



science  
& technology

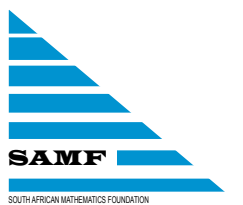
Department:  
Science and Technology  
**REPUBLIC OF SOUTH AFRICA**

# NATIONAL SCIENCE WEEK PROGRAMME

**6 TO 13 AUGUST 2016**

HOSTED BY THE SOUTH AFRICAN MATHEMATICS  
FOUNDATION (SAMF)

Come and join us at the National Science Week from the 6<sup>th</sup> till the 13<sup>th</sup> of August as the South African Mathematics Foundation (SAMF) popularises mathematics to increase public awareness, understanding and appreciation of mathematics and create an opportunity to share the beauty and importance of mathematics. Parents, learners, teachers and the general public are encouraged to visit our SAMF activities during the National Science Week.



# 2016 National Science Week

**National Science Week**, an initiative of the Department of Science and Technology (DST) is a countrywide celebration of science involving various stakeholders and/or role players conducting science-based activities during the week. National Science Week is run in all nine provinces simultaneously at multiple sites per province. SAASTA has been appointed by the DST as the implementing agency and has the role of national project manager for the National Science Week.

National Science Week is aimed at familiarizing targeted participants with science in order to make a contribution in making them informed and critically engaged citizens. The National Science Week is not only an initiative for school-based youth; it also encourages the public to participate in the National Science Week from wherever they are.

This is an annual celebration of science and being able to discover how it can be useful to our lives. The theme for 2015 is "Science for Sustainable Development and improved Quality of Life". Sustainable development is development that meets the needs of the present without compromising the ability of the future generations to meet their own needs. National Science Week is one of the many ways in which the Department of Science and Technology seeks to reach out to the South African public to raise awareness of science and technology.

The South African Mathematics Foundation (SAMF) will be hosting mathematical activities at different venues to promote the importance of mathematics. The mathematical activities aim to popularise mathematics, to increase public awareness, understanding and appreciation of mathematics and create an opportunity to share the beauty and importance of mathematics. Activities during the week will include interactive mathematical games, a maths relay for both primary and secondary school learners, "I hate maths" session for teachers and learners and calculator training for teachers.

# PROGRAMME

6 & 13 AUGUST 2016

## TEACHER PROBLEM SOLVING COURSE

Province : Gauteng	Town: Arcadia, Pretoria (Pretoria Technical High School)
08:30-15:30	<b>First session:</b> Problem Solving Course for Primary and Secondary School teachers in Pretoria
08:30-14:00	<b>Second Session:</b> Problem Solving Course for Primary and Secondary School teachers in Pretoria

The **Teacher Problem Solving Course** aims to provide hands-on training to teachers by exposing them to a variety of mathematical problem solving strategies and techniques. Mathematics teachers from around Pretoria will be offered a short course live. The GET Level 1 Course will be spread over two Saturdays. A training manual will be provided to teachers to support reflection and self-study. Teachers who pass the course successfully will be awarded a certificate that can be used for continuous professional development.

**Bookings required: Contact David Ramaboka on 012 392 9324**



# PROGRAMME

8 - 9 AUGUST 2016

WONDERPARK SHOPPING MALL

SPOT  
PRIZES  
TO BE WON!!!

## Fun mathematical activities for the whole family

- **Tangrams-** Originated in China and uses seven pieces that arranged into different shapes to given instructions. They promote spatial thinking, understanding of basic geometrical shapes in real life- concept is used in tessellations (art of tiling).
- **Mind twister-** These are sticks of the same length but different colours. They can be used to build different geometrical shapes and perform mathematical activities using four basic operations. Instructions are given on the cards for players to follow.
- **Maths 24-** 4 Numbers are given on different the cards and players are requested to use four basic operations to come up with the answer 24. This game promotes quick thinking ability to use the operational signs effectively.
- **Morabaraba-** this is an indigenous game used in ancient times to while away time. Closer look, the game promotes creative thinking using properties of quadrilaterals.

## EXHIBITIONS

- Informative information on different mathematical careers.
- Information about SAMF's learner and teacher development projects.
- Olympiad publications available to purchase.



**There will also be amazing mathematical prizes given away by the SAMF mascot "Ukubala".**

# PROGRAMME

10 & 12 AUGUST

Primary Schools

Province : Gauteng	Town: Mamelodi (University of Pretoria))
11:30	<b>Learners arrive at the University</b>
12:00-13:30	<b>Maths Relay for grade 4 to 7 learners</b> <ul style="list-style-type: none"><li>❖ Maths Relay will enable learners to solve real life mathematical problems about life situations they live in. Problems are solved by teams that which are selected from their schools.</li><li>❖ This is a mathematical problem solving activity. The responses to the problems require and emphasise contribution by each member of the team.</li></ul>
13:30-14:30	<b>SAMF mathematics games</b> <ul style="list-style-type: none"><li>❖ <b>Tangrams</b>- Use seven pieces that arranged into different shapes according to given instructions. They promote spatial thinking and understanding of basic geometrical shapes.</li><li>❖ <b>Mind twister</b>- Sticks of the same length but different colours are used to build different geometrical shapes and perform mathematical activities using four basic operations.</li><li>❖ <b>Maths 24</b>- 4 Numbers are given on different the cards and players are requested to use four basic operations to come up with the answer 24.</li><li>❖ <b>Morabaraba</b>- Promotes creative thinking using properties of quadrilaterals.</li></ul>
14:30-15:00	<b>Prize Giving for maths relay</b> <ul style="list-style-type: none"><li>❖ Certificates for the First, second and third prizes.</li><li>❖ Mathematical instruments as first and second prizes</li><li>❖ Maths Dictionary for the first Prizes.</li></ul>
15:30	<b>Learners depart from the university</b>

