



EXPO

FOR YOUNG

SCIENTISTS

PROSPECTUS
28-29 July 2011

FFS EXPO for Young Scientists

ENQUIRIES:

Professor Bice Martincigh
Chairperson
FFS EXPO Committee
P O Box 41134
Rossburgh
4072

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DATE:

Thursday, 28 July 2011
Friday, 29 July 2011

PLACE:

University of KwaZulu-Natal
Sports Centre
Westville Campus
University Road
DURBAN

ENTRIES:

Closing date for acceptance of entries: **30 June 2011**

Entry Fee:

	Before 30 June	After 30 June
Per person	R30	R60

No changes to project titles or categories will be accepted after the closing date for entries. Any changes will only be allowed at the discretion of the EXPO committee and may incur a penalty fee of R50.

No late entries will be accepted after 15 July 2011.
No late entries will be accepted on the day of EXPO.

Address for entries:

FFS Expo for Young Scientists
P O Box 41134
Rossburgh
4072

MAIN SPONSOR:

FFS Refiners (Pty) Ltd

All the information in this Prospectus can be found at the following Website:

www.ffs-refiners.com



FFS EXPO for Young Scientists

Message to All Aspiring Young Scientists,

FFS Refiners invite you to take part in the **2011 FFS EXPO for YOUNG SCIENTISTS**.

This exciting event takes place annually to provide aspiring scientists the opportunity to showcase their science projects and compete for prestigious medals and valuable prizes.

The purpose of the EXPO is to provide you with the opportunity to develop your interest, hobby or concern into a scientific investigation and presentation. In the process you will learn how to apply scientific method, evaluate and interpret results and reach rationally supported conclusions. You will then be able to showcase your project to a selection of young scientists from a wide range of Durban schools.

It is our fervent hope that this will spark an abiding interest in the sciences that will lead to further tertiary level study in one of the many fields of science and will culminate in a wonderful career as a scientist. This could be as an environmental scientist, an analytical chemist, a research scientist or an engineer.

We encourage you to enter the FFS EXPO for Young Scientists, to experience the process and enjoy the two days of exhibition, stimulation and fun.

Regards

**Don Hunter Pr.Eng. MSc (Eng)
Managing Director.**



International Year of
CHEMISTRY
2011

Since 2011 has been proclaimed the International Year of Chemistry (IYC 2011), the FFS Expo will be awarding special prizes for the best Chemistry projects that are exhibited at the Expo.

Enter your Chemistry Project at the FFS Expo and stand a chance to win great prizes!!!

The International Year of Chemistry 2011 (IYC 2011) with the theme
“**Chemistry—our life, our future**”
is a worldwide celebration of the achievements of chemistry and its contributions to the well-being of humankind.

To keep in touch with the happenings of IYC 2011, go to
www.chemistry2011.org for the latest news, activities, listings and ideas.



FFS EXPO for Young Scientists

What is EXPO?

EXPO is about doing science and having fun!

At EXPO pupils present the results of their studies in any aspect of science that is of interest to them. The results are displayed visually as a poster, together with any other material that is relevant. A panel of judges will interview each exhibitor and the best entries will be awarded medals. Every participant will receive a certificate to show that he or she has taken part in EXPO.

The best entries will be invited to participate in a Science Tour.

Types of project

There are three basic types of EXPO projects:

- **COLLECTIONS**

These entries are limited to Grades 8 and 9. A collection should be arranged in such a way as to illustrate a specific principle or method. Background knowledge to the collection will be expected by the judges. The important thing is for you to do something instead of just reading and writing.

- **CONSTRUCTIONS**

This type of project is also limited to Grades 8 and 9. A construction should display some technical knowledge and evidence of skills acquired. You must be confident that your model will work for the duration of EXPO. Commercially available kits and models are not acceptable. Background knowledge will be required by the judges.

- **INVESTIGATIONS**

This is the most advanced kind of project. All senior projects must be of this type. Pupils in Grades 8 and 9 may also enter this category. An investigation should deal with

a specific topic or field of interest. Motivation (relevance and/or application), method, observations and conclusions are all important considerations for the judging. Knowledge gained from background reading is expected. There are three ways in which investigations can be done:

- a) *Practical investigations*: The judges expect to see some evidence of a scientific research method and records of your experimental procedures and results.
- b) *Theoretical investigations*: This is for abstract topics for which it is not possible to do experiments, such as in Mathematics. You may gain most of the information you need from books but you would be expected to suggest a new way of looking at an existing theory or find a new way of solving a problem.
- c) *Technology and design investigations*: This type of project will involve identifying a problem or need, devising a solution that involves planning or designing a device or model, and evaluating or testing the efficacy of the device/model.

What to do next

Decide what branch of science really interests you!

