

# CALLING ALL MEADOWLANE PUBLIC SCHOOL BUDDING INVENTORS AND SCIENTISTS!!!

## Here is your chance to participate in Meadowlane's **3<sup>rd</sup> Annual SCIENCE FAIR & INVENTION CONVENTION!!**

**What is it?** A voluntary, extra-curricular event that gives students a chance to have fun preparing and presenting an invention or science project for their friends and family

**When is it?** The Invention Convention and Science Fair will be held on Thursday, May 5<sup>th</sup> 2016, from 6:00-7:30 pm, in the school gym. In addition, students will have a chance to view the exhibits with their classes during the school day on Friday, May 6<sup>th</sup>. Projects must be taken home by the end of the school day, so please make arrangements for pickup of your child's project between 3:30 – 4:00 pm.

**Who can participate?** This event is open to all classes and every student, from JK through to grade 6. Each student participates at their own level - enthusiasm and a desire to learn and create are the essential requirements! Primary students are strongly encouraged to join in the fun and start early in developing skills and building a love for learning and interacting with others in a creative environment.

### **How does it work? What do I have to do?**

- There are two options to choose from: creating an original invention for the "Invention Convention," or preparing a science project for the "Science Fair." See the attached information for a more detailed description of each option.
- Invention or science projects are prepared entirely at home – **no classroom time will be assigned.**
- Parents are permitted and encouraged to help their children with their projects at an appropriate level. The bulk of the project should be completed by the student, but parents can give encouragement as well as practical assistance. The level of assistance will vary by age of the student. For example, parents may help brainstorm or select ideas; supervise or assist in gathering information and materials from libraries, internet, etc; help in constructing the invention or assembling the display (including helping with writing and spelling for the youngest students); assist in transporting the project to and from school.

**Why should I participate?** Mostly because it's FUN! This is a wonderful opportunity for our students to build their inquiry skills, increase their knowledge, practise presentation skills, build confidence, work cooperatively with parents, and experience the planning and follow through of their ideas to a completed project. Invention projects give students the opportunity to think creatively, use problem-solving skills, and be innovative. Science projects provide the chance for students to hypothesize, research, investigate,

and experiment. Students can choose projects that allow them to explore topics that uniquely interest and excite them, fostering a love of learning and creativity! Primary students have the chance to have early exposure to the worlds of inquiry, innovation and science, and to see role models of other students invested in learning and creativity and presenting their work.

**So where do I sign up?!?! Students will be sent home with a registration form. Please return complete the registration form and return it to your child's teacher by Wednesday March 30<sup>th</sup>, 2016.**

**We will be providing backboards to all students participating.**

**So.... start thinking!**

**Let the creativity begin!**

**Will you create an invention??**

**Conduct an experiment??**

**Present a research study??**

**Got an idea for something no one has ever done before??**

**Want to find out how something works??**

**What do you love to learn and think about??**

**Inquiry makes the world work!**

**Ready, set, go.... start planning!!!**

## Meadowlane Science Fair and Invention Convention

### Further Information

#### **Practical Considerations:**

- No classroom time will be allotted for projects – all work is completed outside of school hours.
- Cardboard display backers (poster boards) will be provided to each student for their presentation. Additional supplies required will be the responsibility of the student/family.
- Tables for presentation will be provided by the school in the gym.
- Students will set-up their projects after school on Thursday, May 5<sup>th</sup>, between 3:30 – 4:30 pm. Students are responsible for transporting and setting up their projects, with help from parents/caregivers as needed. School Council volunteers will be available during set-up.
- Projects requiring electrical outlets must be approved in advance to ensure adequate safety. A minimal number of outlets are available on a first come, first served basis following approval. Students must provide their own extension cords and power bars if needed.
- In the interest of safety, the following are NOT permitted: live animals, hazardous chemicals, live electrical wires, flammable liquids, or open flames. Please check with one of the contacts below well in advance if you have any questions about safety considerations.

