du Plooy, Belinda (Dr) (Summerstrand Campus North)

From: Gibbs, Marilyn (Dr) (Summerstrand Campus South)
Sent: Sunday, May 28, 2017 8:09 PM
To: du Plooy, Belinda (Dr) (Summerstrand Campus North)
Cc: Gibbs, Marilyn (Dr) (Summerstrand Campus South)
Subject: NMMU ENGAGEMENT EXCELLENCE AWARDS
Attachments: Engagement-Excellence-Awards-Application-Form-16_MGIBBS.docx

Dear Dr Belinda du Plooy

Attached please find my **APPLICATION FORM for the NMMU Engagement Excellence Awards for the Eskom Expo for Young Scientists (M.D. Gibbs)**

I have applied and marked with a X both the Project and Team Award but realised that the Team Award only really made space for other staff names. My committee consists
of mainly external members to the NMMU, but the operational part of the project includes a large lecturer and students contingent from the University, so possible it doesnt really qualify for the Team Award.

I would appreciate it if you would adjust the application to that to which it is best suited, as this is my first time applying and I am not really sure in which category this project fits best. It is across many Faculties and is Interdisciplinary.

I have put together a PORTFOLIO OF EVIDENCE which I shall drop off at the Engagement office tomorrow morning, as well as scan in a abridged copy of it and email that to you, before 12. I have updated my information on the EMIS as well.

Many thanks for this opportunity to apply.

Yours in engagement

Dr Marilyn Gibbs

APPLICATION FORM:
NMMU ENGAGEMENT EXCELLENCE AWARDS

(CONSULT THE NMMU ENGAGEMENT EXCELLENCE AWARDS POLICY AND READ THE APPLICATION FORM BEFORE COMPLETING THE TEMPLATE IN ORDER AVOID A DUPLICATION OF INFORMATION.)
COMPLETE THIS FORM IN TYPESCRIPT.PROVIDE ONLY THE INFORMATION REQUESTED.

SECTION A: Application category		
• *Indicate with an X in the appropriate box the award you are applying for.* • *Your application will only be considered for the award you have applied for*	☐ **Engagement Excellence Award – Science, Technology and Engineering** ☐ **Engagement Excellence Award – Social Sciences and Humanities** X **Engagement Excellence Team Award** X **Engagement Excellence Project Award – Science, Technology and Engineering** ☐ **Engagement Excellence Project Award – Social Sciences and Humanities** ☐ **Emerging Engagement Excellence Awards** *(note that Professors and Associate Professors are not eligible for this category)*	
Surname of Applicant/Team Leader	Gibbs	
First Name	Marilyn	
Initials	M.D.	
Title	Dr	
Telephone numbers	084 583 1958 41 504 2701	
E-mail address	Marilyn.gibbs@nmmu.ac.za	
Employment position held at NMMU	Lecturer (Science Education: Chemistry &Physics)	
Faculty	Faculty of Education	
Department	SERE	
Division	Science	
Immediate line-manager	Prof Sylvan Blignaut	
Eligibility: Are you permanently employed and/or on a long term (3 years or more) fixed contract? *(indicate with an X)*	**Permanent** **X**	**Fixed term contract**
If this is an application for one of the Engagement Excellence Project Awards, provide a brief title and description of the project (250 words maximum)	**Title: Eskom Expo for Young Scientists (PE/Uitenhage region)** **Description:** Eskom Expo is SA's primary science fair for school learners which brings together learners, teachers, educational bodies and governments from all over the world. This regional expo is part of the 35 affiliated regions that participate in SA, and by partnering with the Nelson Mandela University, we have formed good networks with the Department of	

	Education, and many schools in the district, increasing the awareness of the wonders of science and enquiry based teaching and learning. Many students across all the Faculties (Education, Science, Engineering, IT and Health Science) are involved and the Regional Committee includes volunteers from many different fields. The Education teachers (both PGCE and B.Ed) are keen to be involved and assist as volunteers in assessing and judging the projects. Workshops are run to train them as judges and certificates are issued for their CV's. It aims to increase discovery learning and innovative creative thinking, opening entrepreneurial possibilities and research skills in a wider scientific platform. The full scientific method and approach is used and a full project guide book is available. The learners may enter their research projects (across 24 categories) into the school, district and then regional Expo and the top 20-30 learners are selected to represent their region at the International Science Fair (ISF) in Johannesburg. Here they have opportunities to win University bursaries or possible trips to ISEF or ISWEEP (International Science Fairs) all over the world.
If this is an application for either the <u>Excellence Awards or the Emerging Award</u>, provide a brief description of your engagement activities and initiatives (250 words maximum)	**<u>Description:</u>** Eskom Expo is SA's primary science fair for school learners which brings together learners, teachers, educational bodies and governments from all over the world. This regional expo is part of the 35 affiliated regions that participate in SA, and by partnering with the Nelson Mandela University, we have formed good networks with the Department of Education, and many schools in the district, increasing the awareness of the wonders of science and enquiry based teaching and learning. Many students across all the Faculties (Education, Science, Engineering, IT and Health Science) are involved and the Regional Committee includes volunteers from many different fields. The Education teachers (both PGCE and B.Ed) are keen to be involved and assist as volunteers in assessing and judging the projects. Workshops are run to train them as judges and certificates are issued for their CV's. It aims to increase discovery learning and innovative creative thinking, opening entrepreneurial possibilities and research skills in a wider scientific platform. The full scientific method and approach is used and a full project guide book is available. The learners may enter their research projects (across 24 categories) into the school, district and then regional Expo and the top 20-30 learners are selected to represent their region at the International Science Fair (ISF) in Johannesburg. Here they have opportunities to win University bursaries or possible trips to ISEF or

	ISWEEP (International Science Fairs) all over the world.
If this is an application for the <u>Engagement Excellence Team Award</u>, provide • **the names of all staff members and students participating** • **the nature of their involvement** • **a brief description of the team's engagement initiatives and activities** (250 words maximum)	• <u>Staff</u>: 1. Marilyn Gibbs, Alastair Scott (retired) 2. Many staff across all Faculties. Data base of over 150 participants and students (Interdisciplinary). Details available on our website data base. Judges/ Conveners/ Assessors are registered. • <u>Students</u>: 1. Tracey Wood (Masters) Luan Staphorst (Honours) Malan Steenkamp (Engineering1). 1. Education students (PGCE, B.Ed and many others across all Faculties) 2. Students on the working committee will include Honours & Masters students from the Science Faculty. <u>Teachers, Principals and Department of Education:</u> Alastair Scott (Retired NMMU HOD Engineering), Kerry Botha (Grey Junior), Adele Botha (Kabega Primary), Andre Schlemmer (Settlaars Primary Head), Wikus Olivier (Kabega), Nico Hattingh (Sunridge Primary), Tasneem Mart Pillay, Nashreen Benjamin (Nasruddin), Mr Jeremy Sampson, Ms Charmelle Swingley and other Department SA, Chris McCartney (PC of the Eastern Cape for 2017, Previously at Uitenhage Science Centre), Wayne Brazier (Pearson HS). • All the above participate are on the committee, with each member been delegated a specific portfolio (see minutes and planning). **ADDENDUM: SECTION A1** • <u>Description:</u> The team coordinates many mini expo's, and we run the main Regional event at the NMU in August which involves over 350 projects with over 500 learners. These are chosen as the top 20 from their schools, so there are also previous school, mini or district Expo's that have taken place. Workshops are run to train teachers in establishing a science club or science afternoon where they encourage and assist learners to start an Expo project. The DST has also sponsored a mentor program whereby education trainee teachers or previous expo winners may mentor a school. This involves training programs of the mentors and we also run upgrading workshops for the educators starting Expo in their schools.The committee is all volunteers, and all funds go towards the operation of the project and no one is remunerated for their services. We also accompany the PE/Uitenhage team (50-60% PDI learners) to Johannesburg and assist with their participation at ISF. As the Regional Science Fair

	Director for this region, I also serve on the International Committee at ISF. This project is informed by scholarly activity of enquiry based scientific research and discovery teaching and learning strategies, driving innovation and creative research with two-way communication in a mentoring model. It serves to bridge the gap for many learners between school and the University. It is integrated across all disciplines, as many lecturers from all Faculties participate in this event.
Are your Engagement activities/projects/initiatives registered on the Engagement Management Information System (E-MIS) on SharePoint? If not, please ensure that they are before you submit this application. Applications that are not registered and updated on the E-MIS will not be considered for Awards. The most recent date on E-MIS for each project update (achieved when 'submit' is clicked) must be in 2015. Provide the exact titles (as featured on the E-MIS) for all of the Engagement activities/ projects/ initiatives with which you are involved. Visit http://caec.nmmu.ac.za/Engagement-Information-and-Development/Engagement-Management-Information-System	**Titles:** 1. **Eskom Expo for Young Scientists (PE/Uitenhage region)** YES, it has been added to the EMIS prior to 2015 but has been edited and updated. This outreach has built a community of practice of Expo schools, educators and learners, many of whom are at universities all over the world, studying Masters and Doctoral degrees in research, showing their love of innovation and research. Many ex-Expo participants come back after leaving school wanting to be part of it and be judges, so as to assist others in their exploration of the wonders of discovery learning at the Expo. We network with many stakeholders from Eskom to DST and the Department of Education. We are aligned with the mission and vision of NMU in working across all cultures and increasing the skills of STEAM for the 21st century.

SECTION B: Engagement categories

- *You are required to describe and report in detail on a minimum of two engagement categories (these are 1, 2, 3 and 4 below) in order to be considered for an award.*
- *If you or your team are involved in three or four of the engagement categories, report in detail on all of these categories.*
- *Applications that describe and can provide evidence of engagement activities across all four categories are encouraged.*
- *Refer to section 5 of the attached Engagement Excellence Awards policy which provides a guideline on the specific activities you should report on under each of the categories you have chosen.*

Report on your:

1. **Engagement through Community Interaction, Service and Outreach: ADDENDUM: SECTION B1**
   The Eskom Expo is directly involved with many schools right from junior to secondary schools, s community interaction is high. Valuable networks have been established as we have Subject advisors from the Department of Education on our committee. This allows good co-ordination and strategic planning to align with their planning, hence the project is fully supported by the Department of Basic Education, Department of Science & Technology as well as the Department of Public Enterprises. Services provided include training workshops in Expo projects and assessment and scientific method. The rubric used in assessment is an internationally used matrix rubric.

Services to the schools include teacher support and workshops to assist with the projects although as the committee do this for free it is hard to offer our time except over weekends. Workshops and advice is offered over cell phone and upgrading workshops are held through the District office. Outreach has included supporting PDI learners with funding and project materials as well as finding volunteer expert mentors for gifted and potential high level projects. Eskom also provides mentors for electronic projects.

Every year we have a had full capacity at the Indoor Sports Centre with 350 projects and all our boards utilized. This included over 450 learners and a further >150 learners visited the Expo to view the projects. The Junior Expo was held on the 23rd August and the Senior expo on the 24th August. The data for 2016: 352 projects with 427 participants (208 female; 183 male). Primary school participants made up 303, while there were 124 secondary participants. The number of schools included 16 (Q1), 25 (Q4) and 3 Private schools. A very successful District Expo with 103 entries, as well as may excellent school Expos: Grey (120); Lorraine (128); Nasruddin (>100); Al Azhar (>100); and Settlers (120) were held around Port Elizabeth.

ADDENDUM: SECTION B1

Report on your:

2. **Engagement through Teaching and Learning: ADDENDUM: SECTION B2**

Many training workshops were held as a good response was received from the B.Ed and PGCE education students to support this project. We trained over 50 new judges and ran 6 workshops. We also ran upgrade workshops and support workshops for a number of schools.
Our website is up and running with registrations for both the projects from schools and the judges and conveners to register. We have a data base of over 120 judges who have assisted us over the years to whom we are very grateful.
Every school that participates has to send 1 educator per 10 learners to attend the assessment training and then he/she judges at the Expo. These assessors receive an Expo file and a meal and a certificate for participating. CPTD points are now also available when training is completed.

Evidence of the training material, CPTD and the workshop dates are provided as well as some feedback from PGCE students.

ADDENDUM: SECTION B2

Report on your:

3. **Engagement through Profession/Discipline-Based Service Provision: ADDENDUM: SECTION B3**

Last year an Educators Academy at the Expo was run and Dr Les Meiring and Ms Kerry Botha ran some Teacher training lectures, which was very successful. This was concurrent with the running of the Expo and was well supported.

It is hoped to expand this and possibly have some guest lecturers at this event, but funding is the limiting factor. A possible idea was also some University tours and displays at the Expo so that the marketing opportunity could be leveraged properly by the University. Marketing was very supportive of this and did provide some banners but we hope that in future more support could be provided.
Dr Rubidge and his assistants provided a wonderful Chemistry display at the start of the Expo while the learners were setting up their projects which was enjoyed by the Junior learners.

ADDENDUM: SECTION B3

Report on your:

4. **Engagement through Research and Scholarship: ADDENDUM: SECTION B4**

Tracking of our previous winners of Expo prizes has shown that many of them have gone on to research degrees after their first degree. This is encouraging that the love of research and discovery learning from their early Expo days leads to further research. We are busy collecting this data from our region.

In the last 5 years the PE/ Uitenhage region has had 3 winners of the top Award at ISF, **the Derek Grey Memorial Award** which entails a trip to Sweden to Stockholm, representing South Africa and attending the dinner with the Nobel Prize winners. **We were fortunate to have won this award, 3 times in the last 5 years: Luan Staphorst (Framesby) and Malan Steenkamp (Daniel Pienaar) being the latest winners. Alex Joubert (HS McClachlan) also won this prestigious award in the last 5 years.**

We are intent on keeping a high level of research and strive to keep a high standard of excellence, with an ethics committee and an ISF selection committee, who have experience of International Science Fairs.

We align with the Universities mission and vision, and had over 50 schools participating from diverse cultural backgrounds and encourage learners to share their science and learning, out of the classroom context, with one another.

This project aims to develop a sustainable future for our region by encouraging the STEAM fields in creative and innovative thinking, providing Innovators and creators for the 21st century that think out of the box and thus make an impact not only at a local and regional level, but in the international arena.

ADDENDUM: SECTION B4

SECTION C: Descriptions	
1. Describe the impact your Engagement activities have made on stakeholders/beneficiaries/communities and provide details on how these activities are acknowledged/recognized by:	
1.1. External communities/stakeholders/beneficiaries: (not staff and students of NMMU)	A good impact has been made as we have grown our footprint over the years and are increasing the PDI schools and expanding in the lower quintile (Q1,2,3) schools. Challenges include requiring more funding as costs are rising and we require 60% of our ISF team to be development learners who need to be subsidized. We have been recognized as a region that has grown and performed well. We remain professional and ethical and encourage participation by all. Attending the ISWEEP in Texas, was a honor as it was good to see our SA learners presenting their research with confidence and skill on an international platform. Recognition was received from the Executive ISF director, Mr Parthy Chetty re- our Regional expo performance. Form stating that we present a professional and well organized Expo. **ADDENDUM: SECTION C1**

1.2. Internal communities/stakeholders/beneficiaries: (staff and students of NMMU)	Teachers all enjoy the Expo experience and much positive feedback has been given to us. Feedback from a PGCE student is shown. People that have attended the event Prof Leach, Prof Oswald and Dr Morar as well as Prof Poisat, can be approached for their opinions. The project aligns with the mission and vision of the Faculty of Education as to give our in service teachers the experience of assessing with a rubric and interfacing with the learners of different culture groups allows them to experience the contact learner-teacher one on one, and now they are considered as a teacher not a student. This allows the mind set change to be experienced so that they realize they are on the road of a professional teacher. **ADDENDUM: SECTION C1**

2. Describe how your Engagement activities contribute towards faculty/department/entity engagement goals and objectives. *(Refer to your Department/Faculty/Entity's strategic plan here)*

The strategic plan of the Eskom Expo for Young Scientists PE/ Uitenhage region is attached in **ADDENDUM: SECTION C2.** Broadly, it involves four legs: INSPIRE, DEVELOP, ATTRACT and DELIVER It aligns with the Faculty of Education in that it aims to inspire and engage educators and promote skills required in the 21st century and is inclusive of all learners. It aims to promote the STEMI programs along with innovation and creative thinking in a discovery strategy, engaging both educators, students and learners to follow careers in research and science fields.

The problem based innovative learning and teaching, alongside a sound scientific approach with ethical and applications based knowledge, coupled with learning effective science communication of their research are some of the important skill sets that will be required to solve many problems in the 21st century.
ADDENDUM: SECTION C2.

3. Describe how your Engagement activities contribute towards the achievement of the NMMU Vision 2020 Engagement Strategic Goals and Objectives. *(Refer to the attached NMMU Engagement Strategic Goals and Objectives)*

The problem based innovative learning and teaching, alongside a sound scientific approach with ethical and applications based knowledge, coupled with learning effective science communication of their research are some of the important skill sets that will be required to solve many problems in the 21st century.
ADDENDUM: SECTION C2.

It aims to achieve excellence in all areas of engagement by being aligned with authentic and ethical leadership to the visions, mission and values of the Nelson Mandela University (NMU) as well as those defined in the EEfYS constitution.
Strategically, we would like to drive awareness in the specific areas such as the **Medical, Health sciences and Oceans Economy & Engineering**, as this would assist to encourage learners to study in these areas and feed the lower end of the value chain. By encouraging projects in these focus areas and instilling an interest in these fields, career pathways as well as innovation in these specific themes, it could ignite energy to drive the socio-economic momentum both at the local and regional level. This could ultimately benefit not only the local Eastern Cape Universities but the industries and economic climate.

4. Describe how your Engagement activities contribute towards: *(Refer to any relevant media coverage, representation on boards or committees, scholarly publications, conference presentations etc.)*

4.1. Addressing the needs of society and various external communities served by NMMU:

Thus, it is imperative that the strategic plan of the EEfYS, must align with the long-term strategies within the EC region to assist with growing our young learners' skills to feed into the long-term strategies of the University, city and the region. This would mean positive spin offs for all and provide correct skill sets for emerging economies with the correct skill sets required for the envisaged expansion in the specific area.
Papers are still to be written in this area and we have a number of committee members interested in pursuing research in many of the areas connected to the EEfYS. Many of the ex- Expo participants have gone on to complete Masters and Doctorate degrees so the inspiring and motivation of our young scientists is definitely continuing in the long term.

4.2. Profiling and promoting the NMMU as an engaged university:

Our website is directly linked to the NMU website and many people visit the Expo event at the Indoor Sports Centre. Often it is the learners very first visit to a University campus.
The NMU is well profiled and promoted, but in this area, we feel more marketing could be leveraged.

5. Describe how you have successfully integrated engagement into the Teaching and Learning and Research functions of the university. *(Refer to sections 5.1, 5.2 and 5.3 of the Engagement Excellence Awards Policy as a guideline)*

This project integtrates across many areas of the EEA Policy:

5.1 I (M. Gibbs) serve on the International Science Fair Committee assisting with the running of the ISF. (ISF program booklet, and organize the Educators Academy at the Regional Expo. I was selected as the Delegation Leader to accompany the SA team of Young Scientists to attend the ISWEEP, in Texas, Houston. All this information was conveyed to my Line Manager.
ADDENDUM: SECTION C3

5.2 The project is involved in service learning, work integrated learning and mentorship as well as customised short learning and training programs. **ADDENDUM: SECTION C4**

5.3 The project contributes to socio-economic and policy development as well as problem solving in many fields STEAM by encouraging interest and awareness in critically pivotal focus area for long term sustainability and development of communities at local, provincial, national and international levels. The vision and mission being to inspire young scientists and researchers to be problem solvers, analyzers, solution finders and good, effective science communicators. ADDENDUM: SECTION C5

6. Provide details of scholarly outputs/contributions made to a body of knowledge as a result of your engagement activities. *(Refer to publications, new teaching programmes, technical reports, conference proceedings, etc.)*

No publications of research papers have been made, as yet but possible research avenues are being explored. New training manuals and strategies have been introduced as well as assisting many learners to increase their research thinking skills base and ask innovative research questions that are investigable.

7. Describe the important role performed by you or the team in:

7.1. The leadership and management of the engagement activities and initiatives:

I, as the Regional Science Fair Director need to multi-task a great deal as it is a voluntary committee and hence peoples' commitment may vary. This requires adaptability as ne needs to be flexible and step in at many different times to complete tasks and different portfolios. Authentic leadership is required and ethics and integrity must be central. Excellence in serving the community is paramount and the learners enjoyment of the event is crucial.
In managing the committee good communication is important and most of the work has to be undertaken over weekends or after hours as there is not much time at all between normal jobs.

