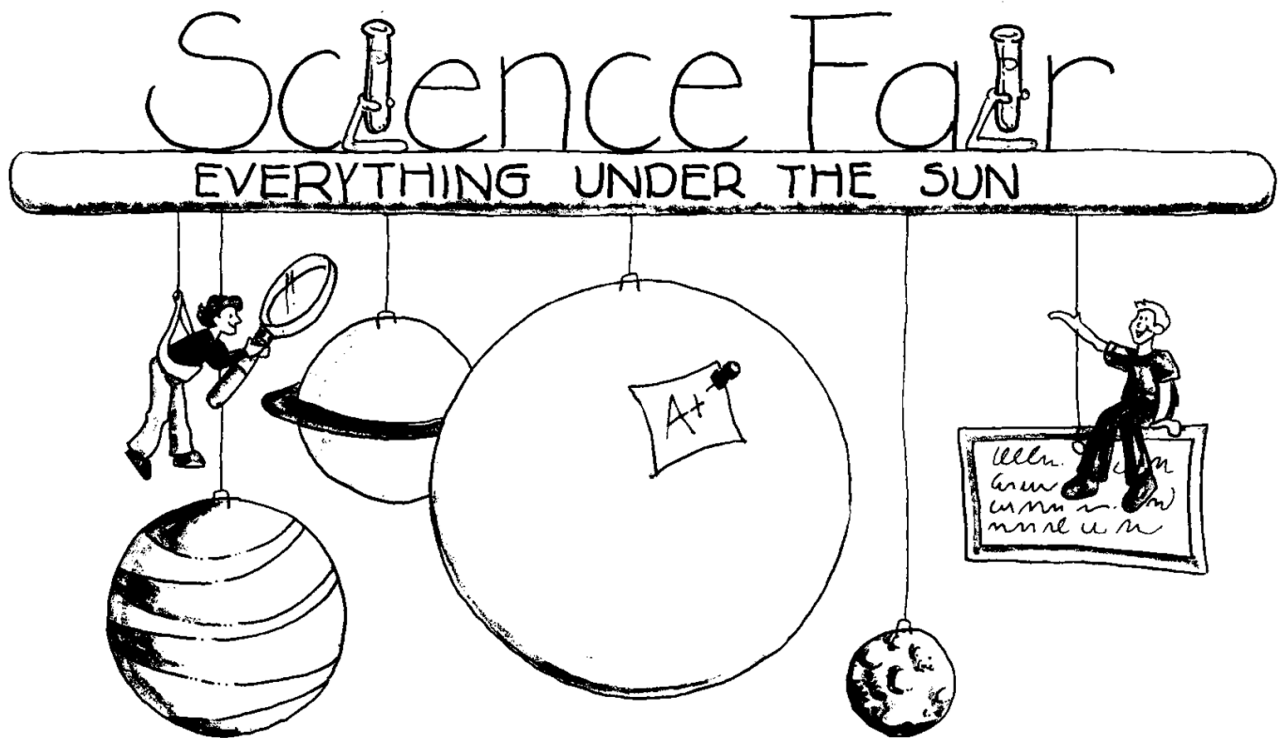


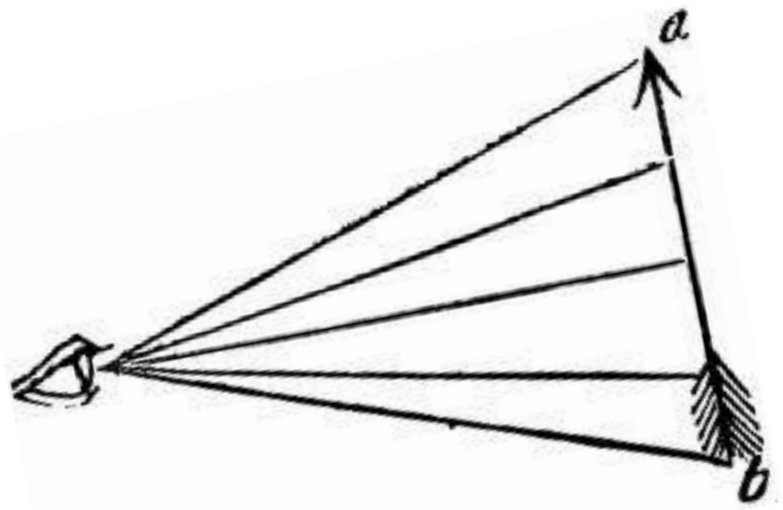
LORDSHIP FATHERS CLUB  
**LORDSHIP SMARTS**

