Creative Science Toy Making & Busking Programmes

CSTM & CSB @BGPS
Briefing cum Mini-Workshop

5 April 2023
(3.30 p.m. to 4.30 p.m.)

Empowered Learners,
Persons of Strength & Character

Our Presenters

Tan Yan Xin, 5RES

Lim Hui Ting, 5RES

Ansh Kejriwal, 4RES

Ms Elissa Chew
Creative Science Toy Making IC

Mrs Ng Yen Nee
Creative Science Busking IC

Sharing segments

Science School-Based Programmes Objectives (CSTM & CSB@BGPS)

Timelines for CSTM & CSB @BGPS

Creative Science Toy Making, CSTM@BGPS

Creative Science Busking, CSB@BGPS

Sony Creative Toy & Science Buskers Competitions (Science Centre Singapore)

Hands-on session: Creative Science Toy Making

EMPOWER@BGPS

Empowered Learners,
Persons of Strength & Character

Students can

- Build on their interests and curiosity
- Learn and apply scientific concepts, knowledge and skills beyond a classroom setting
- Showcase their talents and creativity
- Participate in external competitions

Timeline for School-Based Science Programmes

Creative Science Busking @BGPS

Now

Sign up & mentoring begins

Term 2 Week 9

Virtual workshop for registered teams

22 – 25 May

Showcase for registered teams during FUNtastic Week

June holiday

Improve

Term 3 Week 2

Audition at **Science Centre Singapore**

Timeline for School-Based Science Programmes

Creative Science Toy Making @BGPS

Now
Start

8 May
Submit prototype toy to FT (P1 & P2)/Science Teachers (P3 to P5)

22 – 25 May
Showcase for selected prototype toys during Science FUNtastic Week

June holiday
Improve selected toys

7 July
Submission of selected toys to **Science Centre Singapore**


SINGAPORE
Science
Buskers
By Science Centre Singapore

What is Science Busking?

- Science Busking is an effective way of **communicating science**.
- Science Busking takes **live demonstrations** and interpretations to people.
- Science Busking is very live, **interactive**, and can be very rewarding!

Participants will present and do a **"show-and-tell" on any science topic**. Busking and judging will be based on **judges' criteria** and **public voting**.

By Science Centre Singapore

Science Buskers (Science Centre Singapore)

Who can participate?	• Anyone aged 7 years old and above • **Individual** or a **team of up to 3 members**
Categories	• Primary / Secondary/ Tertiary & Open*
What to prepare?	• Up to 5 minutes of **LIVE busking** + 5 minutes of Q&A
Competition website	• https://www.science.edu.sg/whats-on/competitions/singapore-science-buskers

Judging Criteria

Score	Judging Criteria
35%	**Science Communication** • Explanations of demonstrations shown must be **scientifically accurate**, and use scientifically **precise** and correct language **without overwhelming** the audience with jargon. • Ability to explain science concepts in **everyday language** without compromising on the science accuracy
35%	**Showmanship** • Ability to **engage, interest and excite** the audience • Ability to express the **'wow' factor** in the busking • Ability to make the audience **feel inspired** and walk away with the feeling that they have learnt something
30%	**Setup, Costume, Overall look and feel** • **Creative** and **innovative** ways of showcasing demonstrations • Blending of the look & feel with the science concepts presented • Creative **booth design** concepts

FAQs

- Can pre-recorded videos be shown during the auditions?

Answer: No, all forms of pre-recorded videos will not be allowed to be shown to the judges during the auditions. Singapore Science Buskers auditions will be mainly focused on the participants' live performance and interaction with the judges.

- Can we cover multiple topics or only one?

Answer: You can cover multiple topics, but please keep your busking within 5 minutes.

FAQs

- Are teams allowed to use portable microphones for their auditions?

Answer: No, teams are not allowed to use portable microphones. Judges will be close to them to hear their performances.

- Is the usage of fire in any form allowed?

Answer: No, anything that deals with the usage of fire should be avoided. No open flames (including candles, Bunsen burner) or flammable gases are allowed. You are allowed to use an induction cooker to heat things.

⚠ Safety Guidelines ⚠

No Liquid Nitrogen

Gloves are a **MUST**

Please put on gloves when handling dry ice and chemicals.