Good time management skills are required and planning is critical. I am grateful for the training received in my MBA for many of my project management skills.

7.2. The level and extent of partnerships/collaborations/networks/linkages formed internally and externally:

The links maintained in this project externally are good both with Eskom and the all the Government stakeholders. Reporting to the National Office, is extensive to the national office and reports and data collection is rigorous.

We meet annually in January at the National Bosberaad for training and communication, to align with the strategic plan for the next year. Annual reports and Financial reports are sent to the National Office. **ADDENDUM: SECTION C6**	
a. Internally *(inter-departmental, inter-faculty and interdisciplinary):*	This project is across many Faculties and the Dean of Science, Education and Engineering are invited on a rotation basis to open the Expo event every year. Many lecturers and students across Faculties participate in this event.
b. Externally *(at local, national and international level):*	The Regional committee has representatives from our external Stakeholders on the committee and we have 2 -4 members from the District Education office and receive good support at both the local and national level. We have had a number of learners selected for International Science Fairs and for 2016, a learner Rafael Sapere (Pearson) has been selected to attend an International African Science Fair in July 2017.

SECTION D: Signature			
Applicant Signature	M. Gibbs	Date	26/5/2017

SECTION E: FOR OFFICE USE *(Administered by the Centre for Academic Engagement and Collaboration and the NMMU Engagement Committee)*	
Resolution regarding application from Awards Committee:	
Feedback to applicant:	

SECTION F: Portfolio of Evidence

Attach any relevant documents as a portfolio of evidence to support your application. **Limit this portfolio of evidence to a maximum of 20 pages.** This can include photographs, promotional material, commendations from stakeholders/beneficiaries etc., publication references, (extracts from) annual or project reports to funders/sponsors etc., or any other relevant materials that may serve as evidence.

List of supporting documents submitted along with this application as addendums:

Please ensure that the documentary evidence below is clearly cross-referenced with the relevant section and number in the application template, for example Section B1 or Section C4.

ENGAGEMENT PORTFOLIO OF EVIDENCE M. GIBBS

Section A: Evidence of Regional Committee.

1. PE Regional Committee meetings evidence: Agendas, Planning and National Letter Website details for further information.

Section B: Engagement Categories

1. **Community Interaction, Service and Outreach: Annual Report and Regional program at NMU 2016, 2015 and 2010 (to show growth). Certificates information, Assessment rubric. & CPTD**
2. **Teaching and Learning: Workshops, Training material, Educators academy, Judges workshops, schedule and manual, CPTD points for Professional development of teachers, Educators judges, assessors.**
3. **Profession/Discipline-Based Service Provision: Educators academy, Judges workshops, schedule and manual. Teacher assessing workshops.**
4. **Research and Scholarship: Research promotion for learners, Masters student to enroll in 2018, possible paper.**

Section C: Evidence of External and Internal

1. External: Recommendation from Executive Director: Mr Parthy Chetty (National and International) M. Gibbs was **Selected as Delegation Leader for SA team to Intel ISF Houston, Texas in April 2016.**
1. Internal: Students report on Expo. Feedback PGCE
2. Strategic Plan of PE/Uitenhage region Eskom Exo for Young Scientists
3. Evidence of ISF program and page of ISF committee
4. Training booklets cover sheet
5. Copy of Vision and Mission
6. Annual and Financial report 2016.

ADDENDUM: SECTION A1

1. Agenda and minutes of Expo meetings.
2. Members and portfolios.
3. Planning scheme and National letter.

ESKOM EXPO PE REGION COMMITTEE MEETING : 6 MAY 2015

Venue: Mug n Bean, Walmer Park
Date: Wed 6th May 2015 Time: 16:30

A G E N D A

1. Welcome and thank you
2. Apologies
3. Approval of Previous Minutes
4. Matters arising
   4.1
5. 2015 RSFD Feedback Update Action Plan Priority
   5.1. Sponsors ECC
   5.2. Budget Flight for Team Confirmed Numbers DoBE
   5.3. Information Packs and e-info to schools Website update
   5.4. Logistics Venues, Workshops, Judges
   5.5 Incentives, Prizes for categories at Regional? Grades ?
6. 2015 EC Co-Ordinator Report Feedback
7. Financial report 2015: Alastair Funding: NMMU, EC rep
8. Planning Action plan 2015 / Action items Prioty Sponsors
9. Expo Information Letter /workshops and Teacher training workshops and summary of dates (See Item 11)
10. Judges report : Anthony
11. Entries : website feedback update Simplify entry Grade 2-4 discussion
12. Dates for noting

Judges workshops: (as per letter) **28th May Algoa College 14:30 -16:30**
NMMU 22nd July NMMU 16:30 -17:30
29th July NMMU 16:30 -17:30

31st July : PE District Expo Algoa College
6th – 7th August: Settlers Primary Expo
.... :National Science Week
.... August :ETC GMSA Mini – expo
31st JULY PE District Expo Dept of Education Algoa College Mini-Expo

18th August JUNIOR ESKOM EXPO FYS PE REGIONAL Indoor Sports Centre
19th August SENIOR ESKOM EXPO FYS PE REGIONAL Indoor Sports Centre
21st AUGUST Prize giving Goldfields Auditorium, North NMMU
6- 9th October ESKO INTERNATIONAL SCIENCE FAIR, Birchwood.

13. Department of Education: Update: Vincent National Science Week; District Expo
14. Feedback for Uitenhage region: Chris McCartney
15. Query regarding Region name change: NMB
16. Feedback Planning Regional Expo
    16.1 Venues booked, Programme itinerary /outline /History Expo
    16.2 Entries and Programme
    16.3 Judges entries and workshops
    16.4 Budget
    16.5 Marketing and information releases Query
    16.6 Other suggestions and improvements, Expo flow Students help and assistance,
    16.7 T-Shirts rather than PINS Sell pins?
    16.8 Invites VIP list (Charmelle/Vince) and Special judges (Alastair) Ethics committee
17. National Expo
    16.1 Dates and number in team /budget Upgrade workshop date venue
18. General .....
19. Vote of thanks, Date of next meeting:

Minutes of an Eskom Expo Region Committee Meeting: 17 February 2015

1. Marilyn welcomed all present and thanked them for attending the meeting.
2. Apologies: Alex Cooper, Ashley Aghoo, Jeremy Sampson, Tracy Woods, Kerry Wicus, Tracey, Denise Mafundu

3. Approval of Previous Minutes

4. Matters arising – there were no matters arising from previous meeting

5. Planning Action plan 2015 –
   Regional Expo – Settlers Park Expo to take place on 6 and 7 August 2015
   Sub committees – Junior Expo – Alex Cooper & Andre Schlemmer
   Senior Expo – Marilyn Gibbs & Anthony
   a. Venues booked
   b. PC Updates
   c. Bosberaad – Marilyn reported back and mentioned that there was a more open approach and that communication was very transparent and that there was a collaboration of spirit and teamwork. She felt very positive about the outcome of the meeting An open forum enabled all attending to bring up problems experienced. Concerns were noted and they will be evaluated and assistance will be given.
   The key to our success was having a good, strong committee.
   d. Information packs to schools-distribution procedure
   e. Training material – videos and booklets are available
   f. Entries, website update – Anthony was approached to better the existing website
   g. Categories – slight changes, will distribute at a later stage
   h. Assessment rubric changes – there are some slight changes and notice will be sent to all later
   i. Judges entries and workshops- other members must be co-opted; e.g. people from the department of education, etc.
   j. Action plans – Educators Academy: National Science week Department collaboration

k. Financial Report – Alistair gave a very detailed repost on the finances. He was also re-elected in the portfolio as finance administrator. Proposed by Chris and seconded by Charmelle
l. Budget – T-shirts, marketing, cash flow
m. Marketing and information releases
n. Other suggestion and improvements- Expo flow students will once again be utilised to help and assist
Projects for National nominations
Special judging

6. National Expo:
   a. Dates and programme – these will be supplied as soon as they become available
   b. Travel arrangements Cost Budget VIP's and Judges 2015-the aim is to attain some sponsorship and a grateful thanks went out to existing sponsors of 2014
   c. Selections 25%Groups and the rest individual entries
   d. Eastern Cape pins – none

7. Financial report- update and discussion, sponsorship from NMMU

8. Department of Education

9. GMSA report

10. General:
    a. Teacher training workshops on Expo and school visits for establishing Science clubs
    b. Certificates and incentives
    c. Extra sponsorship and NMMU Department of Education update
    d. Marilyn was re-elected as chairlady of the committee

11. Vote of thanks- in closing the meeting, Marilyn again thanked all for their presence and input

12. Date of next meeting: Tuesday – 24 March 2015 at 16:00 at Mug & Bean, Walmer Park – Subject to confirmation

Minutes of the PE Regional Committee Meeting held at Mugg & Bean, Walmer Park on 18 February 2017

Word of welcome and vote of thanks by Marilyn Gibbs.

Apologies were received from Nico Hattingh, Yolande de Jager, Luan Staphorst, Michelle Pansegrouw and Wayne Brassier.

The Regional Expo Committee for 2017 was elected. Committee members are:

- RSFD: Marilyn Gibbs
- Deputy: Andre Schlemmer
- Secretary: Adele Botha
- Admin Assistant and Registration Co-ordinator: Tracy Woods
- Treasurer: Alistair Scott
- Judges Training Workshops: Members
- District Expo Co-ordinator: C ~~Olivier~~/Swingley
- Judges Co-ordinator: Tracy Woods and Kerry Botha
- Ethics and Project Approval: Chris McCarthy, Michelle Beneke
- ISF selection/Special AwardsCo-ordinator: committee
- Senior and Junior Prize-giving Co-ordinator: Kerry Botha
- Certificate printing and medals: Marilyn Gibbs
- Sponsorship Co-ordinator Portfolio: Andre Schlemmer
- Operations Site Manager: Luan Staphorst
- Web update portfolio: Marilyn Gibbs
- Marketing Media & PR Portfolio: Wikus Olivier, Tazneem Mart
- Official Ceremony Co-ordinator: Tazneem Mart
- Events Co-ordinator and Catering: Kerry Botha
- Event report Collection: Tazneem Mart
- Delegation Leader ISF: to be named
- Student Committee Head (setting up hall):Malan Steenkamp with student committee

Matters pertaining to the PE Regional Expo 2017 were discussed. Financial report of 2016 Expo was compiled and audited. There was a shortfall and a loan was taken from Settlers Park that needs to be repaid. High cost due to plane tickets to ISF.

A decision is made to increase the entry fee to R40-00. Fees will be waivered for schools who cannot pay.

The RSFD Annual report for 2016 had been prepared by Marilyn Gibbs for the Department. Some project numbers were estimated as not all schools that participated handed in their reports.

Marilyn Gibbs will send an email to members with the 2017 Strategic plan.

At the 2016 Bosberaad it was noted that the Eastern Cape was one of only three regions with more than 1000 projects spread across the schools expos, district expo and ESKOM expo. Quite an accomplishment for the region.

The names of Mr Alistair Scott and Mr Andre Schlemmer must be added at the bank. Auditors pointed it out as a requirement for Internet banking. As an NGO the bank also required the Constitution.

Dr Gibbs sent the names of students for DST mentorship through to Mr Modolo.

Accurate data on Mini District and Regional numbers are important for the Events report.

The Admin Assistant on contract is Parthy Chetty.

M Gibbs will send an email on behalf of the region to thank the outgoing National Science Fair Director, Ms Priscilla Moodley for her contribution to the Expo over the years.

Dates for judging workshops will be circulated by email at a later stage. There are SACE points for teachers who attend the judges' workshops and judge at a school/district/ESKOM expo. Attendance register should be kept and certificates will be given.

There are new category lists for the 2017 Regional Expo and the online entry form will be amended accordingly.

Dates for the Regional Expo 2017 have been set and there are contingency plans should problems arise at NMMU venues like happened in 2016. Junior expo on 22 August, Seniors on 23 August and prize giving on 25 August. Entries are capped at 350 and as decided by the committee the entry fee is R40. Judges registration will also be done online. Correct procedures when doing the registrations are very important.

School expo dates: 1 march 2017 is the information session at Settlers Park. A teacher from each participating school should attend. The Settlers' expo is on 3 and 4 August, the District Expo on 10 August and registration for the ESKOM Expo close on 14 August.

M Gibbs will follow up on the Website updates and administration.

As part of site management M Gibbs will look into the security booking fee of R5000 paid in 2016. It was not utilized and can perhaps be transferred to 2017. The floor plan, finalization of project numbers, the display boards (200 more were ordered), new categories stands based on the new categories list, venues for various activities, guests and costs will receive attention.

The Chemistry Show and Experi Buddy will be on board again in 2017 and the Educators Academy will continue. M Gibbs has an appointment with the Dean of Science, Prof Marunga and there may be a sponsorship forthcoming.

It should be considered to have a themed expo. With a themed Expo, like Science in the Water World, the committee can perhaps draw sponsorships from companies involved in the marine biology, chemistry or the field of medicine.

As part of the judging and ISF selection the following need attention: finalizing program and printing, number and roles of committee members involved, judges required. M Gibbs will send info on judging workshop dates.

The Functions Co-ordinator will be responsible for the Alumni Dinner Function and the Prize-givings.

Either Charmelle Olivier or Jeremy Samson will be the contact at the Department of Education.

The Eastern Cape Co-ordinator, Mr Madolo has resigned and his post is vacant from 1 March 2017.

There is no positive feedback as yet on the calculators promised to learners in 2016.

The Uitenhage Science Centre (Mr Chris McCartney), VW (Mr Vernon Naidoo) and GM supports the expo.

At the Bosberaad it was decided that schools will receive recognition in the form of a certificate if they are "expo school" who participate in science expos.

To conclude Alistair congratulates Marilyn on getting her doctorate and compliments het on the 2016 expo.

The date for the next meeting is set at 22 March 2017, 15h00 at M&B, Walmer Park.

Meeting adjourns at 16h20.

DOCUMENT 3 **25 JULY MEETING**

ADDITIONAL INFORMATION REQUIRED: PE REGION (NELSON MANDELA BAY REGION)

1. **PE REGIONAL EXPO: DATES and DATES OF WORKSHOPS**

PE REGIONAL ESKOM EXPO FOR YOUNG SCIENTISTS 2015		
Regional Expo Date	Tuesday 18th August	Junior Expo
Venue	Indoor Sports Centre	
Date	Wednesday 19th August	Senior Expo
Venue	Indoor Sports Centre	
Prize Giving Date	Friday 21st August	2 sessions Junior & Senior
Venue	Gold fields Auditorium, North campus	
DATES of TRAINING WORKSHOPS:	Teachers for technology & science TTS (GMSA)	2 sessions 1. Scientific Method and Investigative Expo projects 2. Judges training and assessing 5 May and 19 May Marilyn and Anthony
	Judges training 17th & a 18th June (Anthony / Mfundo)	Cancelled
	Judges workshops Students NMMU	22 May and 29 May Anthony and Marilyn
TTS EXPO	21 JULY	
School Expos (not sure of dates)	Nasruddin School expo St Georges Expo Linkside Expo Kabega Expo Grey Junior Expo	
MINI & DISTRICT EXPO's	• **Settlers Primary Expo 6th and 7th August** • **UITENHAGE 29th JULY** • **PE DISTRICT EXPO 5th AUGUST in NATIONAL SCIENCE WEEK.**	

2. **ESKOM EXPO FOR YOUNG SCIENTISTS : PLANNING SHEET - PE REGION 2015**

PRELIMINARY (Subject to change) **RSFD:- Marilyn Gibbs**

	Event	Activity	Committee ACTION PERSONS	RSFD
January	Sponsorship Bursaries/ NMMU Other possibilities Final booking venue and dates Website PE REGION all info and entry forms	REGIONAL EXPO PE REGION DATES: 18th AUG JUNIOR 19th AUG SENIOR NMMU INDOOR SPORTS CENTRE (booked) 21st PRIZE GIVING NMMU Goldfields Aud, North campus		
January /February	2015 Thank you Dinner/Lunch Committee meeting/ Members EC REP TO ATTEND Planning and feedback meeting	Committee election Selection of venue		
	Book venue confirmed Planning of events Workshops & Teacher training workshops Schools new identify Calls and deliveries Marketing Strategy	South campus		
	Inform National office of date and venue	As above Completed		
	Bank statement and all forms submitted to National Office Bosberaad 30th 31st Jan			
February /March	School data base up dated and schools contacted Website updated DoE liase /planning **Workshops** **Teachers training** **Feb/March tbc co-ordiante with the DoBE** Initiating Science Clubs	Mfundo DoBE Vince / Charmelle		
	Budget and Sponsorsip from Nationals Book transport to Nationals	PE Rennies. BUDGET		
	Create and print entry			

	forms Website updated and adjusted Information to schools ASAP Information packs printed and delivered ...Dept of Education Booklets available			
	Newsletter Information to website Categories and entry forms to schools Website			
April	Committee meeting	Transport to Nationals Identification of judges-data base, Nationals Finances/Sponsorship		
May	Rubric /Score sheets	Printing		
June	Committee meeting Planning Workshops Schools Training			
July	Liase with learned societies Other sponsors Rural school visits Cenergi e. Add to sponsors Book transport Security organised VIP Invites Programme outline **Planning meeting:** **Action teams** **Printing all docs** **Prizes and sponsors** Education student teams Expand operating committee Check on all logistics: Catering, Hall, Programme, Judges Call for judges and data base Budget outlined and booking transport	Baakens Trust Wild Bird Society Wild Life Society Zwartkops Trust Grassland Soc		
August	Settlers Expo – Junior Feeder into Regional expo	Support as judge and give out Information regarding Regional		

		Andre and Alex		
	Create and distribute Letters to judges Plan judges workshops X 2or 3 Possible educator workshops	Ant (Junior and Senior teams) Students NMMU		
	Closing date for entries	Create data base of entries		
	Compile programme			
	Take programme to printer			
	Purchase Snack packs and refreshments for judges			
	REGIONAL EXPO	Setting up venue: Tables, cards, category labels, Posters, Boards? Judges folders Documents: Judges, Ethics, Queries, Certificates,		
	Meeting Medal winners Prize giving Selection of National Finalists			
	Create list of prize winners			
	Prize-giving ceremony			
	Documentation for Nationals Update info data base Upgrading workshop			
September	Print certificates			
	Committee meeting	Finances Feedback on Regionals		
	Letter to National Finalists			
October	National Finals Delegation Leader and Judge	National Finals		
November	Committee Meeting	Report back		
December	All documents to National Office	Annual report and Financial Statement and feedback		

3. LIST OF SPONSORS FOR 2015

We would like to extend a grateful thanks to all those sponsors both large and small who sponsored this event. We are indeed grateful.

	PLANNING	
1. Eskom Expo	Major Event /General	Eskom
2. NMMU	Engagement funding possible prizes./development learners Venues	NMMU
3. GMSA	.....PDI development learners flights and accommodation	GMSA
4. Department of Education Bisho	..... learners entry and accommodation at ISF	Dept of Education
5. Cenergi	Learners sponsored that attended from the Cookhouse area	Cenergi Not sure for 2015
6. Grey Junior	Sponsored the table decorations and some wine and snacks and Ms K. Botha's transport to ISF, Flowers	Grey Junior
7.		

