



**Royal Oaks Elementary Science and Art Fair**  
**Thursday, March 15, 2018**  
**3:00 p.m. to 6:00 p.m. (Set up project and interview)**  
**6:30 p.m. to 7:30 p.m. (Public Viewing)**

## **Art Fair Information**

**New this year students can sign up for a time to set up their projects and be interviewed anytime between 3:00 p.m and 6:00 p.m.** Report to the main hallway sign-in table before setting up and once you are set up then you will be interviewed. Once you have completed your interview you are able to leave and then come back for the public viewing time. Our evaluators are community members, parents and teachers that will come by to discuss the project with you and all participants will receive recognition for participating. This is not a competition and you are encouraged to look at other students' projects during the public viewing time. **For Art Projects ONLY a small table space shared amongst other artists will be provided, NO projects can be hung on the wall and easels are not provided.**

**\*\*\*Sign up online no later than 2/23 to reserve your spot. Link can be found on the front page of the Royal Oaks webpage**

[https://docs.google.com/forms/d/e/1FAIpQLSed\\_lhFQFlxJ257CrsHHJoMmDGCmnQnXIS1FgldHsiVYO-REQ/viewform?usp=sf\\_link](https://docs.google.com/forms/d/e/1FAIpQLSed_lhFQFlxJ257CrsHHJoMmDGCmnQnXIS1FgldHsiVYO-REQ/viewform?usp=sf_link)

### **Purpose**

This is a wonderful time for students to show their artistic talents for the school community to see.

### **Eligibility and Originality**

All artwork must be original. Artwork must have been created in the last year but may not have been created during art class time in school.

### **Labeling Your Artwork**

Labels for you to fill out will be provided as you register for the fair. Be prepared with the artist (student's) name, grade level, media/medium used, and title. You will display the label near your artwork.

*If you have any questions related to ART for the Science and Art Fair,  
contact Ms. Wheeler at [swheeler@sowashco.org](mailto:swheeler@sowashco.org).*



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**Thursday, March 15, 2018**  
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## **Science Fair Information**

**New this year students can sign up for a time to set up their projects and be interviewed anytime between 3:00 p.m and 6:00 p.m.** Report to the main hallway sign-in table before setting up and once you are set up then you will be interviewed. Once you have completed your interview you are able to leave and then come back for the public viewing time. Our evaluators are community members, parents and teachers that will come by to discuss your project with you and all participants will receive recognition for participating. This is not a competition and you are encouraged to look at other students' projects during the public viewing time. **Please bring a table or something to set your project on, your space will be limited to a 4x4 area. NO LARGE tables will be accepted.**

**\*\*\*Sign up online no later than 2/23 to reserve your spot. Link can be found on the front page of the Royal Oaks webpage**

[https://docs.google.com/forms/d/e/1FAIpQLSed\\_lhFQFlxJ257CrsHHJoMmDGCmnQnXIS1FgldHsiVYO-REQ/viewform?usp=sf\\_link](https://docs.google.com/forms/d/e/1FAIpQLSed_lhFQFlxJ257CrsHHJoMmDGCmnQnXIS1FgldHsiVYO-REQ/viewform?usp=sf_link)

### **Purpose**

This is a wonderful time for students to show their knowledge in science and technology.

### **Science Fair Project**

Feel free to search the internet or research ideas at the library. Here are some ideas for the type of project you might like to do.

1. Demonstrate a scientific principle
2. Answer a scientific type question
3. Share a personal collection of science items (provide written explanations)
4. Conduct an experiment following the Scientific Method
  - 1) State question/problem
  - 2) Hypothesis (educated, smart guess)
  - 3) Materials
  - 4) Procedures
  - 5) Observations
  - 6) Conclusions

### **Display**

You may use a three-sided project display board. Make your display visually appealing. Your display should include your name as well as a project title and sections with headings according to the scientific method or other categories depending on the type of project you do.

### **Safety**

Get an adult's help and approval for your project.

No fire or flames are allowed. Running water and electricity will not be available.

No animals will be allowed at the Science Fair.

If in doubt about whether your project is appropriate or acceptable, ask your teacher.

*If you have any questions related to SCIENCE for the Science and Art Fair, ask your teacher or contact Ms. Swalve, 3<sup>rd</sup> Grade Teacher, at [mswalve@somashco.org](mailto:mswalve@somashco.org).*

## **KINDERGARTEN-THIRD GRADE LEVEL PROJECTS**

You can also search the internet. Two sites of interest are [www.spartechsoftware.com/reeko/](http://www.spartechsoftware.com/reeko/) and [www.sciencemadesimple.com/](http://www.sciencemadesimple.com/). You can also find links to science experiments on the Royal Oaks web page: <http://www.sowashco.k12.mn.us/ro/pages/studentlinks/science.htm>.