*Science, Math and ARTS Exposition*



Visit [www.LordshipFathersClub.com](http://www.LordshipFathersClub.com) to download the LORDSHIP SMARTS Handbook and Registration Form

# *VISION for the Lordship SMARTS Expo*



- To demonstrate that ‘Science can be fun’.
- To stimulate and nourish a fond interest in Science.
- To encourage self-discipline, initiative, and responsibility necessary to carry out a Science project.
- To support science education at all grades through presentation of science projects.
- To promote importance of creativity, ingenuity, attention to detail and communication in Science.
- To foster an appreciation of scientific processes in an increasingly technological society.
- To give the children a sense of pride and accomplishment derived from participation in a Science Exposition.
- To create an opportunity where the community can gather and appreciate children’s efforts in science.

# LORDSHIP SMARTS HANDBOOK

## GENERAL EVENT INFORMATION, LIMITATIONS, AND ELIGIBILITY

- LORDSHIP SMARTS will be held on Friday Feb 2<sup>nd</sup> from 5pm-8pm at Lordship School.
- LORDSHIP SMARTS is open to all students (K-6) who live in Lordship or attend Lordship School. Projects may be completed by an individual, or in a group limited to two students.
- Registrations must be completed in full and submitted prior to January 31<sup>st</sup> 2018
- Set up for LORDSHIP SMARTS is Friday Feb 2<sup>nd</sup> between 12:30 PM and 4:30PM.
- Judging of projects will take place between 3:30pm - 7pm the evening of the event.
- Projects must be removed from Lordship School immediately following the exposition.
- If electrical power is required by the student, it must be stated on the application.
- Students' expenditures for materials/equipment should be minimal and are the responsibility of the student.
- Only work that was made during the current school year may be entered in the expo.
- Due to time-constraints, please have presentation ready to display during the 'drop off time'. There will be only a limited time for on-site assembly.
- Projects must represent original work by the student. If parental assistance is provided, the extent of this assistance should be so described during the presentation.
- Safety precautions must be observed when displaying an exhibit.
- Project size is restricted to 36 inches wide, 36 inches deep and 72 inches high measured from the floor. Projects must be self-standing, and not a hazard to others. No wall space will be available. **OVERSIZED PROJECTS WILL NOT BE PERMITTED.**
- Students must supply all tools and equipment for setting up. This includes any electrical cords at least 2 meters long and equipped with a standard ground plug.
- No live animals of any kind are permitted to be on display. Live plants may be displayed.
- **ANYTHING HAZARDOUS TO THE PUBLIC WILL NOT BE ALLOWED.** This includes lasers, poisons, dangerous chemicals, open flames, highly flammable materials and weapons of any kind.
- NO controlled substances, dangerous materials such as acids, bases, drugs, bacterial cultures, molds, bio-hazard or temps over 200 degrees Fahrenheit permitted in the exhibit.
- Open knife switches, doorbell pushbuttons and bare wire may be used only in circuits of 12 volts or less, otherwise standard enclosed switches are required.
- Graphic images of surgical techniques, dissections, or laboratory techniques depicting vertebrate animals in other than normal conditions, etc. should be used with discretion.