DOCUMENT 4 — 25 JULY MEETING

ACTION TEAMS /HUBS

TEAM	Functions	Proposal	Write in name
Registration desk	Registration	Lorraine teachers	
Floor Manager	General running & logistics and first year students runners Set up problems and welcoming	Luan Staphorst	
VIP hosting	VIP welcoming and touring etc	Charmelle Swingley	
Ethics committee and Project approval	All ethics stickers and PA forms	Alastair Scott Chris McCartney Alex Cooper	
Judges Logistics	Judges organising	Anthony Marks Adele Tracey / Annaliese Students Chris and Andre	
Catering Judges Expo Get together Tuesday invites	Functions and judges food Supper function	Marilyn Booking Kerry and Grey moms	
ISF selection team	ISF team	Marilyn Alastair Mfundo Anthony +	
Programme compilation and printing	Program finalisation	Marilyn and Alastair	
Data base results Certificate printing	Data results Certificates	Chris and Andre Luan Chris and Andre (Students) Andre and Alex (Jun) Marilyn and Anthony(Sen)	
Prize giving	Set up	Luan	
	Junior logistics lists	Andre and Alex	
	Senior logistics	Marilyn and Anthony	
	MC	Alastair	
Website	Updated	Anthony and Thomas	
Judges lanyards files etc and cards and students, teachers and VIPS,	Attach	Marilyn /	

APPENDIX 3 FEBRUARY PLANNING MEETING 2017

ADDITIONAL INFORMATION REQUIRED: PE REGION (NELSON MANDELA BAY REGION)

1. PE REGIONAL EXPO: DATES and DATES OF WORKSHOPS (tbc)

PE REGIONAL ESKOM EXPO FOR YOUNG SCIENTISTS 2017		
Regional Expo Date	**Tuesday 23rd August**	Junior Expo
Venue	Indoor Sports Centre	
Date	**Wednesday 24th August**	Senior Expo
Venue	Indoor Sports Centre	
Prize Giving Date	**Friday 26th August**	Junior & Senior
Venue	Gold fields Auditorium, North campus	
	DATES AND VENUES ABOVE ALL CONFIRMED	
DATES of TRAINING WORKSHOPS:	GMSA	Marilyn and ~~Anthony~~ Dates tbc
	Judges training June	tbc
	Judges workshops Students NMMU	May ~~Anthony~~ and Marilyn
GMSA EXPO		
School Expos (not sure of dates)	Nasruddin School expo St Georges Expo Linkside Expo Kabega Expo Grey Junior Expo Lorraine Primary Al Azhar Pearson Settlers expo	
MINI & DISTRICT EXPO's	• **Settlers Primary Expo .....August** • **UITENHAGE EXPO .....** • **PE DISTRICT EXPO AUGUST in NATIONAL SCIENCE WEEK.**	
NATIONAL SCIENCE WEEK		

	Book transport to Nationals			
	Create and print entry forms Website updated and adjusted Information to schools ASAP Information packs printed and delivered ...Dept of Education Booklets available			
	Newsletter Information to website Categories and entry forms to schools Website			
April	Committee meeting	Transport to Nationals Identification of judges- data base, Nationals Finances/Sponsorship		
May	Rubric /Score sheets	Printing		
June	Committee meeting Planning Workshops Schools Training			
July	Liase with learned societies Other sponsors Rural school visits Cenergi e. Add to sponsors Book transport Security organised VIP Invites Programme outline **Planning meeting:** **Action teams** **Printing all docs** **Prizes and sponsors** Education student teams Expand operating committee Check on all logistics: Catering, Hall, Programme, Judges Call for judges and data base Budget outlined and booking transport	Baakens Trust Wild Bird Society Wild Life Society Zwartkops Trust Grassland Soc		

3. **LIST OF SPONSORS FOR 2015**

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	PLANNING	
1. Eskom Expo	Major Event /General	Eskom
2. NMMU	Engagement funding possible prizes./development learners Venues	NMMU
3. GMSA	.....PDI development learners flights and accommodation	GMSA
4. Department of Education Bisho	..... learners entry and accommodation at ISF	Dept of Education
5. IDZ Coega	Learners sponsored	Not sure for 2016
6. Grey Junior	Sponsored the table decorations and some wine and Flowers	Grey Junior
7. Other		

ACTION TEAMS /HUBS / OPERATIONS 2016

TEAM	Functions	Proposal	Write in name
Registration desk	Registration	Lorraine teachers	
Floor Manager	General running & logistics and **first year students** runners Set up problems and welcoming	Luan Staphorst	
VIP hosting	VIP welcoming and touring etc	Charmelle Swingley	
Ethics committee and Project approval	All ethics stickers and PA forms	Alastair Scott Chris McCartney Alex Cooper	
Judges Logistics	Judges organising	Anthony Marks Adele Tracey / Annaliese Students Chris and Andre	
Catering Judges **Expo Get together Tuesday invites**	Functions and judges food Supper function	Marilyn Booking Kerry and Grey moms	
ISF selection team	ISF team	Marilyn Alastair Mfundo Anthony +	
Programme compilation and	Program finalisation	Marilyn and Alastair	

Eskom EXPO FOR YOUNG SCIENTISTS Est. 1980

3 May 2017

Dear Ms. Marilyn Gibbs
RSFD – Port Elizabeth Region

INTERNATIONAL SCIENCE FAIR (ISF) QUOTAS AND REGIONAL SUBSIDY

This letter contains important information under the following headings.

1. Regional allocation of ISF quota and subsidy
2. Conditions of Subsidy
3. District/School Expo
4. Regional Expos
5. Important
6. International Science Fair (ISF)
7. General
8. Attachments

1. The table below is the ISF quota and budget allocated to your region for 2017.

ISF Quota	Regional Subsidy	Comments
23	R 99, 283.00	60% of your quota must represent previously disadvantaged individuals (PDI) and 50% females

Eskom
EXPO
FOR YOUNG SCIENTISTS
Est. 1980

INVITATION TO ALL SCHOOLS TO PARTICIPATE

IN THE ANNUAL

ESKOM EXPO FOR YOUNG SCIENTISTS 2016

PORT ELIZABETH/UITENHAGE REGIONAL EXPO

Dear Principals

Your learners are invited to participate in or to visit the **PE/Uitenhage Regional Science Expo** taking place at the **Nelson Mandela Metropolitan University, Indoor Sports Centre** on the following dates:

Junior Eskom EXPO Tues 23 August 2016 **11:30 – 13:00 (Set up).NMMU INDOOR SPORT CENTRE**
13:15 – 13:30 (Expo Official opening)
13:30 – 17:30 (Project judging)

Senior Eskom EXPO Wed 24 August 2016 **11:30 – 13:00 (Set up). NMMU INDOOR SPORT CENTRE**
13:15 – 13:30 (Expo Official opening)
13:30 – 17:30 (Project judging)

Closing date for entries Monday 15 August 2016. On-line entries will only be accepted. Should you experience any problems please contact: Tracey Woods – after 14:00. (082 874 0567). The **Entry fee is R30 per project**. Categories list for 2016 are available on the website **htpp://www.eskomexpope.nmmu.ac.za**

DISPLAY BOARDS WILL BE SUPPLIED AND NO ENTRANT WILL BE ALLOWED TO BRING THEIR OWN DISPLAY BOARD. DISPLAY BOARDS OF JUNIOR PROJECTS MUST BE LEFT UP UNTIL 16:00 – 24 AUGUST

Other information regarding the judges training workshops, prize giving and International Science Fair 2016:

Event	Day	Date and time	Venue
Judges Training	Wednesday	13 July 2016 - 16:30 – 17:30	Faculty of Education, South Campus. Building 11
Judges Training	Wednesday	20 July 2016 - 16:30 – 17:30	Faculty of Education, South Campus. Building 11
Judges Training	Wednesday	23 July 2016.-16:30 – 17:30	Faculty of Education, South Campus. Building 11
Educators Academy	Tuesday Wednesday	23 August 2016 24 August 2016	NMMU VIP room, Indoor Sports Centre
Prize Giving	Friday	26 August 2016 16:00 – 18:00.	NMMU, Goldfields Auditorium, NORTH campus,
Eskom International Science Fair	Tuesday – Friday	4 October 2016 – 7 October 2016.	Birchwood Centre, Johannesburg.

	Categories with descriptions for all grades contd.
12	**Engineering: Mechanical, Aeronautical and Industrial** Mechanical engineering deals with the design, construction, and use of machines. It applies the principles of engineering, physics, and materials science for the design, analysis, manufacturing, and maintenance of mechanical systems. Aeronautical/ astronautical engineering deals with the design, development, testing and production of aircraft and related systems, and of spacecraft, missiles, rocket propulsion systems and other equipment operating beyond the earth's atmosphere. Industrial engineering is about the optimization and streamlining of complex processes, systems or organizations to reduce wastage of time, money, materials, person-hours, machine time, energy and other resources.
13	**Environmental Management: study of human interaction with the environment (e.g. waste management, recycling, deforestation, land management and bioremediation)** Environmental management includes controlling human impact on and interaction with the environment in order to preserve natural resources.
14	**Environmental Science: changes to the environment (e.g. pollution, climate change, carbon emissions and ecology)** Environmental science focuses on the study of the relationships in the natural world e.g. the relationships between organisms and their environments. Environmental change is a change or disturbance of the environment caused by natural disasters, natural ecological processes, human interference or animal interaction.
15	**Food Science, Food Technology and Healthy Eating** Food Science studies the chemical and physical properties of foods and the changes that may occur during processing, storage, etc. Food technology includes production, processing and distribution of food to improve manufacturing methods through preservation, storage and new product development. Healthy eating entails eating a variety of foods for the nutrients needed to maintain health and improve energy levels. Nutrients include protein, carbohydrates, fat, water, vitamins & minerals.
16	**Sports Science** This discipline studies how the human body works during exercise, and how sport and physical activity promote health from cellular to whole body perspectives.
17	**Innovation and Technology** To be called an innovation, an idea must be replicable at an economical cost and must satisfy a specific need. Innovation involves thoughtful application of information, imagination and initiative in growing greater or different values from resources. It includes all processes by which new ideas are generated and converted into useful products. Technology is the purposeful application of information and scientific knowledge for practical purposes, especially in industry.
18	**Mathematics and Statistics** Mathematics is the abstract science of number, quantity, and space, either as abstract concepts (*pure mathematics*), or as applied to other disciplines (*applied mathematics*). Statistics as a branch of mathematics deals with the collection, analysis, interpretation, and presentation of masses of numerical data.
19	**Medical Science (anatomy, genetics, physiology) and Health Care (hygiene & life style)** Anatomy is the branch of science concerned with the physical structure of the human body on macro and micro levels. Genetics is the study of heredity and the variation of inherited characteristics. Physiology deals with the normal functions of the different systems of the human as a living organism. Health Care is the act of taking preventative or necessary medical measures/procedures to improve a person's well-being.
20	**Microbiology and Diseases** Microbiology is the study of microorganisms such as eukaryotes (e.g. fungi and protists); prokaryotes (e.g. bacteria and certain algae) and viruses. Medical microbiology concerns itself with the prevention, diagnosis and treatment of infectious diseases. This field of study also includes clinical applications of microbes for the improvement of health and the study microbiomes.
21	**Physics, Astronomy and Space Science** Physics is the study of matter and energy, and their interactions in the fields of mechanics, acoustics, optics, heat, electricity, magnetism, radiation, atomic structure, and nuclear phenomena. (Expo projects where physics concepts such as heat, solar rays, wind or electricity is applied, should be entered in an Energy category). Astronomy deals with celestial objects, space, and the physical universe as a whole, whereas Space science encompasses all the scientific disciplines involved in space exploration and the studying of phenomena occurring in outer space, such as space medicine and astrobiology.
22	**Plant Sciences including Marine Plants** Plant science studies plant life, including mosses, ferns, conifers and flowering plants. Researching plants may lead to an increase supply of medicines, foods, fibres, building materials, and may help to manage parks and wilderness areas. Aquatic plants are plants that have adapted to living in aquatic environments (saltwater or freshwater).These plants require special adaptations for living submerged in water, or at the water's surface. Marine plants include algae and phytoplankton.
23	**Social and Psychological Sciences** Social science is the scientific study of the human society, including interpersonal relationships between individuals. Psychology is the science dealing with the mind and mental processes, especially regarding human behavior.
24	**Sustainable Development (social, environmental and economic)** Sustainable development is defined as a process of meeting human development goals while sustaining the ability of systems to continue to provide the natural resources and ecosystem services upon which the economy and society depends.

ADDENDUM: SECTION B

1. PE Regional Annual Report and Regional Programs (2010, 2015, 2016). Assessment rubric, CPTD letter.
2. Cover page of training material, certificate example.
3. Educator Academy Program and attendance certificate.
4. Winner in 2014 Malan Steenkamp Trip to Sweden.

ESKOM EXPO FOR YOUNG SCIENTISTS
ANNUAL REPORT 2016
PORT ELIZABETH REGION

Executive summary

The year 2016 was a challenging one, in which we faced new problems but in the process also learnt a great deal. As the RSFD of the PE Regional committee, I would like to extend our sincere and grateful appreciation to the primary sponsor Eskom and the host Nelson Mandela Metropolitan University (NMMU) for their continued support. We extend our thanks and acknowledgement for your great contribution in growing all the sciences in the Nelson Mandela Bay Region, by supporting this event. By increasing the skills and innovative thinking at the lower end of the value chain, we are ensured of a sustainable and productive future in this area.

The learners all enjoy the vibrancy and energy of the Eskom Expo for Young Scientists and this is a valuable opportunity to discover beyond the classroom thinking and expand their minds to new horizons. Extension of thinking to the higher cognitive levels allows freedom of thinking which creates a ripple effect of new ideas and creative discovery learning. Opportunities in a wide range of categories of science allows the child to experience more than the narrow range of the different fields of science that are only covered in the curriculum. Expo up-skills their inquiry base thinking and problem based learning as well as teaching a framework for good investigative science methodology.

Our Junior expo has grown exponentially and provides learners of the lower grades an opportunity to showcase their work, as well as look at the exhibits of the other scientists in the senior grades. This excitement of sharing knowledge across different grades, cultures and ages also provides our learners with a respect for others and appreciaton of anothers perspective and outlook. We look forward to making the event more exciting with added side events including the Chemistry Show and Educators Academy, which were both added to the Expo this year.

Sponsorship and Financials

Our sponsors included Eskom, Nelson Mandela Metropolitan University, Department of Basic Education PE District Office, Department of Science and Technology, Delta and many schools and private sponsors. Attached please find the financial template and outline of the financials. We acknowledge the main sponsors Eskom and the Department of Education, for their funding as well as Delta, Settlers Primary and Lorraine Primary for extra transport funding.

The committee would like to extend a huge thank you to the PE Regional Department of Education especially to Mr Jeremy Sampson and Mrs Charmelle Swingley who organized our first large Departmental District Expo, which was attended by over 100 learners from various schools. Another thank you is to Mr Andre Schlemmer, organizer of the Settlers Primary Expo who also assisted with finances and ran a wonderful expo (Over 100) for a number of primary schools. Other schools running School Mini Expo's were Lorraine Primary, Grey Junior, St Georges College and Prep, Al Azhar, Nasruddin, Pearson (new school), and Kabega.

We successfully ran the Junior Expo (Grade 1-7) on Tuesday 23rd August and this year introduced a Chemistry Show presented by Dr Gletwyn Rubidge and Tarryn Swartbooi, NMMU, while the learners were setting up their projects. This was very well received and the young scientists were fully engaged and enjoyed the fun of the chemical reactions. The opening of the Junior Expo was done by Dr Tulsi Morar (standing in for Dr M. Moeng) from the Faculty of Education. The event took place in the NMMU Indoor Sports Centre. Here we would like to extend our thanks to Ms Krish Williamson and Mr Derek Hosche and their teams for their assistance. NMMU marketing department (Jo-Ann Daniels and Pieter Botha) also provided support and an Educators Academy was run concurrently with the Expo in the adjacent VIP room. A large number of Faculty of Education trainee teachers volunteered to assist and were trained in the judges workshops. Each received a certificate after judging at the Regional Expo and a comprehensive data base has been established for our team of judges. The CPD points and the professional development of these teachers, is starting to gain momentum. By word of mouth, many students are wanting to join in the Expo team and assist. We completed 5 judges training workshops with over 50 new judges being trained, mostly education students.

Over the year, I must make special mention of the invaluable support that was provided to me by Mrs Tracey Wood,Ms Kerry Botha and Mr Andre Schlemmer. I would also like to sincerely thank the Headmaster at Pearson High School, and the Headmaster at Grey Junior for so willingly allowing us to utilise their school Halls at the last minute. This was incredible as it saved the Expo. Due to student protests and campus lock-out we were forced to find an alternate venue for the Senior Expo. Contingency plans were made by phoning over 50 schools. Mr Wayne Brazier of Pearson, one of my previous PGCE students suggested using the school hall and it was miraculous how it all just came together with many people assisting in every task. The NMMU students especially the PGCE team from the Education Faculty were exemplary and took teacher leadership to a new level.

Shifting of the venue also required moving all the display boards and this proved a challenge with help coming from Settlers Primary with their bakkie. All in all a tense, exhausting yet fulfilling Senior event which I can only credit to God and all the team, as it was a case of really letting go and trusting that somehow it would work out. The Senior Expo was held on the Wednesday 24th August at the Pearson High School in Summerstrand and ran well, considering the circumstances. Eskom regional officials arrived at the event and assisted with the Eskom judging and awards. We were very grateful to welcome them there and look forward to their assistance in the future. Contingency plans will be in place for 2017.

Prize giving also had to be shifted to the Grey Junior School and this also required change in communication. Lessons learnt were that we would not have managed without the cell phone, but better use of social media may be a route needed in future, as clear communication to all, in changing situations is critical. We were grateful that we managed to have the event as at one stage, we wondered if our senior Expo would take place. We bought a number of techno prizes (Flashdrives, hard drives, headphones) this year as it seems quite a motivator for many of the learners, as well as a number of Science book prizes.
Senior Expo: 110 projects 124 learners with 96 Individual and 14 group projects
Junior Expo: 242 projects 303 learners with 181 individual and 61 group projects

Workshops

Information workshops were conducted were held at various schools and with training teachers.

The mentor training session (Mr Mfundo Madodo) was held with three mentors at the Department of Education. This program didn't work as well as it should as the support was not given to the mentors. As I was completing my Doctorate, it was not easy for me to assist them as well.

Many workshops were held over the year.

- Teacher training workshops: (approx 50 teachers)
- Learners Awareness at schools with Information packs (Over 200 packs were delivered)
- Judges Workshops (7 workshops at various times: 5 with students teachers and others held at NMMU Faculty of Education Science lab.
- Upgrade workshop between Regional and ISF (28 learners)

We ran a number of judges/teacher training workshops. 20th, 22nd , 27th , 29th July and 4th August. These workshops were conducted mainly by Marilyn with Tracey and Charmelle assisting with one or two. Attendance of very good at these workshops and we increased our number of student judges in 2016.

The District Expo was held on the 4 August at Young Park School and was attended by over 100 learners, organized by Mr Jeremy Sampson and Ms Charmelle Swingley. Book prizes were purchased with the expo budget for this event as well as for the Maths Olympiad. The Uitenhage UDI science expo was held on 10th August (Mr Chris McCartney) and the Settlers Primary Expo was held on the 11th and 12th August at Settlers Primary school (Mr Andre Schlemmer).

Ms Kerry Botha ran a Delta sponsored project with a few schools and personally coached a number of High school learners with their Science projects and they all did really well. This showed the importance of a skilled coach with a good base of scientific method, to assit these young scientists.

Regional Expo Stats

DESCRIPTION	NUMBER	COMMENTS
Projects	352	Increased Juniors
Participants	427	
Females	208	
Males	183	
Primary participants	303	
Secondary participants	124	
TOTAL number of Schools		
Quintile 1	16	
Quintile 2		
Quintile 3		
Quintile 4	25	
Quintile 5		
Private	3	
TOTAL number of District expos	(number of proects)	1 District DoBE(103)
Number of schools	Grey Junior (120)	Lorraine (128);
Number of learners	St Georges (120)	NMB Science Centre (12)
Number of learners	Nasruddin (100)	Al Azhar (120)
(Estimates)	Settlers (100)	EVENT REPORTS not all in but those received attached.

HIGHLIGHTS

- Important highlights were the new events introduced to the Regional Expo ie. The Educators Academy and the Chemistry Show.
- The expansion of interest by Faculty of Education teachers FP. IP and FET phases in assisting with the event was encouraging. The light supper after the Junior Expo was well attended and enjoyed by all of the Expo team. The friendship and teamwork of everyone was a wonderful experience and many were already asking if they could be involved in the event for 2017.
- The Website worked efficiently for registration. We are hoping to get our judges registration also on the same website. We need a person on the committee to manage the website and updating of the site.
- The Department of Education PE District ran a really good District Expo at Young Park School which ran very well. This can be grown and used as a wonderful formative Expo for new schools. We thank Mr Jeremy Sampson and Ms Charmelle Swingly for their hard work in establishing this new event on the calendar.
- Educator academy ran very well (Junior day) and Chemistry Show was well received.
- ISF team overall performed well and Rafael was been selected for an African International Science Fair. We are very proud of our PE Regional Team.

