or suitability of your project during your presentation or before the fair, please contact the committee at cvsciencefair@gmail.com prior to doing the experiments.

3) All experiments must be supervised by a parent or guardian and adequate safety precautions taken.

4) All projects must be based on a question to which the scientist does not know the answer. Each project should express a question, propose a hypothesis, describe an experiment, present observations, and make a conclusion. For example, instead of a bug collection, your child might ask "How many bugs are in one square foot of my back yard?"

5) Each scientist will be provided with half of a tabletop to display a project. Project size limit is 36" x 48." All projects should have a display board or a chromebook to display a digital project. You may cut a display board across the width and share the other half with a friend. Here is an example of a display board, however you do not need to follow the example. Display boards can be found at many stores including Michael's, Staples, and Office Depot. *Get your display board early so you can plan your presentation*. Display boards should be clear, simple, and neat. All students should have their name on their board or their digital presentation.

6) Participants and their parents are responsible for their displays during the Science Fair and are expected to contain any fluids, loose materials and powders in an appropriate manner.

7) *Anything, which could be hazardous to the public, is prohibited from display***.** No live animal experiments will be permitted. No caustic chemicals or open flames will be allowed. No projectiles will be allowed.

What is the Scientific Method?

The Scientific Method is what scientists use to learn about things:

➢ **State the problem:** Your science fair project starts with a question. This might be based on an observation you have made or a particular topic that interests you. Think what you hope to discover during your investigation, what question would you like to answer? Your question needs to be about something you can measure and will typically start with words such as what, when, where, how or why. What is it that you want to find out? *Example: What does baking powder do in a cornbread muffin recipe? Or How does the baking powder affect how muffins look, feel and taste?*

➢ **Research the problem**: Talk to your science teacher or use resources such as books and the Internet to perform background research on your question. Gathering information now will help prepare you for the next step in the Scientific Method. *Example: Find out about baking powder. What ingredients are in baking powder? Go to the library and find books, explore on the internet.*

➢ **Make a hypothesis:** Using your background research and current knowledge, make an educated guess that answers your question. Your hypothesis should be a simple statement that expresses what you think will happen. What do you think is going to happen, or how do you think it works? *Example: If no baking powder is used, muffins will be smaller and denser. If more baking powder is used, muffins will be lighter.*

➢ **Conduct an experiment:** Create a step by step procedure and conduct an experiment that tests your hypothesis. The experiment should be a fair test that changes only one variable at a time while keeping everything else the same. If possible, repeat the experiment a number of times to ensure your original results weren't an accident. *Example: Bake three sets of six muffins. In one bowl, use no baking powder, in the second bowl, use 1 teaspoon and in the third, use two teaspoons.*

➢ **Record Your Data:** Document your results with detailed measurements, descriptions and observations in the form of notes, journal entries, photos, charts and graphs. Write down or take pictures of what happens when you try your experiment. NOTE: Keep track of your data; it will be exciting to see if your guess was right. *Example: Observe the size of the muffins with the varying amount of baking soda, record their size, density and taste in a graph, photo or chart.*

➢ **State your conclusion:** Analyze the data you collected and summarize your results in written form. Use your analysis to answer your original question, do the results of your experiment support your hypothesis? Did what you expected happen? What did you learn? NOTE: Your conclusion should tell us what your data showed you. *Ex: Baking powder is a leavening agent that produces carbon dioxide gas during the baking process. The carbon dioxide gas bubbles become trapped in the batter as it bakes, forming air spaces in the resultant muffins. Baking soda produces lighter, less dense corn muffins.*

Awards/Judging Information

Scientists need to be ready to meet with judges at their table at the appointed time. Students should present their project independently.

All scientists will receive a ribbon and a certificate of participation.

Two Science Fair judges will watch the scientist(s) present their project and ask questions. They will both use a rubric to judge each project and their scores will be added to arrive at the final score. If there is a large disparity between the judge's scores, a third judge may review the project.

Two different rubrics will be used based on the grade(s) of the scientists. Both are included at the end of this packet. For TK through 2nd grade, the total possible points is 70 and for third through fifth grade, the total possible points is 90. Group projects will be scored using the rubric for the highest grade level of the participants (i.e. if a second and third grader collaborate, the 3rd-5th grade scoring rubric will be used to score the project). The color of ribbons awarded based on the total rubric scores of both judges are listed below:

TK-2nd Grade (Total 70 points)	**3rd-5th Grade (Total 90 points)**
60-70 points Blue Ribbon	77-90 points Blue Ribbon
49-60 points Red Ribbon	63-76 points Red Ribbon
35-48 points White Ribbon	45-62 points White Ribbon
<35 points Participant Ribbon	<45 points Participant Ribbon

This scoring format means that students will not be competing against each other for ribbons. Scores are determined by how well the scientific method is followed. The Committee recommends that you review the rubric carefully.