# LORDSHIP SMARTS HANDBOOK

## USEFUL RESOURCES TO HELP CREATE A SMARTS SCIENCE PROJECT

- ❖ Library
- ❖ Science Teacher, Art Teacher
- ❖ Online resources including the following links:
  - [Science Buddies](http://www.sciencebuddies.org) www.sciencebuddies.org
  - [Science Fair Projects](http://www.all-science-fair-projects.com/) www.all-science-fair-projects.com/
  - [Science Fair Ideas](http://www.sciencebob.com/) www.sciencebob.com/
- ❖ Possible Science Topics A to Z
  - **A** amphibians, animals, archaeology, astronomy
  - **B** bats, biology, birds, boats, bones, brain
  - **C** chemistry, color, computers, conservation, constellations, caves
  - **D** dew, digestive system, dinosaurs, disease, drugs, decomposition
  - **E** ear, ecology, electricity, enamel, energy, eye
  - **F** fingerprints, fish, flowers, fossils, friction, fruits, fractals
  - **G** gardening, geology, giraffes, glass, glaciers, gravity, geometry
  - **H** habitats, heart, herbs, hot-air balloons, human body
  - **I** insects, instinct, insulation, invertebrates
  - **J** jellyfish, jet propulsion, jet stream, joints
  - **K** kaleidoscope, kangaroos, kelp, kidney, knee
  - **L** lava, life cycle, lightening, lizards, lung
  - **M** machines, magnets, matter, minerals, molecules
  - **N** natural resources, nervous system, nutrition
  - **O** oceanography, optical illusion, osmosis
  - **P** paleontology, petroleum, plants, pollution, perception
  - **Q** quail, quartz, quasar, queen bee, quicksand
  - **R** rain forest, reptiles, respiratory system, robots, rocks
  - **S** soap, solar power, sound, spiders, springs, sundial, statistics
  - **T** teeth, telescope, terrarium, turtles, trigonometry
  - **U** ulcers, unicycles, Uranus
  - **V** vertebrates, vitamins, vocal cords
  - **W** water, weathers, work, worms
  - **X** x-rays, xylophone
  - **Y** yams, yeast, yogurt
  - **Z** zebras, zinnias, zucchini

# LORDSHIP SMARTS WORK FLOW

- Complete registration form and submit to the Lordship Elementary School Main office or the Lordship Fathers Clubhouse up until **JAN. 31<sup>st</sup>, 2018**
- All projects should include a brief narrative describing the project and presented in a manner which speaks for itself. The description should include pertinent processes followed, resources used, concepts you learned, and conclusions.
- Projects will be measured on complexity, creativity, thoroughness, skill, originality, innovation, practicality, neatness, craftsmanship, understanding of the principles and degree of difficulty.
- **REGISTRATION FORMS** must be displayed along with project. Keep in mind that students are not required to be present when project is evaluated.
- Prizes will be awarded to the top three projects in the following categories: **SCIENCE THROUGH ART; INVENTION; SCIENTIFIC/MATHEMATICAL DISPLAY; SCIENTIFIC EXPERIMENT.**
- Each student who completes a project will receive a LORDSHIP SMARTS certification of participation. Students are NOT required to participate in the judging portion of LORDSHIP SMARTS.

**THINK/EXPLORE**  
Consider an aspect of science/math/arts which interests you. Discuss your project with teachers and parents.

**RESEARCH**  
Investigate your ideas and select one of the four EXPO categories for your project. Use the SMARTS Handbook as a resource to ensure compliance with all exposition guidelines.

**REGISTRATION**  
Print the required registration form. Submit the completed registration form before **January 31<sup>st</sup> 2018.**

**WORK ON PROJECT**  
Using available resources, begin work on your project at home, keeping track of your processes followed. Have FUN!

**BRING PROJECT TO SMARTS EXPO**  
Deliver your project to Lordship School on **February 2<sup>nd</sup> at 3:30pm.** Be sure to display a copy of your approved registration form and a brief narrative describing your project. Have pride in displaying your project to your friends and all of LORDSHIP!