### **Collections**

Chemical elements (carbon, lead, iron, sulfur, etc.)	Solids, liquids and gases
Fossils	Rocks
Rocks from two beaches or areas	Different varieties of sand
Different types of soil	Bones
Seashells	Leaves (indoor or outdoor plants)
Seeds	Insects
Feathers	

### **Models & Demonstrations**

How a bicycle works	How a generator or motor works
Simple machines	Levers
Pulleys	Open and closed circuits
How a switch works	How fuses work
How a flashlight works	How light reflects
Mixing colors	How magnets work
An electromagnet	Friction
Newton's third law	How thermometers work
Heat and air (convection mobile)	Does fire give off water
Does fire use something in air	Does air have weight
Does air exert pressure	Evaporation
How are sounds produced	Why do things float
Why elevators have counterweights	A boomerang can
How things move on movie film	Why the wind blows
What makes hail	What is ground water
Inside our earth (model)	Features of the earth's surface (model)
Our solar system (model)	Galaxies and our milky way (model)
The and (clay model)	How seeds travel
Do plants give off water	Tree rings

### **Experiments**

Magnetic and nonmagnetic materials	Which magnet is strongest
Which materials conduct electricity best	Which materials conduct heat the best
Sounds from different rubber bands (or glasses of water)	Which toy car rolls furthest
Which materials dissolve in water	Which paper towel absorbs the most water
Will an ice cube melt faster when crushed up	Do coins corrode more in salt or fresh water
How vinegar affects egg shells	How a shadow changes throughout the day
Measuring rainfall with a rain gauge	Depth of snow at ten different locations
Testing a sundial with a clock	Which brand of raisin bran has the most raisins
What a plant need to grow	Do plants prefer tap water or distilled water
How temperature affects plant growth	Do plants give off water
In which soil do plants grow best	Growing potatoes at different locations
How fast do kidney beans grow	Do large apples have more seeds than small ones
Do different kinds of apples have different amounts of seeds	What conditions do pill bugs prefer (light or dark, moist or dry)
Can an earthworm detect light and darkness	How far does a mealworm or snail travel in one minute
What is the best condition for the growth of mold	Which bread molds most quickly
Which color liquid do Hummingbirds prefer	What food does a hamster prefer
Can people identify flavors of Kool-Aid when blindfolded	

## **FOURTH AND FIFTH GRADE LEVEL PROJECTS**

You can also search the internet. Two sites of interest are [www.spartechsoftware.com/reeko/](http://www.spartechsoftware.com/reeko/) and [www.sciencemadesimple.com/](http://www.sciencemadesimple.com/). You can also find links to science experiments on the Royal Oaks web page: <http://www.sowashco.k12.mn.us/ro/pages/studentlinks/science.htm>.

### **Physical Science Experiments**

Which material makes the best heat insulator	Which metals conduct heat best
Which color of liquid absorbs the most heat	The efficiency of airspace as an insulator
Which color container cools off the quickest	Which color container absorbs the most heat
Do magnetic fields affect the sound quality on a recording tape	How temperature affects the height at which different balls bounce
How heat affects recording tape	Do black bottom pools keep the water warmer
How constant is the temperature in my refrigerator	How accurate is the temperature knob on my oven
The effects of temperature on the strength of dry cells	The effect of light on dyed materials
Calculating liquid density using light refraction	Materials that absorb sound
String telephones: what materials work best in conducting sound	Comparison of vitamin A content in frozen, canned and fresh peas
How temperature affects the amount of electricity given off by a solar cell	How increasing the number of batteries affects the speed of a motor
What is the voltage range of the GE-14 bulb	The strength of a magnet vs. distance
Which fabrics are most fire-resistant	Which toothpaste is most abrasive
The amount of dissolved salt in drinking water	Can saltwater be desalted by freezing
Popcorn – a graphical analysis of pops per second	Strength of different woods
Ink evaluation with paper chromatography	Splat – a study in droplet patterns
Chlorine levels in our drinking water	The effects of swimming pool water (chlorine) on hair
Testing sugar in soft drinks	Conductivity of various liquids
Testing various orange drinks for vitamin C	How fire affects roofing materials
How well do various fabrics absorb dye	How does the tail affect the flight of a kite
What shutter speed is needed to photograph a moving fan	The velocity of water through different tubes (same size, different material)
The velocity of water through different tubes (different size, same material)	The velocity of liquids through the same size tube
Density of various liquids	The effects of washing on dyed materials

