GROWSMART SCIENCE COMPETITION 2018

INFORMATION FOR PARTICIPATING SCHOOLS

Introduction

The Science competition that will run alongside the normal Growsmart Literacy, Maths and Story Writing competition, although it will be completely separate from it. The Science competition, called Growsmart Scientist, will be for teams of three learners from the participating Growsmart schools. They must not be the same learners as those competing in any other current Growsmart competitions, nor have competed in any previous Growsmart competitions.

Further information regarding the dates for judging will follow shortly.

Growsmart Scientist competition format

• The objective of the competition is for teams to identify a problem and present their scientific solution. Each of the teams will submit a unique science project.

• This is a competition for teams. Each school may select three learners from the pool of learners in Grades 4, 5 and 6 (they must not be the same learners who are competing in the Growsmart Literacy, Story Writing or Maths competitions).

• The first, second and third place winners will receive prizes, courtesy of Growthpoint Properties.

• To prepare for the competition, each team will receive:

    1. A project display board.

Identifying a problem

Come up with ideas to identify a problem and then think about a possible solution. Think about things that people (whether children or adults) find difficult, frustrating or nuisance. How can we solve the problem?

Here are some themes, but your imagination is the only limit:
• Electricity or water saving devices
• Recycling for school or home
• How to make household chores easier
• Sports training or exercise machines
• Easier ways to travel
• Easy ways to care for pets
• An awesome computer to make learning easier or to help your teacher

Finding solutions

Once you have chosen a problem that you would like to solve, it's time to start brainstorming. Create a mind-map with your problem and your possible solution (your invention).

Notes for the Growsmart scientist mentor
Important: Use the scientific method

• Use this process to help your team come up with the ultimate solution to the problem that they have identified.
• First things first, your team needs to identify the exact source of the problem.
• Encourage them to ask questions and to figure out which method they've thought of that would most easily solve the problem.
• This will lead them to come up with a theory about how the problem could be solved. From this point, they can come up with experiments to test the problem and to come up with a solution.
• After enough testing, they should have come up with a project that can be further developed.

Safety first

- Think safety first before you start. Make sure that your mentor supervises your team.
- Never eat or drink during an experiment and always keep your work area clean.
- Wear protective clothing (e.g. overalls) / equipment (e.g. goggles) if you need to.
- Do not touch, taste or inhale chemicals or chemical solutions.
- Respect all life forms. Do not perform an experiment that will harm an animal.
- All experiments MUST be supervised by your mentor.
- Always wash your hands after doing an experiment, especially if you have been handling chemicals or animals.
- Dispose of waste properly.
- Any project that involves drugs, firearms, or explosives are not permitted.
- Any project that breaks any provincial or national laws are not permitted.
- Use safety on the Internet. Never write to anyone without an adult knowing about it. Be sure to let your mentor or an adult know about which websites you will be visiting, or have them help you search.
- If there are dangerous aspects of your experiment or project, like using sharp tools or experimenting with electricity, please have your mentor or an adult help you or have them do the dangerous parts.