# LORDSHIP SMARTS HANDBOOK

Exhibits at the Expo must fall into one of the following **FOUR** categories:

## 1. INVENTION

- An invention for the SMARTS expo should be something which solves a problem faced by humans or animals, including but not limited to the following:
  - It can be something or some process that has never been made or done before; (i.e., a new food, a new way of communication, or unique aircraft).
    - Examples of an invention for the SMARTS Expo might be – design a new toy, make a lunchbox that will keep food fresh for 12 hours, design a new pot for growing plants.
  - The other type of invention is one in which a device or process is modified in some way (for example, a better television, a better brake system in a car). Such a changed thing or process is still considered an invention.
    - One example maybe to construct a useful electromagnet that would pick up only 10 nails, or build a bird feeder that will attract only cardinals.

## 2. SCIENTIFIC or MATHEMATICAL DISPLAY

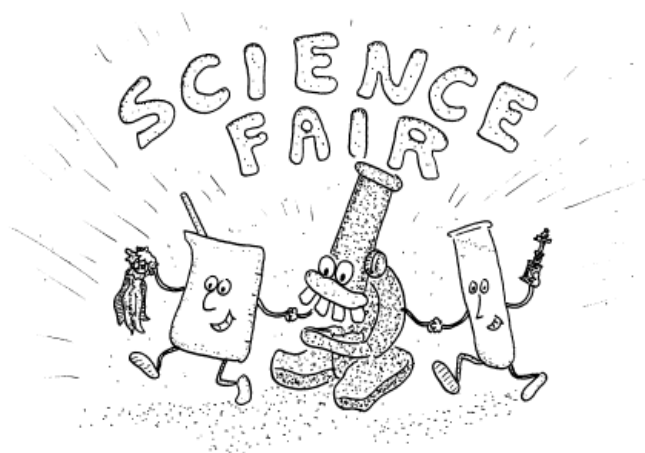
- A static or dynamic model may begin with a curiosity about how something works. It is a way to display the parts of something and what each part does to carry out a particular function.
  - Examples of functional models may include building an electromagnet, showing how lungs work, making a solar cooker, or connecting wires to show the difference between parallel and series circuits.
  - Another type of model is an enlargement or reduction as a scaled version of an object; such as building a flower model or a cross-section of an apple.
  - Examples of reduced scale models include; craters on the moon, the solar system, a dinosaur, or a space shuttle.

## 3. SCIENTIFIC EXPERIMENT

- An experiment answers a question using the scientific method. Examples of experiments might include ‘How does mold grow on bread and fruit?’, ‘How can apples be kept from turning brown?’, ‘Will beans grow taller if watered with ginger ale?’, or ‘How can a person smell what cannot be seen?’
  - **SCIENTIFIC METHOD**
    - a. Select a question
    - b. Form a hypothesis
    - c. Perform a test of the hypothesis
    - d. Prepare and explain the results
    - e. Draw conclusions

#### 4. SCIENCE THROUGH ART EXHIBIT

- Art and science are intrinsically linked; the essence of art and science is discovery. Art-based projects can help children comprehend abstract scientific theories and improve their critical thinking skills. Through the manipulation of images and materials children can show an understanding of the connection between the image/object and the concept. Integrating science and arts can provide children with the latitude to think, discover, and make connections. The following are a few ideas, not intended to limit how children may build a project using art for Lordship SMARTS
- Art Project could present science through the use of art including:
  - Photography, Painting, Drawing/sketch, Sculpture, Design.
  - Acrylic paint, oil paint, watercolors, oil pastels, chalk pastels, plasticene, ink, pencil, charcoal, colored pencils, markers, textiles.
  - Art paper, watercolor paper, poster board, and canvas are possible choices to display work.
  - Possible sculpture materials: wire, clay/plasticene, wood, papier-mâché, found objects, objects in nature.
- A collection study is a fun way to learn the proper names of a variety of objects and relate them to science. It involves collecting the objects, describing them, grouping them, and identifying them by their proper name. The five senses may be used to describe objects:
  - Eyes: color, shape, sheen
  - Hands: texture, weight, temperature
  - Ears: pitch, rhythm, loudness
  - Nose: odor, strength
  - Tongue: sweet, sour, salty, bitter
- Collages are another method children may display art through science by gathering and assembling images or objects which represent an idea for exposition. When children are making collages in science, the collage grows out of completed research. Having background information allows the students to make critical choices when looking for appropriate images to represent written facts.