No Open Flame or Flammable Gases

Fire is a potential danger for everyone

Use of tools or gadgets akin to assault weapons is prohibited

ONLY over-the-counter chemicals/materials are allowed

Please DO NOT use dangerous/hazardous materials and chemicals

Max **3%** Hydrogen Peroxide allowed

A maximum concentration of 3% for Hydrogen Peroxide is allowed. It is dangerous for students to handle more than that

Some Tips for Science Busking

You need to put in much time and effort to search for / come up with a Science demo that (preferably):

- is interesting
- uses readily-available materials found in the house / Sci Lab that can be repeated easily (such as cocoa powder)
- has process and/or results that can be clearly observed
- has a high chance of succeeding every time

Some Tips for Science Busking

Make the scientific terms simple for all to understand as Science busking is for everyone of all ages to learn.

If the experiment doesn't work sometimes, don't give up.

Create your own stage personality and style.

Mentoring and Practice

Magical Scientists

File Edit View Insert Format Tools Extensions Help

Share

100% Title Lobster 26

HOW COCOA POWDER TURNS FROM WET TO DRY IN AN INSTANT!

ALL: GOOD MORNING EVERYONE

SY: OUR TEAM CODE IS P-062

ALL: AND WE ARE THE MAGICAL SCIENTISTS!

JL: I AM JULIENNE

SY: I AM SWEE YIN

JK: I AM JESLYN

Facebook

SCAN ME

Follow **Singapore Science Buskers** on Facebook!

https://www.facebook.com/sciencebuskers

Filled with **important updates** like workshops, audition dates and photos of our events!

Sony Creative Science Award 2023

Objectives of SCSA

Sony Creative Science Award

- X-multiplier, x-factor, multi-disciplinary, x-traordinary
- **Cultivate** hands-on abilities
- **Inspire** creativity from a young age
- **Transform** science concepts or ideas into fascinating toys
- **Encourage** entrepreneurial skills
- **Discover** joy of learning through creation of toys!

Sony Creative Science Award 2023 (Science Centre Singapore)

Categories

Junior WhizKid
(Primary 1 to 2)

WhizKid
(Primary 3 to 5)

SONY Creative Toy Competition
(Science Centre Singapore)

Theme for Junior WhizKid: P1-P2

To use the theme, ***Rock Roll Wobble***
as a functional component in their
creation and not a decorative component.

Sony Creative Science Award 2023
(Science Centre Singapore)

(No Theme) WhizKid: P3-P5

To create a toy that demonstrates scientific concepts creatively.

Student tapped on the concept of magnets to create a magnetic field to make a magnetic shooter.

