Learners challenged to combine art, maths in unique competition



Math-Art competition adds up to creative innovation

Maths inspires art in unique Bay competition



Offline tablets see marks flying

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New centre in KWT to boost maths and science studies

Wednesday October 3, 2018 Daily Dispatel

Match's Inspires art in unique Bay competition

By Jesica Slabbert - Mar 1, 2018

High school pupils, university students and teachers across Nelson Mandela Bay are being challenged to use maths to create art, in the city's first Math-Art Competition, which kicks off on March 3

"There is so much maths in art, and so much art in maths," said competition coordinator Carine Steyn from Nelson Mandela University's Govan Mbeki Mathematics Development Centre (GMMDC), which is running the competition in consultation with the university's School of Music, Art and Design (soMaD), and the Department of Basic Education. Entrants can turn to nature for inspiration, where flowers are really just parabolas and a snake's skin a masterpiece of symmetry and perfect angles. They can also be inspired by ethno-mathematics - which are mathematically-correct designs that are a part of traditional culture, including Ndebele houses and Xhosa beadwork.

"What we are looking for is beautiful drawings, created using maths."

GMMDC director Prof Werner Olivier, who is the driving force behind this competition, said: "We are piloting the competition this year and hone to make it an annual event.

competition this year and hope to make it an annual event.

"The Math-Art Competition also feeds into the broader Science, Technology, Engineering, Arts and Mathematics (STEAM) development work of the GMMDC, and will include pupils and teachers participating in our projects across

The competition has two main categories – one linked to the Grade 8 to 12 CAPS curriculum, where entrants have to use maths concepts taught at school to design art; and the other an open category, which would include any artwork with a link to maths, including ethno-mathematics.

"The competition is valuable because it crosses discipline boundaries," said Rachel Collett, a lecturer in SoMAD's Visual

Arts Department.

"In school and at university, subjects are usually taught as separate entities, and there are reasons for this but, of course, all knowledge is actually connected and requires imagination. It's good for learners to explore links between subjects because that can stimulate independent and critical creative enquiry."

The artworks must be two-dimensional and A4 to A2 in size – and relief work cannot be more than 2cm high. Each entrant must submit a 100 to 200-word essay, explaining the maths-art link in their artwork.

entrain must submit a 100 to 200-word essay, explaining the maths-art link in their artwork. Prizes, which include tablets, cell phones and art classes, will go to the top-placed candidates and to individuals who receive 'special recommendations' for outstanding creativity. Entries will be judged in the following sub-categories: Grade 8 to 9 pupils, Grade 10 to 12 pupils, students and teachers. The competition closes on May 4, with the top entries displayed at a public art gallery in the city from May 19 to 23. Winners will be announced on May 25, at GMMDC's annual GeoGebra Conference, which will also be promoting STEAM

activities to popularise maths in the classroom. Visitors at the conference include the Dean of Arts and other delegates from the University of Budapest, which is a keen



For more information about the Math-Art Competition, contact Carine Steyn at mathartcompetition@gmail.com

New free app to boost maths and science results

IN many underresourced schools across South Africa, often with under-qualified teachers, learners do not al-ways gain the mathematical knowl-edge or skills they need to excel at school or to access universities.

To give learners a better chance, Nelson Mandela University's (NMU) Govan Mbeki Mathematics Development Centre (GMMDC) has been using cutting-edge technology to boost teaching and learning in maths and science in secondary schools – and launched its second unique education app on Friday, May 4.

launched its second unique euucaroa app on Friday, May 4.

The app, TouchTutor® Quiz, which is available free from the Google Play Store, provides mobile access to Maths and Science content, self-tests But is second unique education in Friday, May 4. Friday, May 4. The quiz is a spin-off of GMIDC's able free from the Google Play provides mobile access to the formal Science content, self-tests escaped the school of the school

Grade 10 to 12 Physical Sciences curricula.

Grade 10 to 12 Physical Sciences curricula.

app can be downloaded onto planes or andout tables—which are he linked to data projectors for teaching in classrooms.

This new app can be used by learners, teachers and schools are software called Go-Go-Bra —while also bosoning helicit understanding flrough ast papers, interactive self-tests and supported understanding and real results in the classroom.

The new app will allow us o bring.

The quiz is a spin-off of GMMDC's first app—the ground-breaking Touch-Tutor package — which is an old self-understanding and learning resource that covers the complete school curricular covers the complete school curricular than the programme.