Read up information from various sources to gain background knowledge. Ask your teacher for advice.

It is your project so you must plan it! However, if you need technical advice, consult an expert whenever possible.

When doing your project you will have to:

- state the problem you wish to solve as clearly as possible
- think of possible approaches of solving it

- test these thoroughly
- record your results carefully
- draw conclusions from your results

You are expected to do all the research yourself. You may get help from experts but all help must then be acknowledged on your poster.

Most projects take longer than expected - *allow plenty of time!*

How to Enter

- 1 Obtain an entry form from your teacher.
- 2 Consult the Prospectus before filling in your entry form.
- 3 Enter *either* as **an individual** or as a **group of two people**. Under no circumstances will larger groups be allowed to enter. **You must all be in the same Grade.**
- 4 Each person can only submit one entry.
- 5 Include a fee of R30.00 *per person* with your entry form.
- 6 Entries received after the closing date will have to pay a double fee. Late entries will be accepted only if space is available.
- 7 The entry fee will not be refunded in the event of a withdrawal.
- 8 Choose one of the categories listed on the back of the entry form for your project.
- 9 Each exhibit may be entered into only one category.
- 10 Decide on a short title for your project. To avoid your project being placed in the wrong category, the description of your project should be extremely accurate and clear on your entry form. **You may not change the title or category of your project after the closing date for entries.** Any changes will only be allowed at the discretion of the EXPO committee and may incur a penalty fee of R50.
- 11 If you should need further information please contact the EXPO Chairperson.

For the day of EXPO

You will have to prepare all of the following:

- 1 **A folder:** containing details of your research and all experimental results. This record will provide the judges and public with information about your project. This should contain a bibliography.
- 2 **A poster:** The space provided for the poster is limited to 1 m x 1 m. No additional space is allowed for group entries. Should you need more space you may construct side screens (which support themselves) from *e.g.* polystyrene.
 - Lettering on your poster must be readable at a distance of 1 m. The following sizes are suggested: headings 3 cm, sub-headings 2 cm, text 1 cm.
 - The title of your project, your name(s), and the name of your school must be given.
 - The poster should be informative and eye-catching to attract the attention of the judges and the public. Use colour. It should be a summary of the main aspects of your project. It should not be a repetition of all the information contained in your folder.
 - **Remember:** Your poster must not encroach onto a neighbouring exhibitor's space.
 - Bring Prestik to put up your poster. No thumbtacks or cable ties are allowed.
 - Bring a cloth or table covering.
 - Bring an adaptor if you will be using electricity.
- 3 **Apparatus/samples used:** There will be a small desk available for you to exhibit any relevant apparatus and samples that are part of your exhibit.
- 4 **Interview:** It is up to you to inform the judges about what you think is important about your project. Answer questions honestly and admit when

you do not know something. Do not prepare a “speech”.

You must position your project at your allocated space which will be identified by a card with your name and category number.

Insurance

Valuable items should not be left unattended in the hall. Expensive equipment (*e.g.* computers) should be insured by you for the duration of EXPO.

Attendance

YOU MUST BE PRESENT ON BOTH DAYS OF THE EXHIBITION.

Judging

The judges will consider the following aspects of your project:

- origin of the idea
- scientific method
- clarity of presentation
- skill in presentation of data and material
- thoroughness of research
- depth of knowledge
- visual appeal of poster
- ability to communicate ideas verbally.

You will be interviewed by at least two judges. They will provide you with a written comment card at the end of the day. On Friday morning you will be told whether your project has been graded as 1st, 2nd or 3rd class.

You may not receive help or advice from parents, teachers or friends during the judging.

THE JUDGES' DECISION IS FINAL AND NO CORRESPONDENCE WILL BE ENTERED INTO.

Only officials and entrants are allowed in the hall during judging periods. Visitors to EXPO are only allowed during open times.

Awards and Prizes

CERTIFICATES

All participants who have entered their names correctly on the entry form and registered on the morning of the first day will get a certificate of participation.

MEDALS

All exhibits classed as either 1st, 2nd or 3rd class will be awarded medals.

SPECIAL PRIZES

There are also special awards in certain categories and for the best Junior and Senior entries.

BRONZE, SILVER AND GOLD MEDALS

These are the highest awards made at the FFS EXPO in Durban and are awarded to the outstanding first class projects.

SCIENCE TOUR

Thirty entrants who are deemed to have exhibited particularly good projects will be invited to participate in a Science Tour. This will entail visiting a number of sites of scientific interest.

MARINE SCIENCE AWARD

The South African Association for Marine Biological Research (SAAMBR) makes an award available annually for a deserving marine science project. The award is presented for innovative research and use of good scientific method.