**Questions** can be directed to Amanda Farquhar, School Council Co-chair ([meadowlaneschoolcouncil@gmail.com](mailto:meadowlaneschoolcouncil@gmail.com)) or Ms. Jutzi, Principal

**PARENTS PLEASE NOTE:** Your child must bring their project to the gym for set-up between 3:30 – 4:30pm on **Thursday, May 5<sup>th</sup>, 2016.**

## Science Fair Information

Science projects can be wide-ranging in topic and approach. In general, they are a chance to investigate the world around us through hands-on projects or research studies. The presentation of the project should be structured, however, and most will fall into one of two general domains:

- **Experiment:** An investigation undertaken to test a scientific hypothesis
- **Study:** A collection, analysis, and presentation of data and information to reveal evidence of a fact or a situation of scientific interest

For experiments, the following procedure is suggested, also known as **The Scientific Method**:

- Ask a question to which you would really like to know the answer. Which paper towel is strongest? What is the best way to make compost? How does a computer work? The possibilities are endless. This is known as **The Purpose** or **What You Wanted to Know**.
- Use your research skills to look for the answer to your question. Write or draw ideas that you found. Conduct your experiment or construct your working model. The **Procedure**, or **Method**, whatever it happens to be, tells us **How You Did It**.
- The **Results** and **Conclusions** tell us what happened when you did your experiment, what you found out, and **What You Learned**. You can keep a notebook to help remember the things that you learned.

**You will need to plan and construct your display** for your project. Include your name, grade, and class, topic or title, information about your experiment or study, along with your notebook (if you kept one) and any pictures, drawings, models or displays of objects that help demonstrate your project. Building the display provides the chance to develop and demonstrate construction, artistic and written skills. Be sure to use attractive lettering and carefully check for correct spelling and neat printing. Computer generated material may be used.

Finally, practise **talking about your project (oral presentation)** so that you can tell others about it at the Fair! On the day of the Invention Convention and Science Fair, people will come to look at your project and ask you questions. You'll also get to check out the work of all the other students participating in the Invention Convention and Science Fair!

## Invention Convention Information

Invention convention projects focus on solving a problem or fulfilling a need by creating a new process or product. Students participating in the invention convention are encouraged to first identify a need or problem, and then solve it by following the same steps that an inventor would follow in creating and patenting an invention. Problem-solving, creativity, research and communication skills are all involved in the invention process. The procedure for the Invention Convention projects has five steps:

- Step 1: Learning About Inventors
- Step 2: Finding an Idea
- Step 3: Research and Planning
- Step 4: Developing and Testing
- Step 5: The Invention Convention

**Step 1: Learning About Inventors** In this step, you begin by learning about other inventors. You can read about them in books, talk to other people about them, and learn about some of the inventions they've made. This will help you know about how other inventors have come up with their creations, and what things are important to being a good inventor (such as thinking creatively, gathering lots of information, and not giving up when things don't work out right away!). Students in grades 4 to 6 may write a short "Tribute to an Inventor" that they find inspiring and include this as part of their project.

**Step 2: Finding an Idea** This step is the beginning of your invention! You start by finding an idea for something that people need to make life better. You may already have an idea for a new thing or process that would be useful to you or others you know or that would solve a problem. If not, you can find ideas by asking others about what they would like to see changed or could use some help with, or "brainstorming" about what could be better about things you use or do every day. Remember, an invention doesn't have to be a product or a "thing" – it can also be a process or a new way of doing things (for example, a better way to memorize lists, or an easier way to do one of your chores!).

**Step 3: Research and Planning** In this step, you take your idea and start to make a plan for your invention. Your plan will need to list all the steps, information, and materials you will need to make your invention. You can think about what you can read and who you can talk to in order to learn the information you'll need for your invention; about what materials you'll need; about how much time you will need; and about how you will construct and test out your invention. You can list the steps you are going to take in going forward. It's important to have a plan – but remember, even the best plans sometimes need to change along the way, and inventors always keep an open mind!

**Step 4: Developing and Testing** This is the step where you get to actually make and try out your invention! Follow your plan to actually create your invention, and test it out to see if it works and to make sure it's safe. If things don't work as you thought they would, this is your chance to problem-solve, get some help, and be persistent in figuring it out. If your invention is a process or a new way of doing something (instead of a product or object to build), you can describe your process in words and pictures; you should test it out to make sure it works and

include the results in your report. During this step, you also will need to prepare your display for the Invention Convention. You'll want to make a display that is interesting for people to look at, and that clearly tells and shows about what you've invented. Include your name, title, grade, and class, and you can use pictures, drawings, computer generated information, or whatever you need to help show your invention and how you came up with it. If your invention is a product, you'll bring it (or a model of it) with you to show people, or you'll want to have some drawings or pictures if it's too big to actually build or bring with you.

For some students, and depending on the project, actually creating the invention may be a little tricky. Some students may have great ideas for things that may be beyond their ability or resources to actually create and build. They are not yet engineers with the real-world levels of materials and technology available to build with! Here are some suggestions. If the task of building the actual invention seems too difficult, please consider creating:

- one or more detailed diagrams of the invention, perhaps done in colour with labels
- a written description of how the invention works and who would use it