LOWLIGHTS

- Challenges included the safety aspect as the University was experiencing protests and shut downs. Changing the entire event to a new venue at the last minute proved large logistic stretch. Contingency plans will be in place with alternate venues for 2017.
- Costs and finances were a problem as air travel cost the team close to R70 000 and that left only R12 000 to run the Expo. Catering alone along with the new Educator Academy, cost R30 000 with lunch packs for the learners.
- Mentor progam was not as successful, as it should have been. Little communication was evident between the EC PC and the District and most of the additional work was carried out by my committee and myself.

International Science Fair (ISF)

The International ISF was a wonderful experience and the Ethics ran well with very few problems. The PE team loved every minute of it from the musical instrument evening to the prize giving. We were pleased with our performance at ISF and achieved
Many thanks to Eskom, Do BE, Intel and NMMU as well as all sponsors involved at ISF, we are very grateful for this unique opportunity for our young scientists from this region.
The Expo Committee must be congratulated on a wonderful event with so many prestigious prizes and entertainment

Marketing/Media

- NMMU Marketing Department supported this event.
- Little media reporting as the University Fees Must Fall overshadowed the Expo.
- We look forward to 2017 expanding our website profile and using social media as a marketing tool.

Appendix B: Strategic Goals

Our strategic goals as the NMB PE Region are the following:

GOAL 1: Inspire all communities in awareness and importance of STEMI (INSPIRE)

Expansion to new schools and collaboration with NMMU Marketing Department and Faculty of Science as well as other stakeholders and industries.

GOAL 2: Involve the University (NMMU) more in the Expo (DEVELOP)

With the new Marine Sciences and Medical Faculties being established at the University in the future, we need to create an interest in these topics. This will provide a pool of learners who have a passion to study in these areas, thereby making training and jobs sustainable in these focus areas. By leveraging these focus areas we will assist the University in gaining students interested in studying in these areas.

GOAL 3: Identify best practices that work and reward or recognise schools or educators (ATTRACT)

We would like to introduce award badges for recognition or ties for educators that serve Expo as a Regional judge over more than 5 years. Eskom Expo Guides or Leaders.

GOAL 4: Provide better systems of accountability and data to the sponsors so that they know there money is cost effectively invested. (DELIVER).

We would like to design better operational systems that allow the process of event managing the Expo to be effective and accountable with good data collection and tracking. This along with a good communication strategy and process could ensure better run and higher quality Expo's. These four goals are in alignment with the National Expo Strategy of Eskom Expo for Young Scientists.

Appendix C: Financial Report and Budget (Attached)
Year Plan (To be sent later this week)

Regional Expo 2016: Judges Scoring Sheet

NAME(S) OF LEARNER(S) :	Primary	6	7	Project Number :
	Junior	8	9	
	Senior	10	11	12

PROJECT TITLE :

AMOUNT OF TESTING/NO. OF PROTOTYPES:

MARKS ALLOCATED				
SECTION 1 VALUE OF PROJECT	SECTION 2 WRITTEN COMMUNICATION POSTER, REPORT, FILE	SECTION 3 ORAL COMMUNICATION	INITIAL TOTAL	FINAL TOTAL AFTER PANEL DISCUSSION
/ 50	/ 30	/ 20	/ 100	/ 100

NAME OF JUDGE (PRINT PLEASE):	JUDGE'S SIGNATURE:	CONVENOR'S NAME & SIGNATURE:

POSITIVE COMMENTS AND SUGGESTIONS FOR IMPROVEMENT : please complete this section in detail.

Do you think this project is of International Science Fair (ISF) standard? Yes/no: Reason:

What improvements would you recommend for this project? Please specify.

Who could mentor the finalist(s) if selected for the International Science Fair? Please give the name and email address of this person.

Any other comments for the comment card?

Poster

Journal/Project data book/rough work

Project report

Interview

General

Regional Expo 2016: Judges Scoring Sheet

SECTION 1: VALUE OF PROJECT *(Total / 50)*

To assess project start with the vertical axis and then move across the horizontal axis.

GUIDELINES FOR ASSESSING VALUE OF PROJECT:

1. Identify the type of project done by the learner(s):
A- PURE SCIENCE – basic knowledge and fundamental principles
B - APPLIED SCIENCE – science applied to human needs
C- TECHNOLOGY AND APPLIED TECHNOLOGY including engineering projects
2. Criteria below refer to specific kinds of projects A/B/C – apply relevant criteria to project being assessed.
NB: a project could be a combination of A/B/C above.

ORIGINALITY

The learner/s is/are able to think and act independently. Refers to background reading, originality of approach, use of resources, depth of planning and execution of investigation/engineering process

SCIENTIFIC METHOD/ENGINEERING PROCEDURE Thoroughness and depth in application of the scientific method or engineering & technological process, Scientific investigation: Check for sample size, validity and reliability of results .For engineering projects look for 2 or more prototypes.	Rank 1 (poor)	Rank 2 (fair)	Rank 3 (good)	Rank 4 (excellent)
	Little imagination shown. Project layout/strategy is simple with minimal learner input.	Some creativity shown in a project of fair to good layout/strategy. Standard approach using common resources or equipment.	Imaginative, well thought out, above ordinary approach. Good use of available resources. Creativity in layout/strategy.	A novel approach which shows resourcefulness and creativity throughout the project.
Level 1 (poor) **Duplication of existing work** A/B: Little understanding of scientific process. A/B: Duplication of a known experiment. Study of existing printed material but little reference to data. B: Copy of an existing solution. Duplication of a known process/existing material. Minimal testing undertaken. C: Duplication of existing technology.	9...10...11 12...13...14	15...16...17 18...19...20	21...22...23 24...25...26	X
Level 2 (fair) **A known investigation or design that has a new angle which adds value to the results.** A/B: Limited range, basic application of scientific method. A/B: Research of existing printed material and existing data with extension of a known experiment. B: Indication of input and knowledge of some existing applications. C: Improvement or demonstration of new applications for existing technology.	15...16...17 18...19...20	21...22...23 24...25...26	27...28...29 30...31...32	33...34...35 36...37...38
Level 3 (good) **A new investigation or design undertaken beyond the borders of the school curriculum with limited testing and results** A/B: Good application of the scientific method. A/B: Devised and carried out original experiment with controls. Variables are identified and significant variables are controlled. Analysis with graphs or simple well thought out statistics. B: New solution to problem after prototyping and testing. Analysis of observations and investigation using graphs / statistics. C: Designs and builds innovative technology.	X	27...28...29 30...31...32	33...34...35 36...37...38	39...40...41 42...43...44
Level 4 (excellent) **Genuinely unique, substantial testing & results.** A/B: Full application of scientific method, extension of level 3. A/B: Variables are identified & most significant variables are controlled. Illustration of cause and effect. Devised and carried out original experiment. B: Novel solution to current problem(s). Integrates several existing technologies / solutions where applicable. C: Unique solution and complete mastery of all technologies used, clearly set out need technology solution chain.	X	33...34...35 36...37...38	39...40...41 42...43...44	45...46...47 48...49...50

Earning SACE Continuing Teacher Professional Development (CPTD) points

Type 1: *Activities initiated by the teacher*
Type 2: *Activities initiated by the school*
Type 3: *Activities initiated externally*

SchoolNet SA is an approved provider of teacher professional development activities with SACE and this course has been endorsed as an "Externally Initiated" professional development activity. You will be entitled to claim 5 professional development points for this 4 hour workshop – **TYPE 3**.

The other types of professional development activities for which you can earn professional development points are School Initiated and Teacher Initiated activities.
The **school initiated** activities can include school-initiated meetings, workshops (10 points per annum) and projects (20 points per annum). All of these activities must be thoroughly reported in your professional development portfolio. **TYPE 2.**
Teacher initiated activities can include professional reading, watching media, attending meetings, mentoring and coaching , research and development, initiating and leading school and community projects, marking externally, and self-study - all in the interests of professional development. **TYPE 1.**

Here are some suggestions for how you can earn additional professional development points for EXPO-related activities:

- Judges can claim judging time under the school-initiated external marking and assessment (can get an additional 7 points for 1 day of judging).
- EXPO teachers can claim 7 points under school-initiated projects (if the school appoints them to do this) for preparing and accompanying EXPO students to the EXPO in an effort to increase their personal understanding and professional skills as science teachers facilitating the development of Young Scientists. The school would have to launch an initiative to develop young scientists as a distinct project and can reach out to the community in the process.
- Teachers can also claim up to up to 10 points per annum for reading professionally about Science EXPO, scientific method and related issues concerning science projects.
- Teacher can claim up to 5 points per annum for watching the EXPO video and other media about EXPO events.
- Teachers can claim up to 10 points for attending any EXPO interest group meetings.
- Teacher can claim up to 10 points for mentoring less experience science teachers to participate. in EXPO and coaching EXPO students after hours.

4hrs = 5 points	1 day = 7 points	2-5 days = 10 points

SACE

South African Council for Educators

Towards Excellence in Education

CERTIFICATE OF ENDORSEMENT

Awarded to the

SCHOOLNET S.A

For

SUPPORTING STUDENTS IN EXPO SCIENCE AND ENGINEERING PROJECTS

PD Points: ~~5~~ 10 Points

This is to certify that the above activity meets the requirements of SACE endorsement process, which will be valid for a period of three years.

Date Issued:	Expiry Date:
18 September 2015	30 September 2018

Rej Brijraj

Chief Executive Officer


Eskom
EXPO
FOR YOUNG SCIENTISTS
DISCOVER YOUR FUTURE
Judging EXPO Science and Engineering Projects
education
Department: Education
REPUBLIC OF SOUTH AFRICA
SACE
science & technology
Department: Science and Technology
REPUBLIC OF SOUTH AFRICA


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PROJECT GUIDE BOOK
2016 edition
public enterprises
science & technology
basic education


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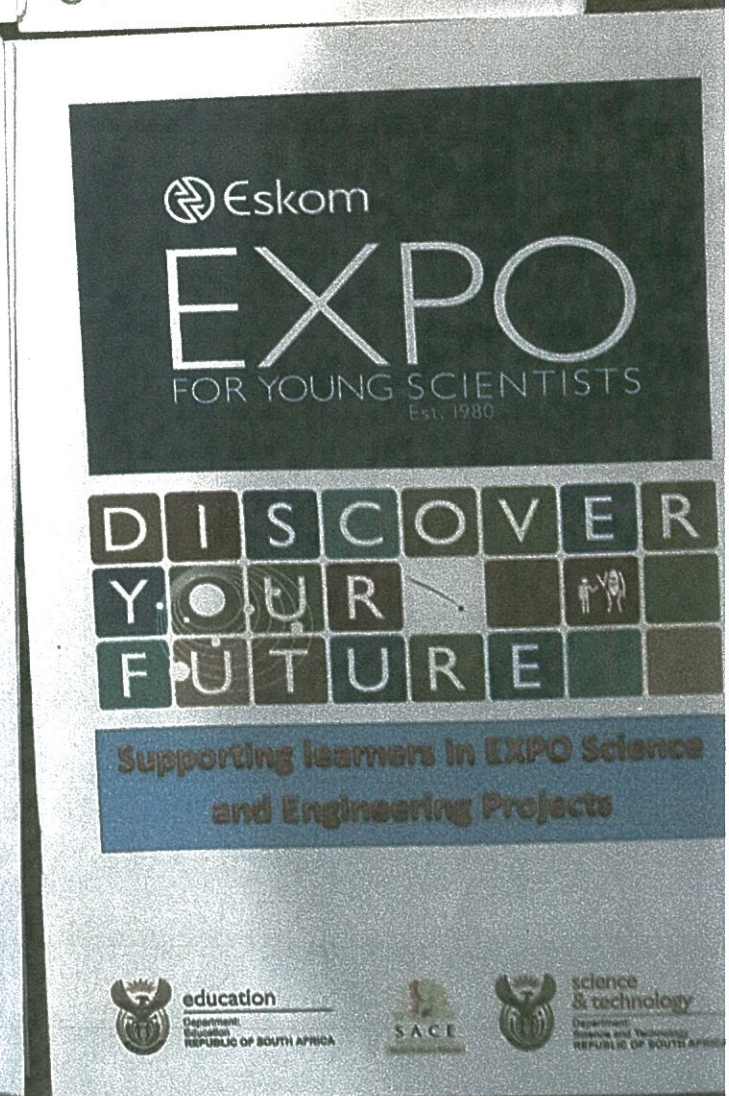
science & technology
basic education
public enterprises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EXPO
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DISCOVER YOUR FUTURE
Supporting learners in EXPO Science and Engineering Projects
education
Department: Education
REPUBLIC OF SOUTH AFRICA
SACE
science & technology

Nelson Mandela Metropolitan University
for tomorrow

Eskom EXPO FOR YOUNG SCIENTISTS

Faculty of Education and Eskom

Invite you to our Educators Academy

Join us for our first ever Educators Academy.

Tour the Expo prior to the academy from 13:45 – 14:30

Date **TUESDAY 23 August 2016 (Junior)**
WEDNESDAY 24 August 2016 (Senior)

Venue: NMMU Indoor Sport Centre

Time 14:30 – 17:00

COST: **FREE** – Only **40 seats available/ per day**

WORKSHOP PROGRAMME

23 August 2016(Primary School Educators)

14:30 – 14:45 **Welcome:**Prof Andre Du Plessis, NMMU Faculty of Education

14:45 – 15:45 **" Doing Science & Technology- Specific Aim 1" - Dr Les Meiring**

15:45 – 16:00 Tea/Coffee

16:00 – 17:00 **" Scintillating Science" - Mrs Kerry Botha**

24 August 2016 (High School Educators)

14:30 – 14:45 **Welcome**: Marilyn Gibbs RSFD, Eskom Expo for Young Scientists

14:45 – 15:45 **"Conceptual and pedagogocal challenges in the teachng and learning of electrodynamics in Grade 12" - Dr Raj Kurup**

15:45 – 16:00 Tea/Coffee

16:00 – 17:**00** **"Teaching for conceptual undertanding: Newton's Second Law" - Dr Elsa Lombard**

PLEASE RSVP by 21st August : Tracey Woods - 082 874 0567

Email: t8woods@gmail.com

Pupil's dream trip to Swede

Wi-Fi robot project wins top young scientist fabulous prize package

Tremaine van Aardt
aardtt@timesmedia.co.za

A ROBOT that helps you monitor your home while away has won a Jeffreys Bay schoolboy an invitation to a Nobel Prize awards ceremony in Stockholm, Sweden.

Malan Steenkamp, 18, returned from the Eskom Expo for Young Scientists International Science Fair on Saturday after winning the coveted Dr Derek Gray Award for the best overall science project.

The win comes with a prize including a full bursary to study at Pretoria University, a guided visit to the Square Kilometre Array (SKA) site and a fully paid trip to Sweden and the Nobel awards ceremony.

Steenkamp will also represent Africa at the International Youth Science Seminar in Stockholm between December 4 and 11.

He will deliver a five-slide presentation explaining his Wi-Fi robot project.

He will also attend the prestigious Nobel Awards Ceremony for Physics, Chemistry, Physiology or Medicine, Literature, and the Sveriges Riksbank Prize in Economic Sciences in Stockholm on December 10.

After two years of trial and error, the Daniel Pienaar high school matric pupil perfected the original robot – Lighting Storm – which he saw in his favourite magazine, Popular Mechanics, in March 2012.

"It was incredible. This was my first time at the event and there were competitors who had been there four or five times so I really didn't expect to win one of the major accolades," Steenkamp said.

His original robot simply "bashed into walls and turned around, which was useless". After fitting it with sensors to avoid the bashing problem, he took it one step further, fitting the robot with an IP address linked to an onboard server to allow it to be controlled through any Wi-Fi connection. He then renamed it Lighting Storm 2.

"When I was on stage I took a minister's phone and connected to the internet, logged on and controlled the robot from the phone. The robot is fitted with a light and camera to send live video streaming to the phone," he said.

"So the idea is to use it as security surveillance while you are on holiday.

"I love chemistry but electronics has always been my passion, and look at where it got me . . . I am incredibly excited to go to Sweden and present my project."

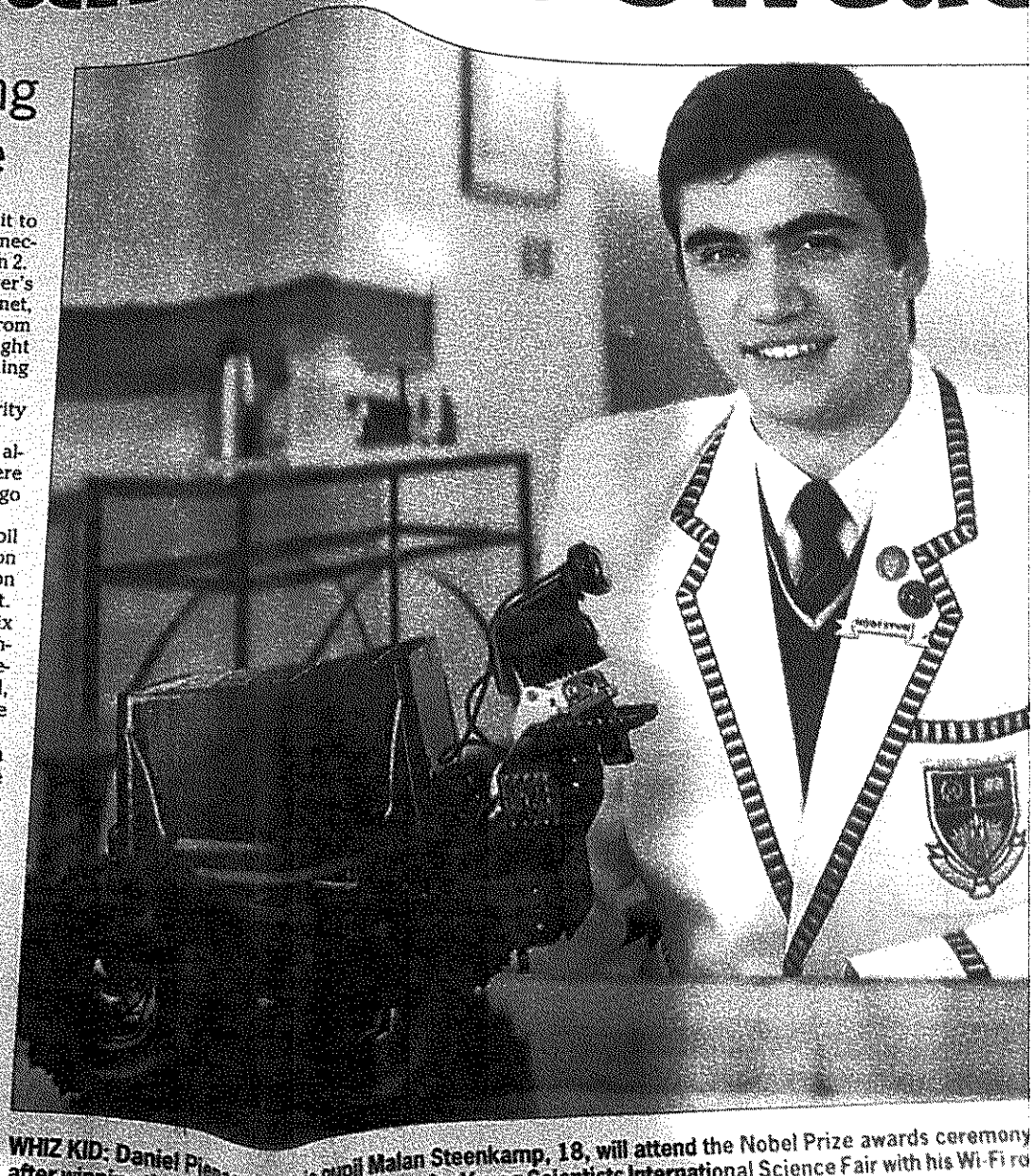
Steenkamp formed part of a 28-pupil team from the Nelson Mandela Bay region who competed at the national competition after winning the regional finals in August.

They won one gold, seven silver and six bronze medals as well as five highly commended awards, while three projects received participation certificates. In total, 22 projects from the Eastern Cape were entered, some by two-pupil teams.

Steenkamp's mother, Leonie, said: "I am very proud but also very jealous. Before he went to the competition I told him if he won anything international I wanted to go with him, but ironically one of the conditions of the trip is no family members are allowed to attend."

The regional team's mentor, NMMU school of electrical engineering senior lecturer Anthony Marks, said: "Most important in my opinion is that the Science Expo is not only about the science curriculum but more about ensuring participants acquire an ability to follow a scientific process to answer any question on any topic.