# Displaying Your Project at LORDSHIP SMARTS

**SIZE:** Not to exceed 3 feet. It should be STURDY!

**MATERIALS:** Cardboard; wood; paneling, etc.

**SHAPE:** Three sided exhibit is recommended for presenting experiments, inventions, and scientific or mathematical displays.

**SUGGESTIONS:**

- Keep it simple, neat, inexpensive and interesting.
- The more creative use of materials, the more interesting your display will be.
- Try to limit yourself to three colors.
- Be sure your lettering is easy to read.
- Clearly label all the steps of your project.
- Avoid large areas of unused white space.
- This diagram is one good way to arrange your display.



## **DO'S AND DON'T'S REGARDING THE DISPLAY**

- ❖ **DO** use computer-generated graphs where applicable.
- ❖ **DO** display photos representing the procedure and the results if possible.
- ❖ **DO** use contrasting colors, BUT limit the number of colors used.
- ❖ **DO** attach charts neatly; place them on top of each other so that the top chart can be lifted to reveal the ones below.
- ❖ **DO** balance the arrangement of materials on the backboard. This means evenly distributing the materials on the board so that they cover about the same amount of space on each panel.
- ❖ **DO** use rubber cement or double-sided tape to attach papers. White school glue causes the paper to wrinkle.
- ❖ **DON'T** leave large empty spaces on the backboard.
- ❖ **DON'T** leave the table in front of the backboard empty. Display your models (if any), report, copies of your abstract, and your journal here.
- ❖ **DON'T** hang electrical equipment on the backboard so that the electric cord runs down the front of the backboard.



# LORDSHIP SMARTS HANDBOOK

## PARENTING TIPS IN HELPING YOUR CHILD CREATE A PROJECT

- ☑ **DO** help your child with background research. Let your child find the project that he/she just cannot resist doing. Make sure your child reads and understands the important lessons to learn from the project. **DO NOT** do the research for your student.
- ☑ **DO** help your child with the planning process and setting up a planning timeline chart.
- ☑ **DO** meet with your child to discuss the progress of the project.
- ☑ **DO** instill a sense of pride and accomplishment to your child for their efforts, but **DON'T** be afraid to give your child constructive criticism.
- ☑ **DO** give encouragement and support, and be certain the child knows it his/her project.
- ☑ **DO** help with general supervision over doing the steps of each project
- ☑ **DO** be willing to spend a little, but **DO NOT** spend a fortune. Give your child a reasonable budget for the costs of materials needed for the project.
- ☑ **DO** seek out people to help you. It is quite possible that your child will be interested in a project for which you have no base of knowledge or expertise. Contact people locally who do have that expertise—they are often thrilled to help.
- ☑ **DO** make sure that your child follows the "scientific method", where necessary. This will include such steps as research, problem, hypothesis, experiment and conclusion.
- ☑ **DON'T** do any of the work for your child, but **DO** give him/her guidance whenever needed. When doing science projects. There are only opportunities for exciting discovery.
- ☑ **DON'T** let your child do a project that uses dangerous chemicals, or is otherwise unsafe.
- ☑ **DON'T** restrict your child from independent research at libraries or online. Allow them to get research materials on their own with as little assistance from you. They are more likely to be motivated to use the resources if they took an active part in procuring them.
- ☑ **DON'T** do the steps yourself. Keep in mind that learning is gained by doing, not by watching your parent doing.
- ☑ **DON'T** choke the fun out by supervising too closely or showing negative emotions.
  
- ☑ **BE POSITIVE.** When a person displays a positive feeling towards something, it encourages in others a similarly positive feeling towards that something. If your attitude is positive towards the science fair project, your child will develop the same attitude. Be available to help and lend positive support.
- ☑ **BE AWARE OF THE PERFECT PARENT SYNDROME.** Human beings are not perfect, we all make mistakes. Allow your child to blunder, and then help them capitalize on these errors and learn from them. Children learn more from their mistakes and wrong answers than they do from correct ones.