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desktop-based resource centres at most of the project schools – benefiting a further 1000 learners. Over the past three years, more than 50% of the ISP and TAPS learners at project schools in Nelson Mandela Bay and other Eastern Cape Town alm Jow law resolution for university study programmes. Our alm Jow law resolution of the capers and learners via the new mobile app." said Olivier. "A common thread through all our programmes has been our focus on lamnessing accessible offline technology in a creative way to reach the new 'screen' generation' of learners, who cannot imagine a world without TVs, mobile phones and computers. Teachers of Mathis and Physical cent teaching approaches to connect and address appartations and the content gaps of learners in South Africa." Olivier said Friday's launch was al-



ompetition to show maths art



New free app to boost learners' Maths and Science results

la for Maths, and the Grade 19 to 12 Physical Sciences curriculu.

The new apput allow us to bring more innovation into the classroom and help even more pugits, which we are residul excising 6MMDC's treacher development processing 10 MMDC's first apport. The app is a spin-off of 6MMDC's first apport the ground-breaking TouchTutor package—the ground-breaking TouchTutor sold package and ball package and breaking TouchTutor sold package and provided package and package after more and the content gas of learners in South and the content gas of learners in South and provided package and provided package and package and

Mimi Mini, Deputy Director of Teaching and Learning Resource Development at the National Department of Basic Education, chats to pupils playing an innovative coding game called "Tanks", at a STEAM (science, technology, engineering, art and maths) workshop run by Nelson Mandela <u>University</u>'s Govan Mbeki Mathematics Development Centre (GMMDC). The DBE recently proposed Coding as a new South African school subject.
Pupils from disadvantaged schools across the Eastern Cape are taking their first steps towards

IT careers, by getting a feel for coding theory.

Nelson Mandela University's Govan Mbeki Mathematics Development Centre (GMMDC) has included coding theory in its interactive STEAM (science, technology, engineering, art and maths) experiential-learning workshops, run in classrooms from East London to King William's Town, Queenstown, Bedford and Somerset East. The STEAM workshops are run in partnership with Capitec, Old Mutual, Cookhouse Windfarm Trust and BK Admin

Maths, science is now on the phone

Free Android app offers offline curriculum help

By GUGU PHA NDLE

S ECONDARY school pupils unable to perform at their top level due to undervesourced schools will now have a chance to put their best academic foot forward with a ground-breaking maths and science mobile application.

The Nelson Mandela University's Govan Mboki mathematics

The Nelson Mandels University's Gown Mosti mathematics development centre (GMMDC) has been using cutting-edge technology to boost teaching and learning in maths and science to schools in need.

The app, TouchTutor® Quz, is available for free on Google Play. Store, offering teachers and pupils mobile access to maths and science academic content.

The app's curricula follow those of grades 8 to 12 ones for maths, and grades 10 to 12 for physical sciences.

and grades as we as sciences.
There are high hopes that the app will boost the pass rate in these two key subjects.
"This app can be used by pupils, teachers and schools anywhere in South Africa" enthused GMMIDC director Professor Wemer Oli-

director Professor Wemer Olivier.

"It builds on our existing programmes, which have already led
to improved understanding and
real results in the classroom.

"The new app will allow us to
bring even more innovation into
the classroom and help even more
pupils, which weare really excited
about."

Touch?Tutor® Quiz can be
downbaded on Androld phones
and tablets, which can be linked to
data projectors for teachers to use
to class.

data projectors for teachers to use in class. It is a spin-off of GMMDC's first app-the ground-breaking fouch-Tutorie package – which is an offine teaching and learning resource that covers the complete school curriculum in Toduced in 2012and expanded each year until its 2017 completion, brings maths and physical science concepts to life for pupils through offline video lessons, PowerPoint presentations and innovative software called GeoGebra. It also boosts understanding memory and self-confidence through past papers, interactive



INVESTING IN THE FUTURE: Professor Wemer Olivier, director of Nelson Mandela University's Govan Mbeki Mathematics Development Centre (GMMDC), is the driving force behind the new TouchTutor® Quiz app



self-tests and language support in several of South Africa's official languages.

In another project, GAMDC, in another project, GAMDC in another project, GAMDC in another project, GAMDC in a control of the series of the serie

MDC's teaching programmes.

"These children are so receptive to information. They are willing to learn and make a change in their lives and that is truly information. The second of the selected 100 pupils with tablets they can take home so that they can study using the app.