"As such, the scientific process is a set of life skills that equip each participant with tools to succeed in society in whatever field they may end up in."



WHIZ KID: Daniel Pienaar matric pupil Malan Steenkamp, 18, will attend the Nobel Prize awards ceremony after winning the top prize at the Eskom Expo for Young Scientists International Science Fair with his Wi-Fi ro

ADDENDUM: SECTION C

1. External form from Mr Parthy Chetty, Executive Director ISF. International Report from M. Gibbs, Delegation Leader for SA at ISWEEP, in 2016.
2. Feedback PGCE student on Expo.
3. Strategic Plan National and Regional for alignment.
4. ISF Program and Committee list.
5. Training booklets
6. Vision and Mission
7. Copy of full Annual and Financial Report 2016 (Only in hard copy)

Eskom

EXPO

FOR YOUNG SCIENTISTS

Est. 1980

Bid Number:	
Bid Description	
Describe the service/work the above bidder provide to you below	

Criteria	Needs improvement	Meets requirements	Exceeds requirements
Professionalism		X	
Customer centricity		X	
Turnaround times		X	
Completion Times		X	
Satisfaction with bidder		X	
Satisfaction with quality			X
Satisfaction with the work done		X	
Project Planning Management		X	
Overall Impression	PROFESSIONAL OUTFIT. DISPLAYS COMMITTMENT TO QUALITY.		

No. of times used in past year ONGOING		Would you use the provider again?	(YES)/NO

~~Bid Number NRF/SAASTA 20/2016-17~~ ~~Page 55 of 69~~ ~~Initials~~

Completed by:	PARTHY CHETTY
Signature:	
Company Name:	EXPO FOR YOUNG SCIENTISTS
Contact Telephone Number:	011 8941365
Date:	21.04.2017
Company Stamp:	Expo For Young Scientists National Office P.O. Box 26045 East Rand, 1462 Gauteng, South Africa T +27 (0) 11 894 1365

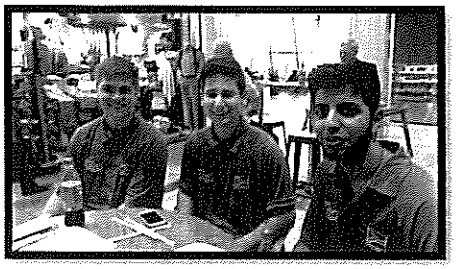
Eskom EXPO FOR YOUNG SCIENTISTS

ISWEEP 2016: REPORT FROM M.GIBBS:

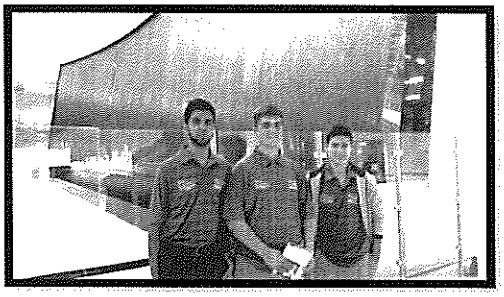
PE REGIONAL SCIENCE FAIR DIRECTOR

Introduction

On the **25th April 2016**, the excited and energetic South African Eskom Expo team, consisting of **James Kriel, Ahmed Ismail and David Bullock,** accompanied by the Delegation Leader, Marilyn Gibbs, left OT Airport at 19:15 on Emirates airlines. After meeting Mr Parthy Chetty and all the families at the airport and having photographs, we all set off on a most exciting adventure to the USA, certainly a dream come true for all of us. After checking in and getting through all checkpoints, we shared some delicious spicy snacks provided by Ahmed's family at Jackson's along with coffee and a briefing, before we set off to board for Dubai.



Travelling on the International flight was a first for James but all the young men were supportive, well behaved and positive throughout the trip, so I think they seem to bond well together and were truly good ambassadors for Eskom Expo and South Africa. It was very exciting to land in Dubai and after eating some McDonalds, while awaiting the boarding we soaked in some of the United Arab culture. The Dubai airport building was architecturally stunning and we enjoyed walking through the airport. Later we went through the check point for boarding for the next flight to Houston. The flight to Houston was long but because the aircraft is so well equipped it was very comfortable, the time seemed to pass quite quickly. The flight was very comfortable and some of us managed some sleep, in between the high levels of excitement. Flying on a flight path towards the North pole and then down through Canada was amazing and then also over America, for me was incredible, as I have always dreamed of one day visiting America, but never thought my dream would ever become a reality. After reading "Travels with Charlie" as a set work book in High school, I have always been fascinated with the USA and hoped and dreamed to visit there one day, so to actually be landing there, was a huge privilege and seemed unreal. This was for me an incredible experience for which I am very grateful.



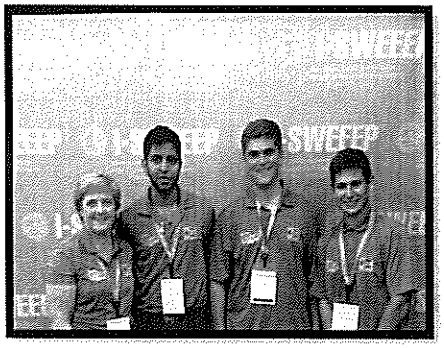
ISWEEP schedule of events

On arrival, we experienced some delays in going through the customs as Ahmed was taken for the interview and I was not allowed to accompany him. However, we were just outside and we were told that we just had to wait. I spoke to a number of people then eventually managed to

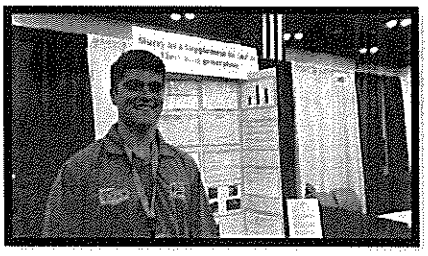
get in and they said he was almost finished with his interview. James and David collected all our baggage and then we just had to sit around and wait. I was told that they would call me if they required me as I told them that I had all the relevant information if they required any further documents. Well, we were pleased when he came out and all was well, so we set off to book our shuttle. All went well and we headed on the freeways, enjoying taking in the American skyline. Driving on the right with a left hand steering was a new experience and rather daunting, and I must admit I was glad that I didn't have to drive!

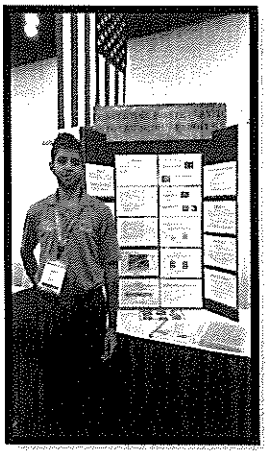
However, American drivers all seemed well behaved and all drive at the same speed. Houston was incredible and the hotel we stayed in was incredible, as it was connected to a huge shopping mall, the Galleria. After check in, we managed to find supper at the Cheese cake Factory and enjoyed a relaxing meal together and planned the next day. We were so privileged to be staying in such a wonderful hotel, Westin Oaks Galleria.

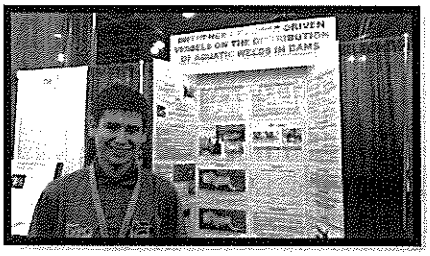
27th April: We were all up early and had breakfast as a team, meeting all the other ISWEEP delegations. It was really an honour to be representing Eskom Expo and South Africa. The school buses were providing transport to the George Brown Convention Centre and this did prove problematic. But we learnt patience and also admired these wonderful yellow school buses, all part of the experience. When we arrived we were astounded by the large convention centre and the ISWEEP Events hall. We had to purchase three boards (10 dollars each) and the SA team set up and received ethical clearance with no problems.



I met a number of people and made many new friends and contacts. The American culture was very different to what I had imagined as the people were all very friendly and I enjoyed the high energy. The Students set up and I walked around checking that all was in order and then went with David to his flag rehearsal for the Flag Opening Ceremony.





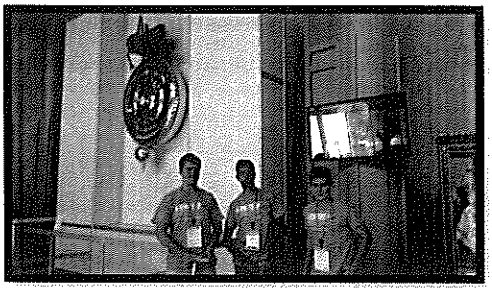


After that we were able to catch the buses back to the hotel and then went to have late lunch in the Food Court at the Galleria. Here we met many of the ISWEEP teams and had some networking time.

Later we caught the buses back for the Opening ceremony which was incredible with 62 countries participating and it made us proud to be South African. David kept our flag waving high. After the opening ceremony we headed back to catch the buses back to the hotel.

28th April: The hotel was very comfortable and after an early breakfast we set off in the buses to the convention centre for the Public Day, which was very busy with a number of schools

visiting and a Chemistry & Robotic show, as well as a number of interactive stalls allowing learners to interact with science concepts. This was very interesting and I wished that we could do something similar at our Regional or National Expo. That afternoon, we had a wonderful trip to the National Science Museum, which for me was a major highlight. I wished that we had interactive museums like this in Port Elizabeth, as children were so engaged and having fun! We had lunch as a team at the Museum and went to the Space dome movie as well as the 3D movie and also enjoyed the wonderful museum. Later supper was at the Mexican Grill, as we went with the Tennessee team, and many of the new friends. I networked with teams from the Ukraine, Oregon, China, Korea and many other USA states. It was an early night for all as it was judging in the morning.



For me looking around at all the projects at ISWEEP, I was really impressed at the very high level of research achieved. On talking too many of the students though, it seems they do Research Methodology in their curriculum, as well as spending weeks and months on conducting research at a University. Some of the research seemed to be at an Honours level and also some said their research was soon to be published with the Professors at the University. This was interesting, but I was also concerned as to whose idea the research was in the beginning. Our students presented very well and were confident and networked well with other teams, being very popular. All in all I was very proud of them and was a bit disappointed that they did not earn a bronze medal, as I felt they must have been very close.

29th April: After breakfast the students boarded the buses for judging morning and we were given a choice to go shopping at another mall. I decided along with some other USA members to go back to the Natural Science Museum for the morning. Lunch was provided at the convention centre and I joined my team for lunch and report back on their judging, which seemed to have gone well. The afternoon was spent relaxing around the convention centre and then that evening was the pin-swop, which was enjoyed by all. Our students swopped many pins and enjoyed the evening making many new friends. I also networked with many new leaders and thoroughly enjoyed the experience. The SA team were always neat, well dressed and well mannered, and were great ambassadors for South Africa and Eskom Expo.

30th April: After breakfast, we were very excited about the field trip to the NASA Space centre but because of the storm warning they called off the trip, which was very disappointing. The Oregon team organised a Uber and we were asked to join them but because the boys said that they were scared to go because of the storm warning, I turned down the opportunity. We all had time

Student Number: 209039711

Surname: Rademeyer

First Name: Jason

Course: PGCE

Lecturer: Mrs. Marilyn Gibbs

Marker:

Reflective essay: Investigative science and The Eskom Expo for Young Scientists

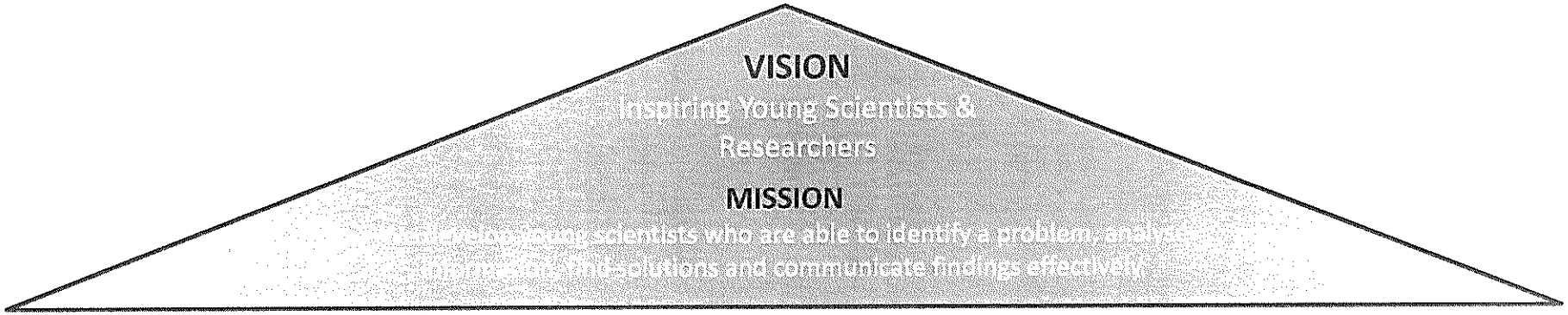
Investigative science is described as being a situation in which a learner must pose and answer authentic questions that require interpretation of discovered scientific evidence and problem solving (Daniels, 2001). It forms the basis of scientific investigation and facilitates critical thinking in the learners.

Being a judge at the Eskom Science Expo was an eye opener for me. I was astounded at not only the sheer numbers of young scientists but also their level of intellect. To listen to a 14 year old girl explaining physiological mechanisms that I only learned about in my third year at university was mind blowing. The amazing thing for me is that I learned about it because it was part of the course I was doing, whereas this girl did all the research and investigation out of her own interest.

As someone who has studied sciences for the past 8 years since leaving school I believe that science is the most important field. Science influences everything in our world and effects all living things on this planet. Without the revelations of science I would be chiselling this essay into a stone tablet with a rock. So it is naturally important to me that the thirst for knowledge through science is something that must be preserved and inspired in our youth. If it isn't we sill slowly stagnate and never move forward. The world relies on scientists to fix things that we as humans have mindlessly destroyed, to come up with renewable energy sources, to formulate supplements and diets that will give us that washboard stomach, to create a light that is activated by

movement, so we can put it in our shoes so the soles light up when we dance. All of these things, be it menial or revolutionary, exist only because of investigative science and the minds of budding scientists.

Walking through that hall and seeing all those bright eyed hopeful young scientists waiting for my approval of their research was humbling. AT their age I was nowhere near their level of scientific curiosity. This gives me hope in our future generations and pride in their achievements. Being involved in something so inspiring was definitely a highlight of my last year as a student and just made me realise why I became obsessed with science in the first place. the greatest discoveries and advancements made all started in the same way, with a simple three letter word: "why?"



GOALS

GOAL A: INSPIRE

A Nation of students, parents, teachers, and the public inspired to engage in STEMI discovery and innovation.

OBJECTIVES

- Increase the awareness and importance of STEMI.
- Provide opportunities and resources for learning.
- Strengthen, expand, and enable communities of stakeholders.
- Directly engage PDI communities to engage in Research

GOAL B: DEVELOP

A future world-class STEMI workforce of talented scientists and engineers.

OBJECTIVES

- Identify future STEMI needs
- Increase the diversity of participants in STEMI programmes.
- Build a portfolio of STEMI programmes .
- Increase the number of universities involved in EXPO

GOAL C: ATTRACT

A scientific educational environment in EXPO that attracts and innovates world-class STEMI talent

OBJECTIVES

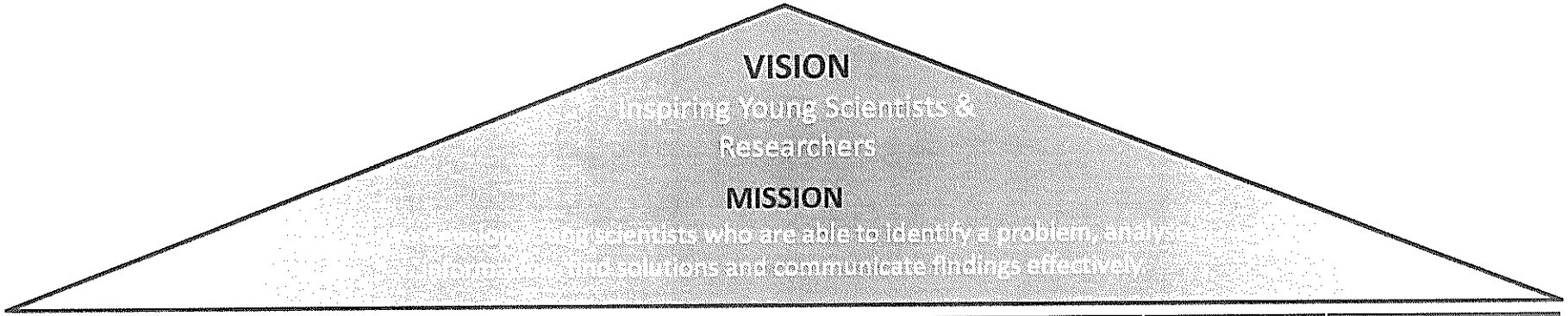
- Identify programmes and best practices
- Ensure a learning environment that attracts world-class STEMI talent.
- Promote the awareness of STEMI-relevant opportunities within SA.

GOAL D: DELIVER

A coordinated and collaborative set of EXPO STEMI initiatives that inspire and develop world-class STEMI talent

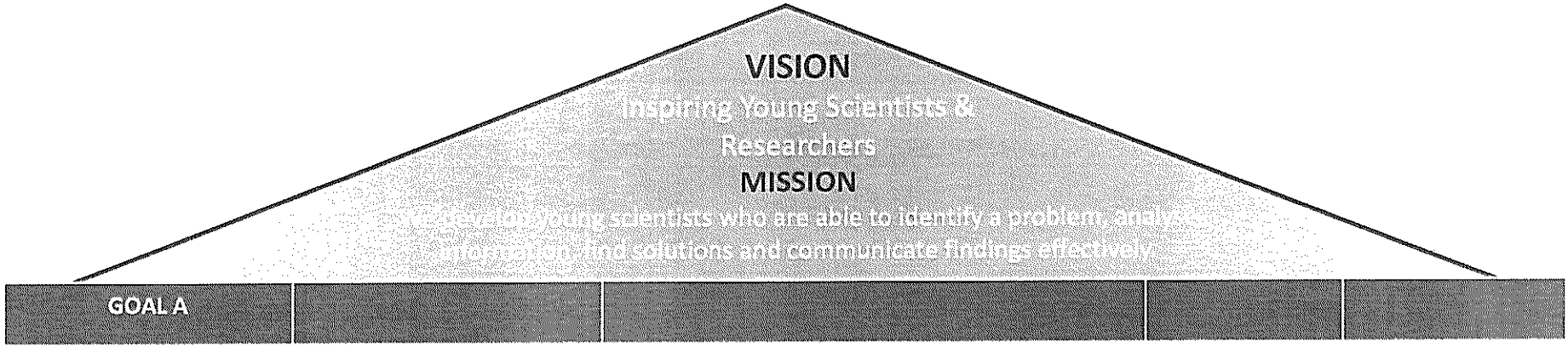
OBJECTIVES

- Develop a systematic approach to deliver STEMI education .
- Provide educational opportunities to learners.
- Provide accessible inventory of SACE accredited material for teachers.
- Implement a sound communication strategy

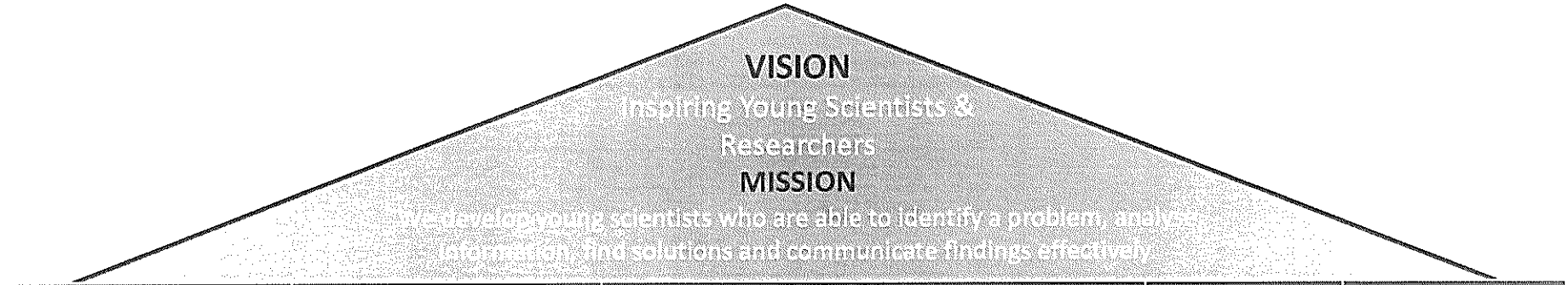


GOAL A				
INSPIRE A Nation of students, parents, teachers, and the public inspired to engage in STEMI discovery and innovation.				
OBJECTIVES	**ACTION**	**RESOURCES REQUIRED**	**TIME FRAMES**	**PERSON / COMPLETION**
A1: Increase the awareness and importance of STEMI.	• Circulating all information to the schools: Information Pack after Planning and Co-ordination meeting (DoBE, Eskom, and committee). • Science Centre displays and promotional material • Careers days (University and schools) • Information Advert (Local newspapers) Expo dates and contact person for information or website.	• Stationery Letter Heads and project booklets • Promotional material and banners • Promotional material and banners	• Quarter 1 • Quarter 1 • Quarter 1	

GOAL A				
INSPIRE				
A Nation of students, parents, teachers, and the public inspired to engage in STEMI discovery and innovation.				
OBJECTIVES	ACTION	RESOURCES REQUIRED	TIME FRAMES	PERSON / COMPLETION
A2:Provide opportunities and resources for learning.	• Teacher Training workshops • (GM & UDDI and Mentorship program) • TARGET: Minimum 3 training workshops. • 5 new junior schools • 5 new senior schools • (4 PDI and 1 other) • Follow up on going mentoring and school expo supervision. • (Committee to twin schools) • DoBE Subject advisors to assist with new school growth for District Expo. • Workshops: 3 Judges Training, 3 upgrade workshops	• Training material and CPD certificates for teachers • Mentorship communication of details timeously regarding people schools and workshop dates at least a month before actual dates. • PC to send monitoring progress reports on each mentored school and status . • Keep signed record of attendance of all workshops and data of all mini- and school Expos. • Training material Judges and ISF boards.	• Quarter1, 2, and 3	



GOAL A				
INSPIRE				
A Nation of students, parents, teachers, and the public inspired to engage in STEMI discovery and innovation.				
OBJECTIVES	ACTION	RESOURCES REQUIRED	TIME FRAMES	PERSON / COMPLETION
A3.Strengthen, expand, and enable communities of stakeholders.	• Align all strategies with National and University and DoBE. • Improve communication. • Strengthen ties with DoBE. • Present strategic plan to NMMU for possible bursary options (2-4).	• Information on al l strategies and flexibility of own strategy to adjust where necessary. • Information from DoBE and PC's.	• Quarter1, 2, and 3 • Quarter 1 or 2.	



