



# Virginia 4-H Contest Guide- Science Fair Presentation & Display

## Description of Contest

The Science Fair Presentation & Display Contest provides youth with the opportunity to communicate scientific experiment by using the scientific method.

## Levels of Competition

Unit (county), District, State

Age categories are as follows, using September 30th of the 4-H year as the determining date.

Juniors (ages 9-11)      Intermediates (ages 12-13)      Seniors (ages 14-18)

## Awards to be Earned

The Danish awards system will be used at all levels of competition. Blue ribbons will be awarded to competitors earning 90-100 points; red ribbons will be awarded to competitors earning 75-89 points; white ribbons will be awarded to competitors earning 74 points or less.

Certain Extension districts award a purple ribbon to the highest scoring youth in the category. Districts determine the awarding of these ribbons, but they are generally reserved for blue ribbon winners only. At the state contest, the highest scoring youth will be awarded a project medal. Youth who win the state project medal are ineligible to compete in that category in future years.

## Rules for this Contest

**Originality** – The youth presenting the demonstration must have been actively involved in the science experiment demonstrated. However, it is acceptable for one youth to present a research project that involved a team effort. There is no restriction on presenting work that was prepared as a school project or other formal activity. If the original project was a group effort, the youth presenting the work must prepare his or her display specifically for this event.

**Title** – The title may state the independent and dependent variables. Example: “The Effect of Salt Concentration on the Boiling Point of Water” or may be worded to capture the observers’ interest:”Does Salty Pasta Cook Faster

**Size** – The display must be capable of sitting (freestanding) on a 3 ft x 3 ft space on a tabletop. Visual aids and props are allowed, provided they do not obscure the view of the display and relevant to the display. No live animals, or potential dangerous chemicals or substance are allowed.

**Time:** The science fair presentation will follow the same time limits as other presentations: Juniors (9-11 Yrs) 2-5 minutes, Intermediates (12-13 Yrs) 5-8 minutes, Seniors (14-19) 8-15 minutes. Each youth will be allowed up to three minutes to set up their display before presenting.

## Judging Criterion

**Content** – The display must “tell the whole story” by itself and will count for 40 out of a total of 100 points toward the final competition score.

- **Statement of Problem (Question)** – The essential research must be communicated through the problem statement. On a display board, a statement followed by the experimental hypothesis often achieves this. Example: “Is the temperature at which a salt/water solution boils higher than the temperature at which pure water boils?”
- **Hypothesis** – Example: “The more salt added the higher the temperature at which the mixture boils.
- **Materials** – Materials may be listed or stated in a paragraph format. Example: “Materials required for this experiment were distilled water, table salt, a sauce pan, a measuring cup, a teaspoon measure, a thermometer capable of measuring in the range of 200 to 250 Fahrenheit in one degree increments, and a stove.”
- **Method** – The procedure (materials methods) should be communicated either as a list or in narrative/paragraph form.

Example:

Step 1: Measure one cup of distilled water into a saucepan. (Control)

Step 2: Place the saucepan on the stove and bring the water to a boil.

Step 3: Once the water is rapidly boiling, measure and record the temperature to the nearest degree Fahrenheit.

Step 4: Discard the liquid and rinse the saucepan in tap water.

Step 5: Repeat steps 1-4 two times for a total of three trials.

Step 6: Repeat steps 1 through 5 except for each repetition add the appropriate amount of salt to the saucepan along with the distilled water (1, 2, 3, 4, and 5 teaspoons of salt)”

or

Example: “One cup of distilled water was measured into a saucepan. For each trial a measured amount of table salt, varying from one to five teaspoons (in one-teaspoon increments) was added and the mixture was stirred and brought to a rapid boil on the stove. Once boiling, the temperature was recorded to the nearest degree Fahrenheit. The boiling salt-water mixture was discarded and the saucepan rinsed with tap water. This procedure was repeated three times for each amount of salt.”

- **Creativity Inventiveness** – The presenter should convey how their experiment is innovative, original or a new approach to the question.
- **Results:** Sufficient graphs and data tables must be presented to communicate the findings and to show how the data supports or denies the experimental hypothesis. Brief sentences summarizing the data may accompany the graphs and tables.
- **Acknowledgements/Bibliography** – The presenter must acknowledge any outside assistance he or she received in performing the experiment, list resources and site any additional research used.
- **Conclusion:** The major research findings are summarized here. This may be done in list or paragraph form. Possible future research studies may be suggested. Example: “The data clearly show that the saltier the water, the higher the boiling point. Based on this finding it would be interesting to see if pasta will cook more rapidly in salted water than in unsalted water.”

## Score Sheet for this Contest

VCE Publication 380-128 “4-H Science Fair Project/Presentation and Display Score Sheet” Available: [pubs.ext.vt.edu/380/380-128/380-128.html](http://pubs.ext.vt.edu/380/380-128/380-128.html)

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