

Date: 6<sup>th</sup> January 2014

**The Principal**  
**All Secondary Schools**

Attn: HOD (Science) / HOD (D&T)

Dear Sir/Madam,

**SSYSF Science Camp – Innovative Sustainable Solutions for the 21<sup>st</sup> Century**

This year, the Shell Singapore Youth Science Festival (SSYSF) camp is back again! Designed to be a hands-on science adventure camp for **Secondary 3 N(T)** students, students are given the challenge of a disaster scenario to work with the materials they have available to ensure that they have food, water and electricity for themselves and their society.

The camp hopes to:

- a) create awareness of the limited resources on the planet and the need to use technology in a sustainable manner to solve global challenges;
- b) stimulate and reinforce interest in Sustainable Engineering through hands-on experiences;
- c) lead students through self-inquiry in understanding science concepts, and relating to life applications and the environment;
- d) encourage resourcefulness, teamwork and innovation.

The camp aims to give participants an exposure to hands-on Design and Technology-based solutions. The students will work together in teams to solve one of the following challenges:

- ⇒ Sustainable production of food
- ⇒ Harvesting Water from Air
- ⇒ Design and develop a renewable energy supply.

Due to the nature of the challenges, the students will not only gain exposure to prototype development, design, electrical and mechanical fabrication, they will also gain an insight into social and environmental responsibility.

The non-residential camp, held in conjunction with the Shell Singapore Youth Science Festival, will span a duration of 4 days. Attendance is compulsory for all the four days.

The Shell Singapore Youth Science Festival is a national annual event jointly organised by the Science Centre Singapore, the Science Teachers Association of Singapore and the Shell Companies in Singapore. The event is supported by the Ministry of Education. SSYSF aims to give our youths a deeper insight into science and technology, and to provide them with opportunities to exchange views and experiences in science education.

# SHELL SINGAPORE YOUTH SCIENCE Festival 2014

Details of the programme are attached for information in Annex A. A full write up on 2013's camp is found at <http://goo.gl/v6FpCV> A pre-camp briefing for teachers will also help clarify any questions you may have about the camp.

Each school is encouraged to send a team of 2 to 4 students to participate in this event. Please note that the event is on a first come-first served basis and places are limited to ensure optimal facilitator to student ratio.

If your school would like to participate, please fill in the registration form and fax or e-mail it back to us by **7<sup>th</sup> March 2014**. **Successful applicants will be notified through their schools**. You can fax the registration form to 6561 6361 or e-mail [k\\_ramanathan@science.edu.sg](mailto:k_ramanathan@science.edu.sg) attention Kiruthika. For enquiries, please contact Kiruthika at 6425 2521 or myself at the contact below.

We look forward to meeting your students at the SSYSF Science Camp!

Yours sincerely

Mrs Anne Dhanaraj  
Chair, SSYSF Science Camp Organising Sub-Committee  
Shell Singapore Youth Science Festival 2014  
[a\\_dhanaraj@science.edu.sg](mailto:a_dhanaraj@science.edu.sg),  
Tel 64252516.



Supported by:



**Annex A**

**Summary of camp programme**

Students have to be present at the Science Centre on the days indicated. They can use the days in between to discuss with their team members and plan their project. The dates for the camp are below:

Teachers are not required to stay for the camp. However, teachers are encouraged to drop by at the camp and also to attend the closing presentation by the students.

Pre-camp briefing (for teachers only) – 19<sup>th</sup> February 2014 (Wednesday) (2pm to 4pm)

Day 1: Monday, 23<sup>rd</sup> June 2014, 9am to 6pm

Day 2: Tuesday, 24<sup>th</sup> June 2014, 9am to 6pm

Day 3: Thursday, 26<sup>th</sup> June 2014, 9am to 6pm

Day 4: Friday, 27<sup>th</sup> June 2014, 9am to 5pm

The pre-camp briefing is a challenge briefing and question-answer session for teachers. Teachers will also preview some of the activities that the students experience at the camp. It is a good opportunity for teachers to clarify any issues before signing up students for the camp. If you would like to attend the pre camp briefing, please email Kiruthika ([k\\_ramanathan@science.edu.sg](mailto:k_ramanathan@science.edu.sg)) by **Wednesday, 12<sup>th</sup> February 2014**.

<b>Date / Time</b>	<b>Programme</b>
Wednesday 19 <sup>th</sup> February 2014, 2 – 4pm (for teachers only)	Camp briefing, Sharing of 2013 camp, Preview of camp activities, question and answers
Mon 23 <sup>rd</sup> June 2014, 9am - 6pm (includes 2 tea breaks and lunch)	Social and Environmental responsibility Competency sharing Research Building mock-ups using CAD software
Tue 24 <sup>th</sup> June 2014, 9am – 6pm (includes 2 tea breaks and lunch)	Mechanical fabrication: 3D printing, CNC machining Electrical fabrication: Circuits, soldering, Arduino Purchasing Excursion
Thu 26 <sup>th</sup> June 2014, 9am – 6pm (includes two tea breaks and lunch)	Makerthon (Part1) Designing, fabricating and prototyping solutions for demonstration to judges.
Fri 27 <sup>th</sup> June 2014, 9am to 5pm	Makerthon (Part 2) Designing, fabricating and modifying final prototype for

SHELL SINGAPORE YOUTH SCIENCE  Festival 2014

(includes two tea breaks and lunch)	demonstration at 5pm to a panel of judges. Parents and teachers are invited to join the presentation and camp completion ceremony
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**\*Please note that the camp programme will be held at Science Centre. There will be sufficient facilitators consisting of Science Centre staff and teachers.**



## SSYSF Science Camp – Innovative Sustainable Solutions for the 21<sup>st</sup> Century

### REGISTRATION FORM

#### School Details

Level of students: Secondary 3 N(T)

School Name \_\_\_\_\_

School Address \_\_\_\_\_

School Tel No \_\_\_\_\_

#### Contact Details –Teacher in Charge

Name \_\_\_\_\_ Date \_\_\_\_\_

Email \_\_\_\_\_

Phone (office) \_\_\_\_\_ Mobile \_\_\_\_\_

Teacher's Signature \_\_\_\_\_ Principal's Signature \_\_\_\_\_

#### Contact Details –Students

Name of First Student \_\_\_\_\_

Email \_\_\_\_\_ Phone (Mobile) \_\_\_\_\_

Name and Phone of Next of Kin \_\_\_\_\_

Name of Second Student \_\_\_\_\_

Email \_\_\_\_\_ Phone (Mobile) \_\_\_\_\_

Name and Phone of Next of Kin \_\_\_\_\_

**Registration form to be faxed/ e-mailed to Science Centre Singapore by 7<sup>th</sup> March 2014**

Fax: 6561 6361 (Attn. Kiruthika) or e-mail to [k\\_ramanathan@science.edu.sg](mailto:k_ramanathan@science.edu.sg)