GOAL A				

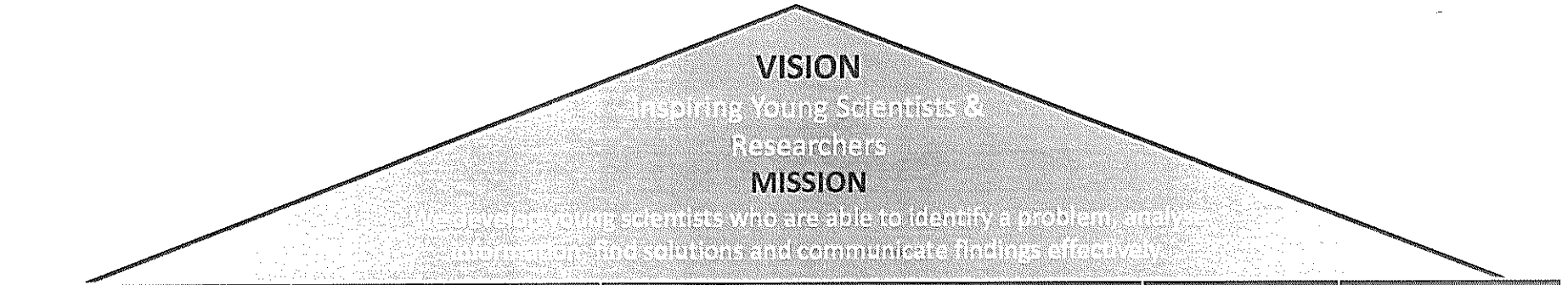
INSPIRE

A Nation of students, parents, teachers, and the public inspired to engage in STEMI discovery and innovation.

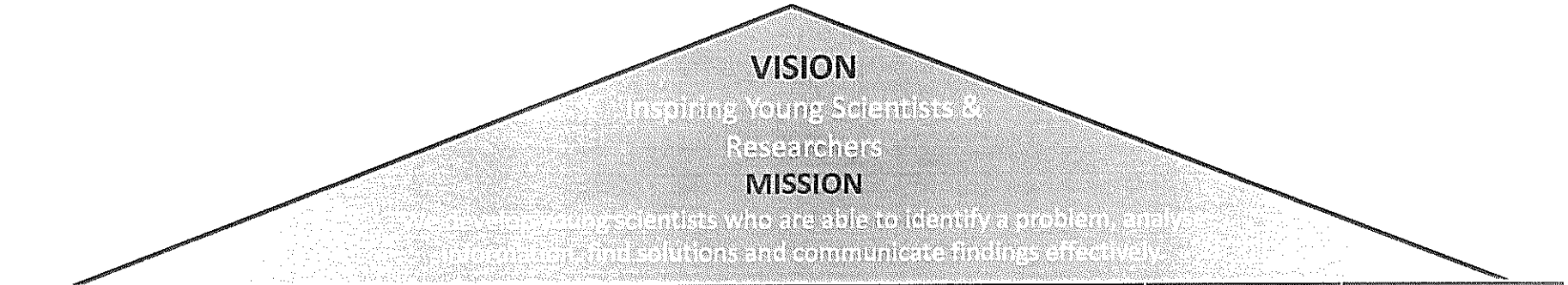
OBJECTIVES	ACTION	RESOURCES REQUIRED	TIME FRAMES	PERSON / COMPLETION
A4: Directly engage PDI communities to engage in Research	• Mentorship program • 5 new Senior schools • 5 new Junior schools • (4 PDI + 1other). HUB schools • Follow up of trained teachers in new schools driving Expo. Data base.	• Training material and CPD certificates for teachers • Mentorship communication of details timeously regarding people schools and workshop dates at least a month before actual dates. • PC to send monitoring progress reports on each mentored school and status . • Tracking records of educators previous experience in Expo.	• Quarter1, 2, and 3	

VISION

GOAL B				
DEVELOP A future world-class STEMI workforce of talented scientists and engineers.				
OBJECTIVES	ACTION	RESOURCES REQUIRED	TIME FRAMES	PERSON / COMPLETION
B1: Identify future STEMI needs B2: Increase the diversity of participants in STEMI programmes. B3:Build a portfolio of STEMI programmes. B4 Increase the number of universities involved in EXPO	• Alignment with University in the regions strategy plan and needs for future demands of STEMI students. Eg. Marine Sciences, Medical, Sustainability • Build and increase the number of PDI schools • Co-ordinate all Science programs in the region into a Science events newsletter. • Maybe a University Science Liaison person. More networking across regions.	• Close working with the Universities • (MOU). • Expand school expos (Science Clubs and Science events) for communities • Provide support for Science Clubs at schools. SCIENCE FUN CENTRES / HUBS Interactive Training and Support Centres. • Energy days, Science Weeks and Science displays of information in shopping malls. Interactive displays that inform the public of the importance of Science. • Science communication in newspapers.	• Quarter1, 2, and 3 • Long term • Long term goal	



GOAL C				
ATTRACT				
A scientific educational environment in EXPO that attracts and creates innovative world-class STEMI talent				
OBJECTIVES	ACTION	RESOURCES REQUIRED	TIME FRAMES	PERSON / COMPLETION
C1: Identify programmes and best practices	• Possible research tracking	• Time	• Quarter 3 and 4.	
C2: Ensure a learning environment that attracts world-class STEMI talent.	• Support and Science centres where resources and support is available. • Science HUBS	• Finances.	• Long term	
C3: Promote the awareness of STEMI-relevant opportunities within SA.	• Website of career opportunities • Career Expos • School marketing paralleled with Universities strategies. • Pro-actively identifying areas where growth is needed in respective regions.	• Website and information • Crafting agile strategies • Needs analysis	• Long term	



GOAL D				
DELIVER				
A coordinated and collaborative set of EXPO STEMI initiatives that inspire and develop world-class STEMI talent				
OBJECTIVES	ACTION	RESOURCES REQUIRED	TIME FRAMES	PERSON / COMPLETION
D1:Develop a systematic approach to deliver STEMI education . D2:Provide educational opportunities to learners. D3:Provide accessible inventory of SACE accredited material for teachers. D4:Implement a sound communication strategy	• Integrate strategies and alignment. • Possible bursaries as prizes from Universities • Website Teacher assistance and training site. • Science Training Hubs and SAARMSTE alignment. • Transparent communicate at all levels and information sharing	• Strategic planning • University discussions and appointments.	• Quarter1, 2, 3 and 4.	

Eskom

EXPO
FOR YOUNG SCIENTISTS

Est. 1980

Proudly sponsored by Eskom

DISCOVER YOUR FUTURE

35th International Science Fair
Programme

6 - 9 October 2015

Birchwood Hotel & Conference Centre

ESKOM EXPO VOLUNTEERS

Eskom Expo for Young Scientists would like to recognise with gratitude the judges, volunteers, teachers, parents, teachers and regional science fair directors who make Eskom Expo ISF possible year after year. The following individuals are recognised for their special dedication to ISF.

VOLUNTEERS

Vennessa Moodley
Saijen Chetty
Gaiden Chetty
Shaston Thaver
Clarise Pillay
Binu Phillip
Daryl Davie
Nathan Padiyachy
Nyallo Putsoane
Viloshnee Vandiyar
Vani Moodley
Verdad Mupezeni
Piedad Gugu Mupezeni
Melissa Wessels
Reece Banks
Shameer Felander
Maria Frederico
Staphnie Hung
Lytle Johnson
Maximillan Khoza
Mphosi Matete
Nick Ndhlovu
Mpho Mogwere
Lesedi Mokgatlha
Ayanda Nkomo
Nolwazi Nkwanyana
Nervin Ntsieng
Horoshi Poole
Khanyisile Rooi
Themba Skosana
Tebogo Tlou
Mohammed Vally
Morgwinn Whitlow
Nkosinathi Lekaba
Sam Nduzukula
Tshepho Fenyane
Keith Katyora
Rozina Mmoya
Kgosi Sebeela
Pamela Mukwesha

REGIONAL SCIENCE FAIR DIRECTORS

Ann Topp	Johannesburg Region
Awie Duvenage	Northern Gauteng Region
Mike Mynhardt	East Rand Region
Nicholas Bixa	Gauteng South Region
Elina Zitha	Ehlanzeni Region
Bettie Longland	Highveld Region
Dr. Fourten Khumalo	Nkangala Region
David Mhlongo	Bohlabela Region
Ndifelani Ernest Phalanndwa	Vhembe Region
Dr. Mokgoko Sebela	Capricorn Region
Phillip Mutshena	Mopani Region
Naum Masekwameng	Waterberg
Lydia Maputle	Potchefstroom Region
Patrick Mokgatle	Bophirima Central Region
Sello Matube	Bojanala Region
Johan Dreyer	Bethlehem Region
Willem du Buisson	Bloemfontein Region
Anina Nel	Welkom Region
Marguerite de Bruin	Kimberly Region
Marna van Zyl	Kalahari Region
Genevieve Willemse	Namaqua Region
Ursula Boys	West Coast Region
Marinei Bester	Eden Karoo
Erika Hoffman	Stellenbosch Region
Olga Peel	Cape Town Region
Marilyn Gibbs	Port Elizabeth Region
Anja Fourie	Gramhamstown Region
Allan Morran	East London Region
Nomaledi Mbambisa	Mthatha Region
Krishnie Naidoo	KwaZulu Natal Region
Gcobani Tshambula	Southern KZN Region
Jean Anderson	Northern KZN Region
Manzi Bheki	North Coast KZN Region

PROVINCIAL CORDINATORS

Nalini Dookie	KwaZulu Natal
Marna van Zyl	Northern Cape
Sure Mupezeni	Limpopo
Mmabatho Moloedi	North West
Dev Mamabolo	Gauteng
Neil Alexandra	Free State
Bailey Nkuna	Mpumalanga
Mfundo Madolo	Eastern Cape
Mada du Toit	Western Cap

ESKOM EXPO COMMITTEE MEMBERS

Eskom Expo thanks the dedicated committee members who have worked hard in preparation for Eskom Expo for Young Scientists International Science Fair (ISF) 2015.

INTERNATIONAL SCIENCE FAIR DIRECTOR

Priscilla Moodley

NATIONAL ORGANISERS

Parthy Chetty
Rancia Riba
Boipelo Mokgoje
Keshnee Moodley
John McArdle

SPECIAL JUDGING

Willem du Buisson
Neil Alexandra
Marguerite de Bruin

SITE MANAGEMENT

Melanie Moodley
Dakalo Mudimeli
Bheki Manzi
Moshomo Bashumi Consultants

PROJECT APPROVAL

Awie Duvenage
Krishnie Naidoo
Mada du Toit
Nalini Dookie
Mmabatho Moloedi

JUDGING

Olga Peel
Brian Cox
Fourten Khumalo
Sure Mupezeni
Marna van Zyl
Anina Nel
Mfundo Madolo
Annali Botha
Bailey Nkuna
Dev Mamabolo
Ken Nixon
Quinton de Vlamingh

INTERNATIONAL SELECTION/PRIZE GIVING

Jean Anderson
Ian Jandrell
Nomaledi Mbambisa
Marilyn Gibbs
Lydia Maputle

ESKOM

Busi Megale
Dorie Cook

MEDIA

Silindile Nyathikazi
Thoko Skhosana
JeVanne Gibbs
JeVanne Gibbs
Nwabisa Tyupu
Nomaswazi Shongwe

ESKOM EXPO FOR YOUNG SCIENTISTS
ANNUAL REPORT 2016
PORT ELIZABETH REGION

Executive summary

The year 2016 was a challenging one, in which we faced new problems but in the process also learnt a great deal. As the RSFD of the PE Regional committee, I would like to extend our sincere and grateful appreciation to the primary sponsor Eskom and the host Nelson Mandela Metropolitan University (NMMU) for their continued support. We extend our thanks and acknowledgement for your great contribution in growing all the sciences in the Nelson Mandela Bay Region, by supporting this event. By increasing the skills and innovative thinking at the lower end of the value chain, we are ensured of a sustainable and productive future in this area.

The learners all enjoy the vibrancy and energy of the Eskom Expo for Young Scientists and this is a valuable opportunity to discover beyond the classroom thinking and expand their minds to new horizons. Extension of thinking to the higher cognitive levels allows freedom of thinking which creates a ripple effect of new ideas and creative discovery learning. Opportunities in a wide range of categories of science allows the child to experience more than the narrow range of the different fields of science that are only covered in the curriculum. Expo up-skills their inquiry base thinking and problem based learning as well as teaching a framework for good investigative science methodology.

Our Junior expo has grown exponentially and provides learners of the lower grades an opportunity to showcase their work, as well as look at the exhibits of the other scientists in the senior grades. This excitement of sharing knowledge across different grades, cultures and ages also provides our learners with a respect for others and appreciaton of anothers perspective and outlook. We look forward to making the event more exciting with added side events including the Chemistry Show and Educators Academy, which were both added to the Expo this year.

Sponsorship and Financials

Our sponsors included Eskom, Nelson Mandela Metropolitan University, Department of Basic Education PE District Office, Department of Science and Technology, Delta and many schools and private sponsors. Attached please find the financial template and outline of the financials. We acknowledge the main sponsors Eskom and the Department of Education, for their funding as well as Delta, Settlers Primary and Lorraine Primary for extra transport funding.

The committee would like to extend a huge thank you to the PE Regional Department of Education especially to Mr Jeremy Sampson and Mrs Charmelle Swingley who organized our first large Departmental District Expo, which was attended by over 100 learners from various schools. Another thank you is to Mr Andre Schlemmer, organizer of the Settlers Primary Expo who also assisted with finances and ran a wonderful expo (Over 100) for a number of primary schools. Other schools running School Mini Expo's were Lorraine Primary, Grey Junior, St Georges College and Prep, Al Azhar, Nasruddin, Pearson (new school), and Kabega.

We successfully ran the Junior Expo (Grade 1-7) on Tuesday 23rd August and this year introduced a Chemistry Show presented by Dr Gletwyn Rubidge and Tarryn Swartbooi, NMMU, while the learners were setting up their projects. This was very well received and the young scientists were fully engaged and enjoyed the fun of the chemical reactions. The opening of the Junior Expo was done by Dr Tulsi Morar (standing in for Dr M. Moeng) from the Faculty of Education. The event took place in the NMMU Indoor Sports Centre. Here we would like to extend our thanks to Ms Krish Williamson and Mr Derek Hosche and their teams for their assistance. NMMU marketing department (Jo-Ann Daniels and Pieter Botha) also provided support and an Educators Academy was run concurrently with the Expo in the adjacent VIP room. A large number of Faculty of Education trainee teachers volunteered to assist and were trained in the judges workshops. Each received a certificate after judging at the Regional Expo and a comprehensive data base has been established for our team of judges. The CPD points and the professional development of these teachers, is starting to gain momentum. By word of mouth, many students are wanting to join in the Expo team and assist. We completed 5 judges training workshops with over 50 new judges being trained, mostly education students.

Over the year, I must make special mention of the invaluable support that was provided to me by Mrs Tracey Wood,Ms Kerry Botha and Mr Andre Schlemmer. I would also like to sincerely thank the Headmaster at Pearson High School, and the Headmaster at Grey Junior for so willingly allowing us to utilise their school Halls at the last minute. This was incredible as it saved the Expo. Due to student protests and campus lock-out we were forced to find an alternate venue for the Senior Expo. Contingency plans were made by phoning over 50 schools. Mr Wayne Brazier of Pearson, one of my previous PGCE students suggested using the school hall and it was miraculous how it all just came together with many people assisting in every task. The NMMU students especially the PGCE team from the Education Faculty were exemplary and took teacher leadership to a new level.

Shifting of the venue also required moving all the display boards and this proved a challenge with help coming from Settlers Primary with their bakkie. All in all a tense, exhausting yet fulfilling Senior event which I can only credit to God and all the team, as it was a case of really letting go and trusting that somehow it would work out. The Senior Expo was held on the Wednesday 24th August at the Pearson High School in Summerstrand and ran well, considering the circumstances. Eskom regional officials arrived at the event and assisted with the Eskom judging and awards. We were very grateful to welcome them there and look forward to their assistance in the future. Contingency plans will be in place for 2017.

Prize giving also had to be shifted to the Grey Junior School and this also required change in communication. Lessons learnt were that we would not have managed without the cell phone, but better use of social media may be a route needed in future, as clear communication to all, in changing situations is critical. We were grateful that we managed to have the event as at one stage, we wondered if our senior Expo would take place. We bought a number of techno prizes (Flashdrives, hard drives, headphones) this year as it seems quite a motivator for many of the learners, as well as a number of Science book prizes.
Senior Expo: 110 projects 124 learners with 96 Individual and 14 group projects
Junior Expo: 242 projects 303 learners with 181 individual and 61 group projects

Workshops

Information workshops were conducted were held at various schools and with training teachers.

The mentor training session (Mr Mfundo Madodo) was held with three mentors at the Department of Education. This program didn't work as well as it should as the support was not given to the mentors. As I was completing my Doctorate, it was not easy for me to assist them as well.

Many workshops were held over the year.

- Teacher training workshops: (approx 50 teachers)
- Learners Awareness at schools with Information packs (Over 200 packs were delivered)
- Judges Workshops (7 workshops at various times: 5 with students teachers and others held at NMMU Faculty of Education Science lab.
- Upgrade workshop between Regional and ISF (28 learners)

We ran a number of judges/teacher training workshops. 20th, 22nd , 27th , 29th July and 4th August. These workshops were conducted mainly by Marilyn with Tracey and Charmelle assisting with one or two. Attendance of very good at these workshops and we increased our number of student judges in 2016.

The District Expo was held on the 4 August at Young Park School and was attended by over 100 learners, organized by Mr Jeremy Sampson and Ms Charmelle Swingley. Book prizes were purchased with the expo budget for this event as well as for the Maths Olympiad. The Uitenhage UDI science expo was held on 10th August (Mr Chris McCartney) and the Settlers Primary Expo was held on the 11th and 12th August at Settlers Primary school (Mr Andre Schlemmer).