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# PROGRAMME

11 AUGUST

Secondary Schools

Province : Gauteng	Town: Mamelodi (University of Pretoria)
11:30	<b>Learners arrive at the University</b>
12:00-13:30	<b>Maths Relay for grade 8 to 11 learners</b> <ul style="list-style-type: none"><li>❖ Enables learners to solve real life mathematical problems about life situations they live in.</li><li>❖ The responses to the problems require and emphasise contribution by each member of the team.</li></ul>
13:30-14:30	<b>SAMF mathematics games</b> <ul style="list-style-type: none"><li>❖ <b>Tangrams</b>- Usage of seven pieces that arranged into different shapes according to given instructions. They promote spatial thinking and understanding of basic geometrical shapes.</li><li>❖ <b>Mind twister</b>- Sticks of the same length but different colours are used to build different geometrical shapes and perform mathematical activities using four basic operations.</li><li>❖ <b>Maths 24</b>- 4 Numbers are given on different cards and players are requested to use four mathematical operations.</li><li>❖ <b>Morabaraba</b>- An indigeneous game that promotes creative thinking using properties of quadrilaterals.</li></ul>
14:30-15:00	<b>Prize Giving for maths relay</b> <ul style="list-style-type: none"><li>❖ Certificates for the First, second and third prizes.</li><li>❖ Mathematical instruments as first and second prizes</li><li>❖ Maths Dictionary for the first Prizes.</li></ul>
15:30	<b>Learners depart from the university</b>

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# PROGRAMME

12 AUGUST

## Primary School Activities

Province : Gauteng	Town: Mamelodi (Mogale Primary School)
12:00-13:00	<p><b><i>I hate maths session for mathematics teachers and Grade 8 and 9 learners by Paul Sondergaard from Palanga Publishing</i></b></p> <ul style="list-style-type: none"> <li>❖ Workshop on how to use the Maths Dictionary and motivation to parents on encouraging their children to take mathematics as a subject.</li> <li>❖ It will be conducted with practical examples of words that may lead to misconceptions in mathematics and how that can be corrected to enhance on the understanding and ultimate enjoyment of mathematics.</li> </ul>
13:00-14:00	<p><b>Calculator activity for grade 8 to 12 mathematics teachers at Nellmapius Secondary School by Sharp.</b></p>


**Bookings required: Contact David Ramaboka on 012 392 9324**

### Got Math?

Go further! Go higher! Go places!

What careers are open to you if you study MATHEMATICS?  
These are some of the examples of where mathematics can enhance your career.

SECTOR	STUDY FIELD	ENTRY LEVEL	CAREER	POSSIBLE EMPLOYER
Finance and Commerce	Mathematics Mathematics & Statistics	Minimum 60% at 12th Mathematics	<ul style="list-style-type: none"> <li>Accountant</li> <li>Crackpotter</li> <li>Calculator</li> <li>Commercial Analyst</li> <li>Business Strategist</li> <li>Statistician</li> </ul>	Bank, Insurance companies and financial services
Teaching and Research	Mathematics Mathematics or Sci	Minimum 60% at 12th Mathematics	<ul style="list-style-type: none"> <li>Education Specialist</li> <li>Statistics Teacher</li> <li>Mathematics Lecturer / Professor</li> </ul>	Universities, schools and Education Departments
Engineering and Construction Industry	Maths Sci - Phy	Minimum 60% at 12th Mathematics & Physical Sciences	<ul style="list-style-type: none"> <li>Engineering Technician</li> <li>Agricultural, Biomedical, Chemical, Civil, Computer, Electrical, Environmental, Mechanical, Metallurgical, Mining, Mechanical-Electrical, Nuclear, Chemical Engineer</li> <li>Survey Engineer</li> <li>Operations Manager</li> </ul>	Construction companies, Consulting engineers, Water boards and Government
IT & Information Technology	Maths Sci - Phy	Minimum 60% at 12th Mathematics	<ul style="list-style-type: none"> <li>Computer Scientist</li> <li>Computer Systems Specialist</li> <li>Software Engineer</li> <li>IT Help Desk Specialist</li> <li>Business Intelligence Specialist</li> </ul>	IT companies and financial services
Earth and Environment	Maths Sci - Phy Mathematics & Physical Sciences	Minimum 60% at 12th Mathematics & Physical Sciences	<ul style="list-style-type: none"> <li>Climate Project</li> <li>Cartographer</li> <li>Environmental Scientist</li> <li>Environmental Meteorologist</li> <li>Geologist</li> <li>Hydrologist</li> <li>Marine Biologist</li> <li>Mathematician</li> </ul>	Weather news services and related bodies
Health and Health Sciences	Maths, Sci, Health, Mathematics & Physical Sciences	Minimum 60% at 12th Mathematics & Physical Sciences	<ul style="list-style-type: none"> <li>Analyst</li> <li>Biomedical Computer Scientist</li> <li>Health</li> <li>Health Scientist</li> <li>Physician</li> <li>Physicist</li> <li>Physiological Physio, Occupational Scientist</li> </ul>	



## **VISION**

Quality mathematics for all

## **MISSION**

Creating a mathematically enabling environment for all learners

## **Contact details**

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