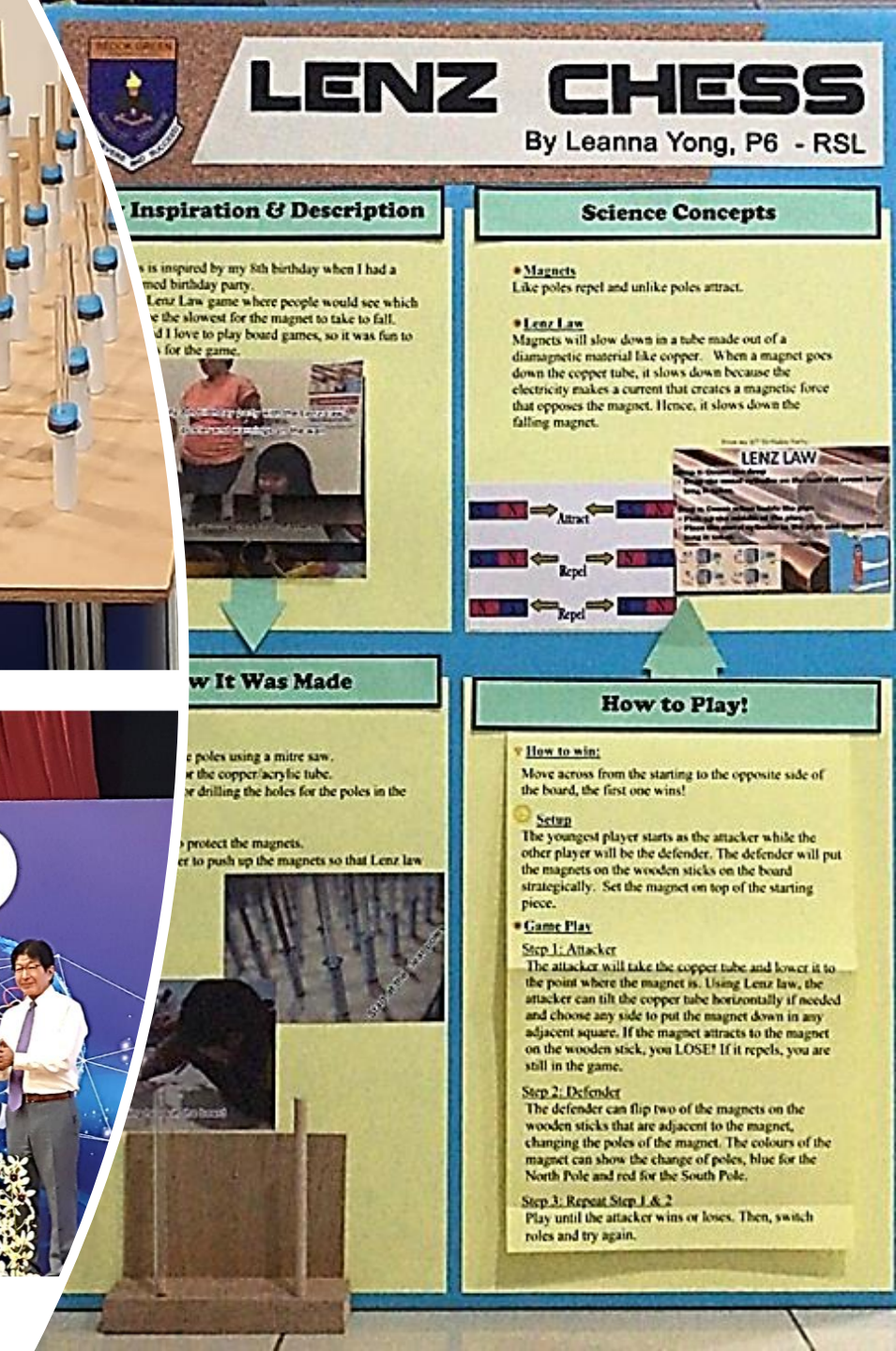
Past Winners of the WhizKid Category Stickman Fight from BGPS

SCIENCE CONCEPTS

The weapon of the character is connected to a source of power — batteries. Upon touching the opponent's body or head, it forms a closed circuit. Electrical current flows through the weapon in the circuit connected to the opponent's body and the motor. The motor then turns, pulling a string attached to the 'health bar', decreasing it.

Past Winners of the WhizKid Category

Lenz Chess from BGPS



Sony Creative Science Award 2023
(Science Centre Singapore)

Judging Criteria

Junior WhizKid (P1-P2)	WhizKid (P3-P5)
Fulfils Requirement (Theme: Rock Roll Wobble)	-
Scientific Concept	
Creativity and Originality	
Sturdiness and Design	
Size of toy (max size of 60cm x 60cm x 60cm)	

More details about SCSA

- SLS package assigned

- Facebook

https://www.facebook.com/SonyCreativeScienceAward/

- SCSA website

https://www.science.edu.sg/for-schools/competitions/sony-creative-science-award

Hands-on segment

Creative Science Toy Making

Get your materials ready now!

- A bottle cap
- A small ball of plasticine/ clay/ blu tack
- A piece of paper
- A pair of scissors
- Glue
- Markers

Science behind the toy...

Roly Poly Toy that rolls

The toy is designed so that its mass causes it to return to an upright position if it is knocked over.

Scientific Principle

When the roly-poly is released, **the force of gravity acts on the center of gravity and produces a torque that makes the toy roll from the point of support**. When it reaches the upright position, its inertia makes it roll too far. It rolls back and forth and finally comes to rest standing upright.

Let's Try Making A Toy!

To create a Roly Poly Toy that can "*Rock-Roll-Wobble*".

Once you have completed the challenge, scan the QR code and submit a picture / video of your toy on Padlet.

https://padlet.com/elissa03/CSTM
https://www.youtube.com/shorts/ttrgKfmUfKg

End of Sharing

Empowered Learners,
Persons of Strength & Character