Ms Kerry Botha ran a Delta sponsored project with a few schools and personally coached a number of High school learners with their Science projects and they all did really well. This showed the importance of a skilled coach with a good base of scientific method, to assit these young scientists.

Regional Expo Stats

DESCRIPTION	NUMBER	COMMENTS
Projects	352	Increased Juniors
Participants	427	
Females	208	
Males	183	
Primary participants	303	
Secondary participants	124	
TOTAL number of Schools		
Quintile 1	16	
Quintile 2		
Quintile 3		
Quintile 4	25	
Quintile 5		
Private	3	
TOTAL number of District expos	(number of proects)	1 District DoBE(103)
Number of schools	Grey Junior (120)	Lorraine (128);
Number of learners	St Georges (120)	NMB Science Centre (12)
Number of learners	Nasruddin (100)	Al Azhar (120)
(Estimates)	Settlers (100)	EVENT REPORTS not all in but those received attached.

HIGHLIGHTS

- Important highlights were the new events introduced to the Regional Expo ie. The Educators Academy and the Chemistry Show.
- The expansion of interest by Faculty of Education teachers FP. IP and FET phases in assisting with the event was encouraging. The light supper after the Junior Expo was well attended and enjoyed by all of the Expo team. The friendship and teamwork of everyone was a wonderful experience and many were already asking if they could be involved in the event for 2017.
- The Website worked efficiently for registration. We are hoping to get our judges registration also on the same website. We need a person on the committee to manage the website and updating of the site.
- The Department of Education PE District ran a really good District Expo at Young Park School which ran very well. This can be grown and used as a wonderful formative Expo for new schools. We thank Mr Jeremy Sampson and Ms Charmelle Swingly for their hard work in establishing this new event on the calendar.
- Educator academy ran very well (Junior day) and Chemistry Show was well received.
- ISF team overall performed well and Rafael was been selected for an African International Science Fair. We are very proud of our PE Regional Team.

LOWLIGHTS

- Challenges included the safety aspect as the University was experiencing protests and shut downs. Changing the entire event to a new venue at the last minute proved large logistic stretch. Contingency plans will be in place with alternate venues for 2017.
- Costs and finances were a problem as air travel cost the team close to R70 000 and that left only R12 000 to run the Expo. Catering alone along with the new Educator Academy, cost R30 000 with lunch packs for the learners.
- Mentor progam was not as successful, as it should have been. Little communication was evident between the EC PC and the District and most of the additional work was carried out by my committee and myself.

International Science Fair (ISF)

The International ISF was a wonderful experience and the Ethics ran well with very few problems. The PE team loved every minute of it from the musical instrument evening to the prize giving. We were pleased with our performance at ISF and achieved
Many thanks to Eskom, Do BE, Intel and NMMU as well as all sponsors involved at ISF, we are very grateful for this unique opportunity for our young scientists from this region.
The Expo Committee must be congratulated on a wonderful event with so many prestigious prizes and entertainment

Marketing/Media

- NMMU Marketing Department supported this event.
- Little media reporting as the University Fees Must Fall overshadowed the Expo.
- We look forward to 2017 expanding our website profile and using social media as a marketing tool.

International participation We had one learner Rafael Sapere interviewed/selected for an International Science Fair out of the country and we are proud to announce that he has been selected for an African International Science Fair for 2017. Congartulations, Rafael.

Conclusion

We truly thank all the people who have made major contributions to our region in 2016 and strive to create even more positive growth of the innovative thinkers and young scientists.

Yours in Science

MARILYN GIBBS
PE REGIONAL SCIENCE FAIR DIRECTOR 2015

Appendix A: Photographs

PE/UITENHAGE REGION ISF 2016

Appendix B: Strategic Goals

Our strategic goals as the NMB PE Region are the following:

GOAL 1: Inspire all communities in awareness and importance of STEMI (INSPIRE)

Expansion to new schools and collaboration with NMMU Marketing Department and Faculty of Science as well as other stakeholders and industries.

GOAL 2: Involve the University (NMMU) more in the Expo (DEVELOP)

With the new Marine Sciences and Medical Faculties being established at the University in the future, we need to create an interest in these topics. This will provide a pool of learners who have a passion to study in these areas, thereby making training and jobs sustainable in these focus areas. By leveraging these focus areas we will assist the University in gaining students interested in studying in these areas.

GOAL 3: Identify best practices that work and reward or recognise schools or educators (ATTRACT)

We would like to introduce award badges for recognition or ties for educators that serve Expo as a Regional judge over more than 5 years. Eskom Expo Guides or Leaders.

GOAL 4: Provide better systems of accountability and data to the sponsors so that they know there money is cost effectively invested. (DELIVER).

We would like to design better operational systems that allow the process of event managing the Expo to be effective and accountable with good data collection and tracking. This along with a good communication strategy and process could ensure better run and higher quality Expo's. These four goals are in alignment with the National Expo Strategy of Eskom Expo for Young Scientists.

Appendix C: Financial Report and Budget (Attached)
Year Plan (To be sent later this week)

ESKOM EXPO FOR YOUNG SCIENTISTS FINANCIAL REPORT

NAME OF REGION : PE REGION

FINANCIAL REPORT 01 JANUARY 2016 TO 31 DECEMBER 2016

		January to March	April to June	July to September	October to December	Total
OPENING BALANCE		139,98	121,08	82 837,05	6 267,56	139,98
INCOME						
Registration fees						
	Regional expo fees			5 430,00		5 430,00
	National expo fees					
Subsidy : National office			82 843,00			82 843,00
Sponsors				180,00		180,00
Loan- M Gibbs				5 000,00		5 000,00
Lorriane Primary Group Sponsor IS Flights				5 000,00		5 000,00
GMSA Foundation				8 900,08		8 900,08
Loan Sellaars park				15 000,00		15 000,00
Interest received			46,02	115,68	4,23	165,93
Total Income		-	82 889,02	39 625,76	4,23	122 519,01
EXPENDITURE						
ISF Expenses						
	ISF Accomodation					
	ISF travel - Flight			69 360,09		69 360,09
Regional expenses						
	Management fee	18,90	37,80		186,70	243,40
	Bank charges			39,25		39,25
	Payment of loan					
	Courier & Postage					
	Meals			402,50		402,50
	Printing and Stationary		135,25	2 392,41		2 527,66
	Prizes and awards					
	Rental - storage					
	Other book awards District			8 020,15		8 020,15
	Learner packs Edu Academy Judges eats / drinks			30 230,00		30 230,00
	Workshop eats					
	NMMU NORTH CAMPUS			5 750,85		5 750,85
Total expenses		18,90	173,05	116 195,25	186,70	116 573,90
Closing balance		121,08	82 837,05	6 267,56	6 085,09	6 085,09

Loans outstanding	
Loan- M Gibbs	5 000,00
Loan Sellaars park	15 000,00
Total loans Payable	20 000,00

RJFD. 16/2/2016.

Checked by an accountant/Bridgette - Shaun.

BUDGET 2017.

ESKOM EXPO FOR YOUNG SCIENTISTS		
NAME OF REGION:		
BUDGET 2017		
	JANUARY 2017 - DECEMBER 2017	
INCOME		
Registration Fees		-
Regional Expo Entries		5 000,00
National Expo Entries	DoE sponsored	
Subsidy: National Office 82 000.00 + LOANS c/o from 2016 20.000		102 000,00
Other Sponsors - specify	Delta sponsor for 4 learners	10 000.00
Other Sponsors - NMMU all venues		
Other Sponsors - specify		
Other Sponsors - specify		
Interest Received		-
Total Income		**1170 00.00**
EXPENDITURE		
ISF Expenses		-
ISF Accomodation	Department of Education Sponsored	
ISF Collateral		
ISF Meals		
ISF Registration		
ISF Travel - Flight	Flight for 20 learners @R2500 =	50 000.00
ISF Travel - Road		
Regional Expenses		-
Advertising & Promotions		
Bank Charges and bank management fees		300,00
Casual Labour		
Computer Expenses		
Collateral		
Courier & Postage		
Gifts - Committee		
Meals (All Meals) committee		400,00
Printing & Stationery		2 600,00
Prizes and Awards and Book prizes (District)		5 000,00
Rental - Storage		
Telephone & Other Communication Cost		
Travel		
Venue - Regional Expo		
Venue - District Expo & Workshop		
Other-Security NMMU North Campus		5 800,00
Other-Learner food packs and Expo eats for judges		30 000,00
Other- LOANS to pay back R20 000		20 000,00
Other- specify		
Other- specify		
Other- specify		
Other- specify		
TOTAL EXPENSES		**117 100,00**

Quarterly Report-January – March 2015
PE Regional Eskom Expo for Young Scientists:
Marilyn Gibbs

We feel very positive after the Bosberaad which was held in January that the Regional Expo will run successfully as we have a administrative assistant and also some mentorship programs. Both these interventions will positively affect the outcomes in the region and we look forward to a happy and productive 2016. We are very grateful to the Board for these decisions and look forward to establishing a better two way communication process amongst the whole Expo team.

Exec Summary:
In January – March we focused on the following:

- **Committee meetings:** Our first introductory meeting was held on the 20th January and the second on the 23rd February. The agendas of these are attached and the booklets provided by Eskom were valuable. The minutes of 23/02 are attached.
- **Financial:** As we are aware of strict budgeting we have only spent money on tea and coffee and muffins for our tea committee meetings (JAN and FEB) so the amount spent is only R262.50 X 2 = R525.00, which I personally have paid for. We will be using the financial reporting as supplied by National Office. See attached financial report.
- **Mentor Training Session at the Department of Education January 2016:** We (Charmelle (Department of Education representative) and myself , along with Priscila attended the Mentor Training session by the EC PC (Mfundo Madodo) which was attended by three mentors and ran successfully. We do have a number of additional students who are interested in being involved but as the notification letter came in November 2015 and the names were due in early January, it was difficult for us to contact our experienced student judges and helpers, as they were on holiday until February. We as a committee feel very positive about this program but would like to see many more education students that already have been involved previously, as judges in their second and third year becoming these mentors. However now that we know about the program we can identify prospective students for 2017.

Achievements:

- Regional committee expanded and portfolio's allocated.
- Good liaison with the new Dean of Faculty of Education and NMMU regarding an Educators Academy (run concurrently with the Expo (Junior and Senior educators) and a possibility of registering the participating Expo education students in the Co-curricular activity program of the University, which gives the student's recognition for community engagement.

Highlights

- **Educators Academy**
  A liaison with Prof Andre Du Plessis and Dr Elsa Lombard has resulted in creating an Educators Academy which the Faculty of Education will run concurrently on the two days that the Expo is being held in the VIP room alongside the Judges Area. The junior educators will be run on the one day and the Senior Educator will be run on the other, concurrently with the Expo. Actual sessions are still being finalized but we will only accept up to a maximum of 40-50 educators. We

hope that Eskom Expo will be able to provide EEFYS folders and pens for this side event. Sponsorship for eats will from NMMU.

- **International Upgrading of projects:** It was really good to attend the upgrading of the ISWEEP and other ISF projects in Johannesburg and meet the International Teams.

Challenges

- **Teacher Training:** We have not received any training material as yet, so have not undertaken any training sessions at this point but will be scheduling out judges training for early in the 3rd term with both the school teachers and the education university students.

- **Website:** We are at present updating the website but it requires all the latest documents for the Regional and ISF to put on our website.

Plans

- Website: Expansion ideas are in progress regarding our website.
- Achieve a better communication with all the Expo teams especially in the Ec.
- Work closely with the District Education department and increase our PDI school participation
- Try and establish an even larger base of education student teachers from both IP and GET, FET phases that participate in Expo so that they can drive it in the new schools that have not previously participated.
- Draft a marketing strategy that extends in a wider area of schools.

Thank you to Eskom expo for Young Scientists

We look forward to a successful 2016 and I would like to personally thank the Board for the wonderful opportunity of travelling to the ISWEEP International Science Fair, which is for me a great honour and my first trip to USA. As I have a great passion for science research, it is so exciting for me to attend my first overseas science fair as I have only seen them on the internet. Thank you sincerely for the opportunity.

Yours in Science

Marilyn Gibbs

EXPO WORKSHOP EVENT REPORT 2017

Please complete this form and return to the Regional Science Fair Director two days after the workshop was held.

Expo Region	
Name of Workshop Coordinator	
Venue of Expo workshop	
Date of Expo workshop	

For quintile information please go to:
http://www.education.gov.za/EMIS/EMISDownloads/tabid/466/Default.aspx

Section	Number
1. Type of workshop eg Educator Academy, judges workshop	
2. Total number of schools sending learners to the workshop	
Number of MST schools	
Number of Quintile 1 schools	
Number of Quintile 2 schools	
Number of Quintile 3 schools	
Number of Quintile 4 schools	
Number of Quintile 5 (including independent) schools	
Number of new independent schools	
Number of new state schools	
Number of no-show schools	
3. Total number of participants entered	
Number of female participants entered	
Number of male participants entered	
Number of no-show participants	
Number of primary school female participants	
Number of primary school male participants	
Number of secondary school female participants	
Number of secondary school male participants	
Number of black female participants	
Number of black male participants	
Number of disabled participants	
4. Number of presenters	
5. Number of committee members	
6. Number of judges	
7. Number of other volunteers	
Comments:	

DOC 2.

INTERNATIONAL SCIENCE FAIR (ISF)
PRELIMINARY PROGRAMME 2015

TUESDAY 6 OCTOBER

10:00 – 17:00	Registration (Delegation Leaders only)
10:00 – 17:00	Project setup (Finalists and delegation leaders only)
10:00 – 18:30	Project approval
16:45 – 17:15	Judges Registration
18:00 – 19:00	Dinner for finalists, delegation leaders, judges and committee
19:00	Accommodation registration – venue to be confirmed
19:15 – 22:00	Pre-judging (No finalists in the exhibition hall during prejudging)

WEDNESDAY 7 OCTOBER

07:00 – 08:30	Breakfast for officials
07:30 – 07:45	Conveners meet judges
08:00 – 10:45	Pre- Judging continues (No finalists in the exhibition hall during prejudging)
08:30 – 10:30	Workshops for finalists- O R Tambo Exhibition Hall and Auditorium
09:00 – 10:00	Delegation leaders meeting
11:00 – 11:15	Official opening in O R Tambo Exhibition Hall
11:15 – 13:00	Interviews – Session 1 – special awards judging (separate set of judges)
13:00 – 13:45	Lunch for finalists, judges, and officials
14:00 – 17:30	Interviews – Session 2 – special awards judging (separate set of judges)
17:00 – 18:45	Judges and conveners meet to finalise results (deadline 19:15)
19:00	Cocktail for judges, officials and VIP's
18:00 – 19:30	Dinner for finalists
20:00	Briefing for International Selection Panel
20:00 – 22:30	Q & A with Eskom Expo Alumni Entertainment - O R Tambo Exhibition Hall

THURSDAY 8 OCTOBER

06:30 – 08:30	Breakfast for officials
07:30 – 08:30	Briefing for International Selection Panel
09:00 – 12:00	Viewing of projects – Only for Ministers and special invited guests (All finalists to be at projects) Judging - Special awards and international selection
09:00 – 12:00	International selection - Session 1
12:30 – 13:30	Lunch for invited guests and finalists
13:30 - 17:00	Expo open to the public
13:30 – 15:00	International selection - Session 2
17:30 - 18:30	Dinner for finalists, officials and VIP's
19:00	Special awards ceremony and Launch of the Eskom Expo history book O R Tambo Exhibition Hall

FRIDAY 9 OCTOBER

08:00 – 09:00	Viewing of projects - Only for Ministers and special invited guests
09:10 – 12:00	Prize Giving Ceremony - O R Tambo Exhibition Hall
12:00 – 12:30	Dismantling of projects
12:30	Lunch for invited guests and finalists

TIME LINE FOR THE YEAR

This calendar should be set up in October of the previous year and sent out to schools in November for planning purposes. Please add your dates to the calendar.

Information is colour-coded as follows RSFD COMMITTEE NB DATES SCHOOLS JUDGES & ETHICS COMMITTEE.

2016 FIRST QUARTER TIME-LINE

	JANUARY		FEBRUARY		MARCH
1		1		1	
2		2		2	
3		3		3	
4		4		4	
5		5		5	Workshop follow up 2
6		6	Closing date for workshop	6	
7		7		7	
8		8		8	
9		9	International students entries uploaded	9	International students upgrade
10		10	Press release about workshop	10	
11		11		11	
12	Information sent out to schools	12	Judges and ethics coordinators prepare short talk for workshop	12	
13		13		13	
14		14	Teacher-learner workshop 1	14	
15		15		15	
16	Committee meeting	16	2nd call for sponsorship	16	
17		17		17	Workshop follow up 3
18		18		18	
19	Finalise venue arrangements for Regional Expo	19		19	
20	First letter to judges to go out	20		20	Committee meeting - portfolio update
21		21	Teacher-learner workshop 2	21	
22		22		22	
23		23	Workshop follow up 1	23	
24		24		24	
25		25		25	
26	Teacher- learner workshop invitations sent out	26		26	
27		27	Financial statement to RSFD	27	**Write quarterly report**
28	Financial statement to RSFD	28		28	
29	**Bosberaad**	29		29	
30	**Bosberaad**			30	Call for District Expo mentors and ethics comm. 1
31	**Bosberaad**			31	Financial statement to RSFD

2016 THIRD QUARTER TIME-LINE

	JULY	AUGUST	SEPTEMBER
1		1	1
2		2	2 **ISF entries uploaded before deadline**
3	Site manager to finalise booking of tables, chairs tablecloths, AV, security, First Aid.	3 Finalise ISF documents	3
4		4 Press release on Regional Expo	4
5		5	5
6	Call for Regional Expo judges and ethics comm. 3	6	6
7		7 Preparation afternoon for Expo – participants get help with preparation of their projects	7 Check finalist information from national
8	**Read all ISF emails from Priscilla**	8 Close judge and ethics comm. applications	8
9		9	9
10	Committee meeting – finalise arrangements for Regional Expo	10 Site manager draws up floor plan for Regional Expo	10
11		11 Programme to printers	11 Committee meeting
12		12 Print participation certificates and name tags	12
13	Invite guest speakers for opening & prize giving ceremonies	13 Running order for ceremonies finalised	13
14		14	14
15		15 Buy snack pack items	15
16		16 Allocate conveners and judges to categories	16
17		17	17
18		18 Participating schools get final info on Expo	18
19		19 Pack for Expo	19
20	Deadline for Regional Expo entries	20 Fetch programmes	20
21	Participating schools get further info on Expo	21 **REGIONAL EXPO? Take in all finalist abstracts and research plans**	21
22	Sort out entries and send info to judge and ethics coordinators	22 Call for mentors and ethics comm. for **finalist** upgrade	22
23		23 Results on website	23
24		24 Thanks to judges and sponsors	24
25		25 Send out survey to schools	25 **Write quarterly report**
26		26 Send out survey to judges	26
27		27 Mentors/ethics comm. receive upgrade information	27
28		28 **Finalist upgrade**	28
29	Financial statement to RSFD	Thanks to mentors ethics etc	29 Financial statement to RSFD
30		29 Financial statement to RSFD	30
31		30	31