Plagiarism

Plagiarism is defined as the submission or presentation of work, in any form, which is not one's own without acknowledgement of the source(s). It is an attempt to deceive the reader that the work or ideas presented are your own, whereas, in fact they are the words/ideas of others.

A simple rule should be used when deciding if it is necessary to acknowledge sources. If you obtain information from an outside source, that source must be acknowledged. Another rule to follow is that any direct (verbatim) quotation must be placed in quotation marks and your wording should clearly indicate that the item is not your own work and the source immediately cited.

Work referred to from Internet sources must also be acknowledged as above, with the web address (URL) of the source included.

Experimentation on Animals

Pupils who do projects involving live animals must treat them correctly, whether they be people, fish, cockroaches or flies. At no stage may they be treated in any way that might be considered as being cruel.

No animals may be brought to EXPO because they are likely to be stressed by the large number of people and the noise. Guidelines are available from the SPCA: ask for Animal Protection Act No. 71 of 1962.

Behaviour at EXPO

Participants at EXPO are ambassadors for their schools and their behaviour should reflect this. Please note that excessively loud music will disqualify exhibitors.

Programme

THURSDAY

- 08:00-09:30 Registration of exhibitors. Setting up exhibits. Exhibitors who do not register will not receive a certificate.
- 08:00-09:30 Judges' registration.
- 09:30 Judges' briefing.
- 10:00 Official opening. Entertainment for entrants. Pre-judging – no entrants to be present at exhibits.
- 11:30-12:00 Lunch
- 12:00-15:00 Judging
You are expected to be available for judging by various members of your judging panel for all of this time. You may not leave the hall before 15:00.
- 15:00-17:00 EXPO open to the public. Please do not leave your exhibit unattended during this time as equipment may be damaged or lost.
- 17:00 Lock up - you must vacate the premises.

FRIDAY

- 08:30-12:30 Evaluation by the Standards Committee. You are expected to be available for judging by various members of your judging panel for all of this time.
- 12:30 EXPO open to the public.
- 12:30 Fun Competition
- 14:30-15:30 Prize-giving ceremony and official closing.
- 16:00 Remove exhibits and vacate the hall.

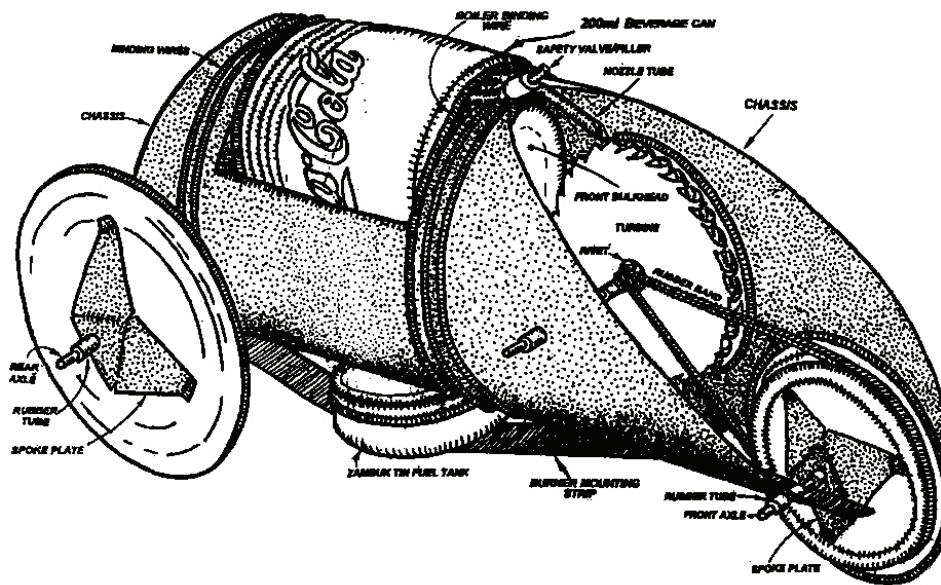
(This programme is subject to change.)

The Micro Steam Car Challenge

The University of KwaZulu-Natal promotes a technology kit where you can build your own flame-powered steam turbine micro car. Then the challenge is to see how efficiently you can make it work by seeing how far it will run on 20 ml of methylated spirits. So if you obtain a kit, or if you design your own steam car, this can be your Expo project. There is no need to make a formal Expo entry, you just turn up on the day and run your car. First prize is 30c per m, 2nd prize is 20c per m and 3rd prize is 10c per m.

For further details about the Micro Steam Car Challenge contact:

Professor Jeff Bindon
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4041
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Build your own steam car.

See how fuel-efficient you can make it.

Learn how a steam boiler and turbine work.

Learn how to research an engineering problem.

Learn the skills of machine construction.

Enter the challenge at EXPO on Friday, 29 July 2011.