### **Consumer Projects**

Waterproofing agents – which one is best	The effects of deodorants on clothes
Which popcorn pops the most	Up to bat – wood or aluminum
Fishing lines take the strength test	Skateboard wheels – which are best
Which uses more water, a shower or a bath	Which container or wrapping preserves food the best
Which paper towel is most absorbent	Which diaper is best
Which firewood gives the most heat per dollar	Can a roof overhang cut summer cooling costs
How much money can a pool cover save	Which candle is the best buy
Which light bulb is the most efficient	Are TV commercials louder than regular programming
Which battery is the best buy	How much does it really cost to run a refrigerator
Which stain remover works best	Which detergent removes grass stains best
Which detergent cuts grease the best	Which detergent has the longest-lasting suds

## Life Science Experiments

Does temperature effect the growth of plants	How do plants react to different kinds of music
How detergents affect the growth of plants	Do plants grow better with tap water or distilled water
The effects of root bounding on plant growth	Do roots always grow down
Do mirrors affect the way plants grow	Leaf size vs. location
Effects of artificial vs. natural light on plants	Under which color cellophane do plants grow best
Dan you give a plant too much fertilizer	Testing different potting soils
Which mulch covering works best	Do seeds sprout better in cold or hot climates
Comparing the moisture content of five varieties of apples	Which banana has the most sugar – green, yellow or brown
Do earthworms help plants to grow	Smoking vs. lung capacity
Lung power of different age groups	

## Demonstrations

Water retention of different soils	How clean is our air
How acid is our rain	How heat is transmitted
An energy-efficient home	What makes a hot air balloon rise
Expansion of solids, liquids, & gases when heated	How a thermostat works
How a toaster works	The steam engine
The periscope	Kaleidoscopes
How binoculars work	How a microscope works
How a telescope works	What makes rainbows
Different types or mirrors	Lenses and what they do
How a camera works	How Polaroid glasses work
What causes light to bend	How photocells work
How a prism works	The pinhole camera
The Doppler effect	What causes echoes
How a record player works	How an electric motor works
How a generator works	Batteries how they work
The telegraph works	What is a transformer
What is a transistor	Electronic components and their functions
Hydroelectric power	The series circuit and the parallel circuit
How airplanes fly	How a wing works
Heros engine	How rockets fly
Looping roller coasters – how they work	How a canal lock works
Primitive clocks	Distillation
Solar still	Water filtration
pH and how to measure it	Acids, bases and pH
How elements combine to make compounds	Capillary action
Radioactivity and Geiger counters	The sextant or quadrant
What is density	What is surface tension
Weather forecasting	How a barometer works
Cloud chamber	Effect of air pressure
Fermentation	Osmosis
Phases of the moon (working model)	Eclipses
How a geyser works	Harvesting the wind with windmills
How clouds form	Different types of earthquake faults
Sedimentation	How a sundial works
How does the human heart work? (Model)	The circulatory system
The ear	Tooth decay
Why a fish has fins	Bird wings, how they work
Photosynthesis	Hydroponics
The action of yeast in bread	How yogurt is made
How cheese is made	Paper recycling
Aluminum recycling	Glass recycling oil wells – how they work
The submarine	Do oil additives reduce friction on engine parts
Paper airplane performance	

Here are some helpful Internet Links:

For Art Project Ideas:

- <http://www.pbs.org/parents/crafts-for-kids/>
- <http://www.enchantedlearning.com/Home.html>
- <http://artfulparent.com/kids-arts-crafts-activities-500-fun-artful-things-kids>
- <http://www.freekidscrafts.com/crafts-by-age/early-elementary-craft/>
- <http://www.funology.com/arts-crafts/>

For Science Project Ideas:

- <http://www.education.com/science-fair/elementary-school/>
- <http://www.sciencekids.co.nz/projects.html>
- <http://chemistry.about.com/od/sciencefairprojects/a/sciproelem.htm>
- <http://www.sciencebob.com/experiments/>
- <http://www.sciencefair-projects.org/>



## **PARTICIPANT:**

Name: \_\_\_\_\_

Grade: \_\_\_\_\_ Teacher: \_\_\_\_\_

Email: \_\_\_\_\_

Phone number: \_\_\_\_\_

Art Project: \_\_\_\_\_

Science Project: \_\_\_\_\_

Both: \_\_\_\_\_

Appointment time for set up and interview:

\_\_\_\_ 3:00-3:30    \_\_\_\_ 3:30-4:00    \_\_\_\_ 4:00-4:30    \_\_\_\_ 4:30-5:00

\_\_\_\_ 5:00-5:30    \_\_\_\_ 5:30-6:00

Please return this form to your teacher or drop off in the office by  
February 23, 2018 (Forms can also be found via URL link on the front  
page of the Royal Oaks Website)