Competition rules

- Only one team per school. Teams consist of three learners (in Grades 4 to 6) and they must be supervised by a mentor.
- The mentor can guide, help and get involved. They can help gather materials, supervise the project/experiment and even help build the display board and/or model. But they can't help during the judging process.
- Teams will be judged on their display board and/or model, and their oral presentation.
- The oral presentation must be limited to 10 minutes at the most, 5 minutes for speaking about the project and the rest for the judges to ask questions.
- To avoid an advantage to some teams your project must not exceed the 10 minutes speaking time.
- All decisions of the judges are final.
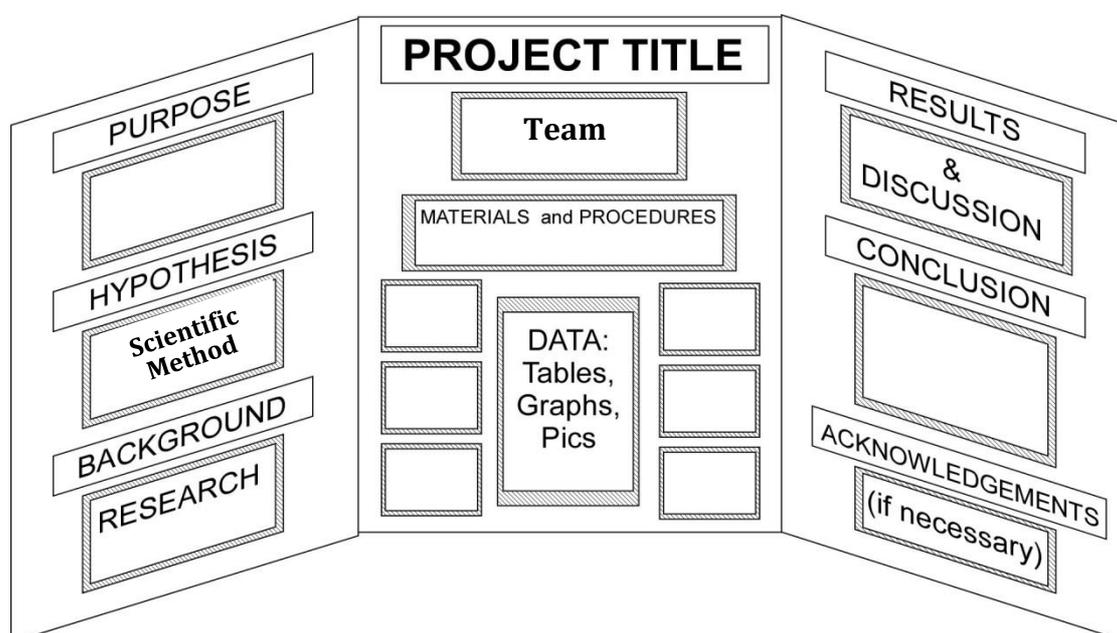
The project display board

• Things can be mounted on the board, but remember that the board has to be able to stand by itself. Try not to mount something expensive that was bought and make sure the things are mounted securely, so they don't fall off. You may not mount any food or organic materials or animals!

The model

Teams may choose to build a model to complement their display board.

The oral presentation

Teams should try to relax, smile and have fun. Helpful hints:

• Dress in your school uniform. Be polite and speak clearly. Don't forget to look at the judges.

• Introduce yourself. Point to the title of your display. Tell the judges why you chose the subject of your project.

• Talk about what you have learnt while researching your project. Talk about the sources (books, websites, interviews, etc.) that helped you understand your topic.

• Explain the steps you took to conduct your experiments, if you did any. Be sure to mention all the materials involved and point out the pictures that you may have taken.

- Try to sound like an expert on your project. Always use the appropriate vocabulary, especially by using words from the scientific method, such as: problem, hypothesis, procedure, results and conclusions.

Judging rounds

LEVEL	DESCRIPTION	DETAIL	DATE	VENUE
Level 1	Inter-school per district	All entrants' display projects at central venue per district. Top 5 per district selected	19 May 2018, 26 May 2018 2 June 2018	President High School
Level 2	Semi-final	Top 20 Display & Semi-final adjudication, deliver the boards the previous day	25 August 2018	President High School
Level 3	Final	Top 10 displayed, Top 3 announcement top school presents -deliver the boards the previous day	15 September 2018	The Lookout, V&A Waterfront

Judging process

Teams receives a schedule at the beginning of the level 1 judging round that indicates when they can expect a result.

The interviews take place in 15-minute time slots; 10-minutes are allocated for the interview, followed by a 5-minute period to write down comments and move on to the next team.

Judging criteria

The projects will be evaluated based on three major criteria: scientific thought, originality and creativity, and communication. The most weight is given to scientific thought and original creativity. The project display and presentation are important in that they should demonstrate the student's ability to communicate concepts, methods, and results relevant to the work presented. The prettiness or flashiness of the display is of far less value in the ranking process.

- Scientific thought (60%): The judges will evaluate the scientific thought in the design, analysis, and interpretation of the work. New, original experimental research will get marked on a higher level than projects that duplicate existing work.

- Originality and creativity (10%): The judges will determine whether the project shows a novel approach and uses creativity in its design. Did the student think outside of the box to answer the research question or develop a new prototype, or was there limited imagination put into the project?

- Communication (30%): Communication is evaluated based on four components: the visual display, the oral presentation, the project report with background research and the logbook. The display, report, and logbook should be logical, self-explanatory, complete, and reflect the student's scientific skill. The oral presentation will be evaluated based on the student's enthusiasm, ability to effectively communicate findings, and ability to answer questions.