Judges' scoring sheets and student scores will not be released and all decisions are final. The scoring rubrics are provided in this packet. Please review them closely.

Parent Involvement:

We do realize that young scientists will need some parental help to prepare for the science fair, especially the younger grades. However, within reason, the child should do all the work. We know it's hard not to help, but when our judges interview the children about their work, we'd love for them to be able to speak confidently, with ownership and knowledge about all aspects of their projects. Most kids will need help developing an idea or interest into a useful question. After that, they should be given room to think, innovate, explore, and try again! Students in fourth and fifth grades should be doing their projects mostly independently, third and second may need some assistance, and kindergarten and first may need the most assistance. But, where possible, let them do their own work.

Advice for Parents:

1. Make sure they are **asking a question**! They must use the Scientific Method. Often students will want to display something they built (like a model of the solar system), but that does not meet the requirements.
2. Look at the **judges rubrics** while you are working. This tells you exactly how projects will be scored.

CANYON VIEW ELEMENTARY SCIENCE FAIR
TK – 2ND GRADE RUBRIC

Criteria	None 0	Below Expectations 2	Meets Expectations 4	Exceeds Expectations 5	Total Score
Testable question	0	Problem lacks some clarity, is not testable or is not a question	Asks a specific measurable cause and effect question and shows clear purpose	The question shows higher thinking skills and exceeds expectations	
Hypothesis	0	Hypothesis does not state a clear prediction	Predicts a reasonable outcome as a result of a specific investigation	Exceeds expectations and accounts for different variables	
Procedure	0	Procedure is vague and would be difficult to repeat	Procedure is clear and could be easily repeated	Exceeds expectations very precise and well thought out	
Data/ Observations	0	Data not clear or unlabeled	Data and/or observations are presented clearly	Exceeds expectations Complex data presented in a highly organized fashion	
Conclusion	0	Conclusion present but not connected to hypothesis	Conclusion is clear and connected to hypothesis	Very thorough and includes potential next extensions of project	
Display Board/ Digital Presentation	0	The components of the scientific method are represented.	The project is organized and well represented with at least two of the following; text, charts, graphs, photographs	Exceeds expectations Information is clearly presented using a variety of formats	
Presentation	0	The student can speak about his or her project but cannot provide details.	The student is able to explain each component of the project clearly and with detail	The student meets expectations AND provides a demonstration or additional format for explaining investigation	
					/35

CANYON VIEW ELEMENTARY SCIENCE FAIR
3RD- 5TH GRADE RUBRIC

Criteria	None 0	Below expectations 2	Meets expectation 4	Exceeds Expectations 5	Total Score
Testable question	0	Problem lacks some clarity, is not testable or is not a question	Asks a specific measurable cause and effect question and shows clear purpose	The question shows higher thinking skills and exceeds expectations	
Hypothesis	0	Hypothesis does not state a clear prediction	Predicts a reasonable outcome as a result of a specific investigation	Exceeds expectations and accounts for different variables	
Procedure	0	Procedure is vague and would be difficult to repeat	Procedure is clear and could be easily repeated	Exceeds expectations very precise and well thought out	
Data/ Observations	0	Data not clear or unlabeled	Data and/or observations are presented clearly	Complex data presented in a highly organized fashion	
Trials/ Samples	0	Only one trial or sample was used	At least 3 trials or samples are shown	Exceeds expectations with multiple trials or samples	
Constant Conditions	0	Not all conditions were constant	Conditions were constant in each trial	Exceeds expectations in accounting for all possible variables	
Conclusion	0	Conclusion present but not connected to hypothesis	Conclusion is clear and connected to hypothesis	Very thorough and includes potential next extensions of project	
Display Board/ Digital Presentation	0	The components of the scientific method are represented.	Organized and well represented with at least two of the following; text, charts, graphs, photographs	Exceeds expectations; information is clearly presented using a variety of formats	
Presentation	0	The student can speak about his or her project but cannot provide details.	The student is able to explain each component of the project clearly and with detail.	The student meets expectations AND provides a demonstration or additional format for explaining investigation	
					/45