The schools involved with GM-MDC's East London incubator programme include Alphendale Secondary School, Sinovuyo High School, Renezer Majobrod High School, Greenpoint High School and Company of the School Research of the School R

By Kauthar Gool Johannesburg, 04 May 2018



The updated TouchTutor Quiz app can be downloaded onto any mobile device.

jihe Govan Mbekl Mathematics Development Centre (GMMDC) will today launch an updated version of its learning app. TouchTutor Quiz, a spinoff from the original <u>TouchTutor</u> app introduced in 2012. The updated app contains new features, including a range of reference material in maths and science, as well as online competitions and assessments! It also uses minimal data.

This is according to Phil Collett, mathematics project manager of the GMMUC at Nerson manager of the CMMUC at Nerson manager of the GMMUC at Nerson manager of the GMMUC at Nerson manager of the GMMUC at Nerson with IT company AvoChoc, and was created with the desire to make learning material, language support, assessment and practise for maths and science freely available to all learners on their own mobile devices. "It is primarily almed at high school learners and teachers, but can cater for any subject at any level. Looks "It is primarily almed at high school learners and teachers, but can cater for any subject at any level. Looks." The app was previously only available on tablets and desktops for pupils in GMMICC project schools, with a laptop-based teaching resource for educators to make use of, notes GMMICC director Verence Oliver.

laptor-based teaching resource for educators to make use of, notes GMMDC director Werner Olivier.

The updated app can be used by pupils, teachers and schools anywhere in SA and builds on our existing programmes, which have led to improved understanding and real results in the classroom." The user downloads the app and then registers on the platform, explains Collett. The app then has options for practise tests, assigned tests with are scheduled for specific times and accessing reference material and language dictionaires in eight South African languages. The user's record of test performance and their profile are always visible, where the register and download tests, but may use downloaded materials offlier. Results are uploaded when the user is online again. All material is accessed by simply touching the options available. Outsethon types incide multiple choice, matching, sequencing, true or fates, numerical and test answers." Collett notes the app is primarily aimed at high school learners, but college and university students will find it useful as revision. The app can potentially be used by anyone who wants to implement assessment and access content for reference purposes. In future, GMMDC plants to expand participation in its annual online maths and science competitions, say's Collett. "We intend to add game elements to the app and host regular challenges. We will continually expand the range of questions and tests available. We also intend to offer a commendate service for customized assessment." The updated TouchTufor duz can be downloaded from the Google Play store on any mobile device. A smilar infalted vaining to remove barriers to learning is widee education time paper (lede, which gives learners access to beaching offine using their mobile devices without needing any Internet connection or data.



ipant; Prof Werner Olivier, Director

It was a clean sweep for KwaMagxaki High School at the weekend with two of its pupils taking the top spots in the Eastern Cape's first Math-Art competition where entrants had to create art pieces unspired by maths. The prize-gwing for the Math-Art competition where within the top create at pieces unspired by maths. The prize-gwing for the Math-Art competition where (GAMDO) — was one of the highlights of the centre's fifth animal Gaodefort Conference for teachers and TVET College lecturers. This year's theme was "GeoGebra for STEAM Education: Linking Maths and Arts for Beauty in Design:

GAMDO: hosts one of 187 global institutes for GeoGebra, which is free, open-source maths software used in maths and science classrooms across the globe, while STEAM — the acromorm for Science, Technology, Engineering, Art and Matheamatric – follows as international education trend where science, technology and the arts are promoted through maths.

The weekend conference included several talks, along with practical sessions, where teachers learnt how to include GeoGebra in their classrooms.

The link between maths and the arts — found in mature, fishion, architecture, Islamic and African artwas also the driving force behavior GMADO: Math-Art competition, which drew 113 entries from 36 schools. These are on display at the Nelson Mandela Metropolitin Art Museum until June 8. Showing Nelson Mandela University's Prof Wenner Olivier, right, their innovative athoroxis, are the Eastern Cape winners of the first Math-Art competition, from left, Grens High's Mai Briettell, Beaconhurst High's Sharay Archery (both from East London), Unban Academy's Mandilakhe Khonza, KwaMagataki High's Mzukisi Nithielia, Get Ahead College's Zukhanye Hlabierin (from Koman), Nasruddin Islamic High's Fatima-Zahra Hoosain and Zaffan Kerdenay, as well as KwaMagxaki High's Masixole Mangwana

generation' , pupils

The free TouchTutor® Quiz app – developed by Nelson Mandela <u>University</u>'s Govan Moekl Mathematics Development Centre and made available on the Google Play store earlier this; — offered pupils a Web erray of content to boost their knowledge and understanding of mathematics, along with two unique options to achieve in the subject.

Mobile maths competition draws

Competition prize-giving highlight of GeoGebra event

Math-Art winners

Bay conference celebrates