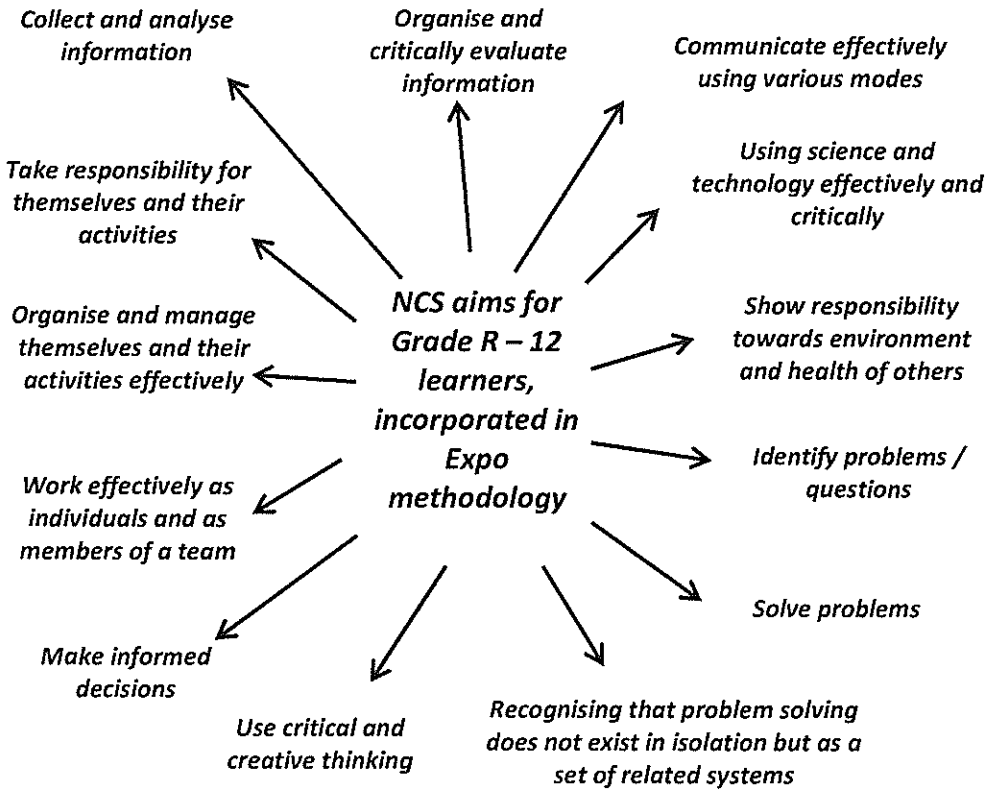
ESKOM EXPO FOR YOUNG SCIENTISTS 2016 ISF TEAM

PE/UITENHAGE REGION RSFD: M. GIBBS

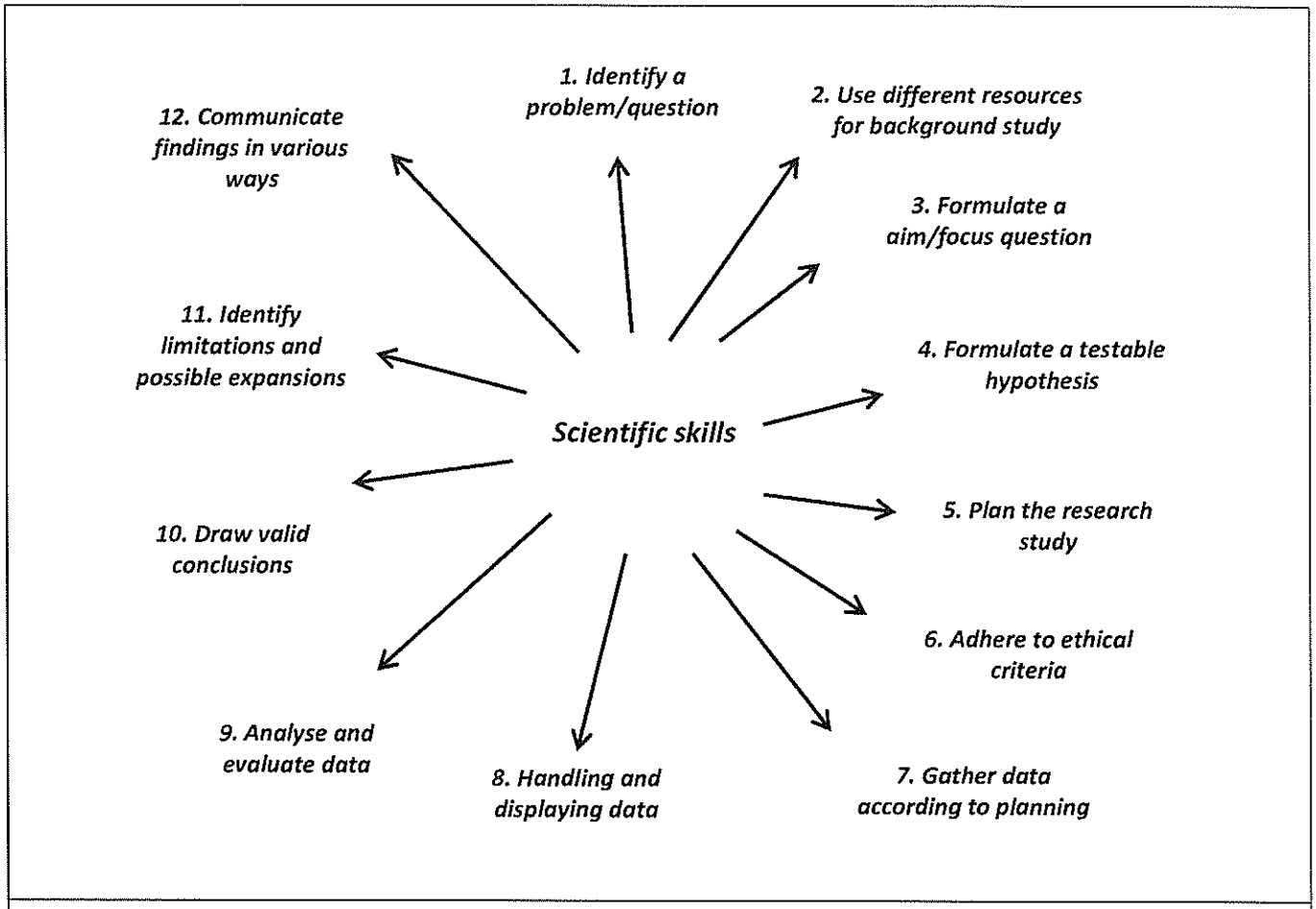
	Name	School	Grade	Project
1.	Daniel Holmes	Grey Junior	6	Salt Water Lamp
2.	Tyler Horrmann	Grey Junior	6	Sunny 4X4
3.	Louis de Beer	Theodor Herzl	6	Influence of metal thickness on the pattern formations caused by sound waves
4.	Ethan John	Grey Junior	6	This is .....aspartame
5.	Jak Nel	Grey Junior	6	Angora goats for profit
6.	Shani Nel Lize Viljoen	Lorraine Primary	7	Zap the Tap
7.	Babalwa Kefile Sinesipho Chaza	Little Flower	7	Energy efficiency
8.	Wehan Smith Cornel Louw	Lorraine Primary	7	What colour are coastal birds most attracted to?
9.	Rafael Sapere	Pearson High	8	Grounded Volts
10.	Caroline Boschoff	Cape Recife	8	Assistive devices
11.	Twane Anderson	Framesby	9	Isondloafrica
12.	Luzuko Nyambayo Asemahle Skenjana	Strelitzia HS	9	Recycling for Heat
13.	Ahuma Ngwalangwala	Alexander HS	9	H2O or O2H
14.	Aphiwa Kahla	Entembeni High	9	Teenage BP & HR
15.	Alice Magwiroto Ivethe Ndayikeze	St James	11	Desalination using filters
16.	Ronnie Oelofson	Nico Malan	11	Gremlins of the fynbos – just add fire!
17.	Cyle Smith	HS McClachlan	11	DIY Aquaponics vs Soilgrown vegetables
18.	Karla Muller	Framesby	11	Guardian Angel
19.	Carla de Klerk	Pearson	11	Music Therapy, Alzheimers remedy
20.	Abongile Ngcosholo	Nzondilelo HS	11	Getting a signal when your car is stolen?
21.	Zander Oosthuizen	St Georges College	11	Dancing Bacteria

THE ROLE EXPO PROJECTS PLAY IN TEACHING THE SKILLS AS REQUIRED FROM THE NCS

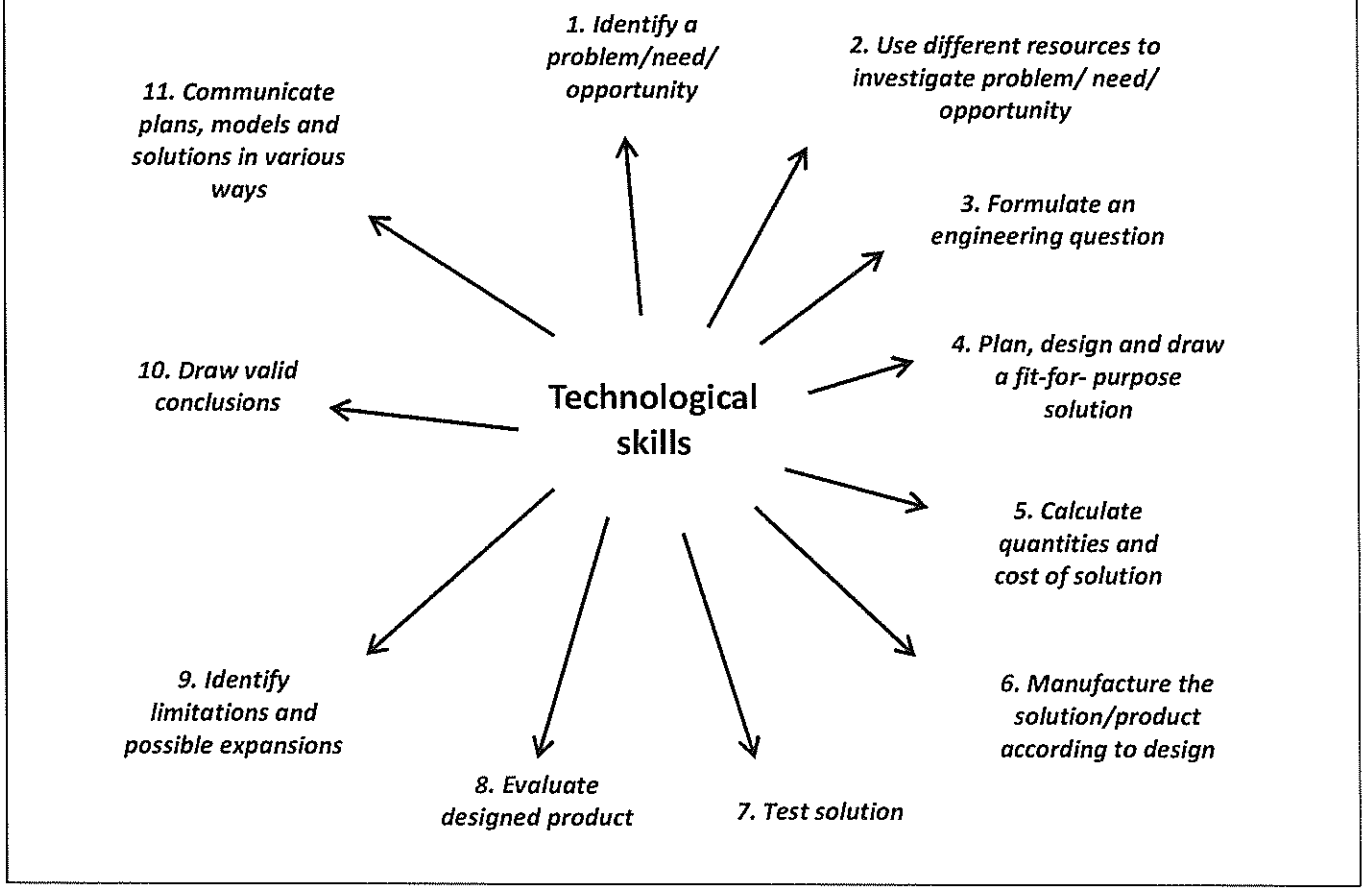
Skills that the NCS has at aim and which are also developed by Expo participation



Skills developed by following the scientific method – requirements of CAPS and Expo



Skills developed by following the technology process – requirements of CAPS and Expo



ADVANTAGES OF USING EXPO PROJECTS IN TEACHING THE COMPULSORY CAPS PROJECT

Advantages for the educator and school

- The advantage doubles when compulsory CAPS project (4th to 1st term) is combined with Expo participation
- Learners are more enthusiastic about research when they choose their own topic
- Assessment in steps with due dates lessens stress for educators and learners
- Quality of learners' research projects improve
- Passion and enthusiasm of the teacher for the subject increases
- Involvement of learners in their own learning lessens discipline problems
- Educators become mentors of learners and their own knowledge expands
- Assessment of projects at school and regional competition lead to professional growth of educators
- Expo participation can be a positive marketing tool for schools

Advantages for the learner

- Interest in science and technology increases
- Knowledge and skills increase
- Critical, problem solving skills are developed
- Learners experience the scientific method and technological process in action
- Growth in responsibility and self-confidence
- Possible start of a career path
- Stand a chance to be selected for regional exhibition and national participation

HOW WILL THE CPTD MANAGEMENT SYSTEM HELP TEACHERS TO DEVELOP?

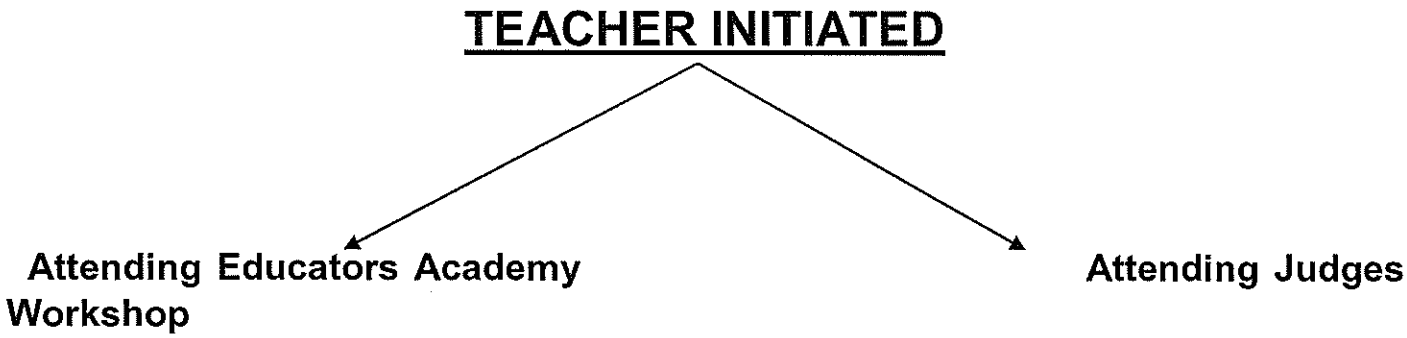
The CPTD Management System will encourage and recognise:

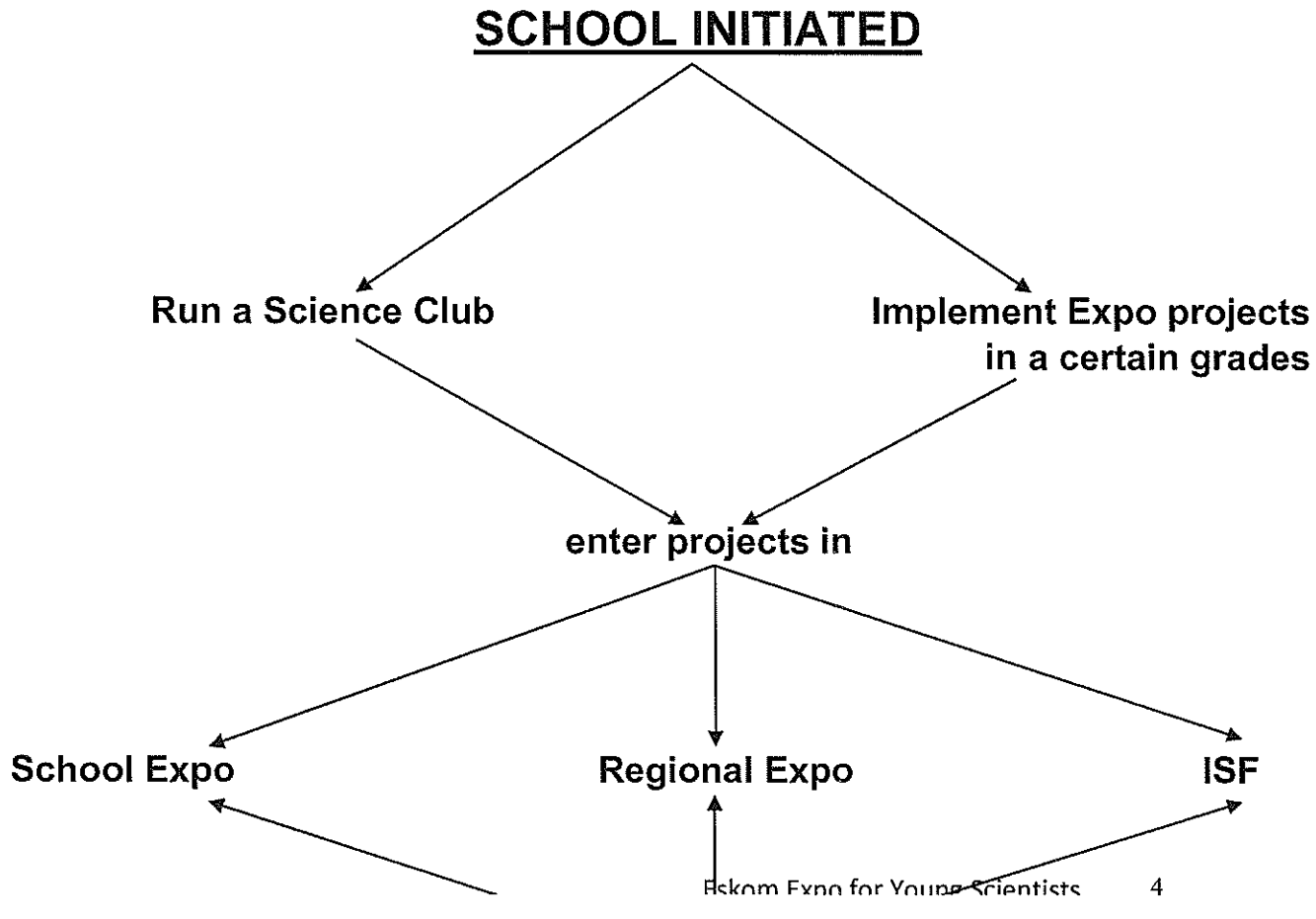
- What teachers do on their own to develop themselves and improve learning;
- What teachers do as part of the school collective to develop themselves and improve teaching, learning, assessment and service to the community; and

- What teachers do to develop themselves and improve teaching, learning, assessment and service to the community by taking advantage of good quality services provided by employers, unions, professional association and others.

(The CPTD Management System Handbook)

HOW TO OBTAIN PD POINTS WHEN USING EXPO PROJECTS IN TEACHING AND OFFER THE STUDENTS THE OPPORTUNITY TO TAKE PART IN ESKOM EXPO FOR YOUNG SCIENTISTS COMPETITIONS





Eskom
EXPO
FOR YOUNG SCIENTISTS
Est. 1980

Dear ISF team: PE /UITENHAGE REGION

Congratulations on being selected for the PE/Uitenhage Regional Team to represent the Eastern Cape at the International Science Fair. Remember that to even attend the ISF is a great achievement so if you/we win any awards, medals or prizes at the event, it is an added bonus. The following must be completed for the event:

- Indemnity Form and Binding agreement (all forms as previous letter)
- A4 presentation for the poster board (can be laminated) PLEASE ensure all photographs, tables and graphs are properly labelled. TITLE must be exactly as you have registered.
- **A. Project File (Neat work & research) and B. Critical Information Folder with**
- Research plan (signed by teacher) and signed copy of plagiarism form
- Copy of your Abstract (ALSO ONE COPY FOR THE Plastic frame displayed) and extra copies if you want to make copies to hand out to the public)
- If applicable a letter from a scientist/ psychologist/Vet /Microbiologist/ consent form that they supervised your work
- Letters for utilisation of permission to use photographs
- **C. Data/ Journal All data and rough work (preferably dated)**
- Prestik to put up your display ONLY PRESTIK is allowed with no spray or painting on the board.
- Try and lay out your display at home on the floor with the board measurements and take a cell phone photo then it is very easy to set up when you get there.

Display boards are provided at the ISF (Dimensions 1m height and middle panel 1.5 m with side panels 50 cm each).

Presentations **MUST BE EITHER PORTRAIT OR LANDSCAPE** and not a mixture. PLEASE ensure that this is done. Table length is 1.5 m and 0.75 m wide and table cloths are provided for each project.

No working models or demonstrations will be allowed on the floor (or they will be removed by the ethics committee) Engineering projects with a small prototype will be allowed on the table.

PLEASE ENSURE that there are NO BRANDING, trademarks, copyright and ethics infringements as they must be sorted out prior to ISF2016.

If any finalist has applied for patency they need to display it on their board "Patent pending"

Any research or experiment on potentially hazardous biological agents, animal or human subjects should be done under the supervision of a qualified scientist, doctor or laboratory. A signed letter from the qualified person will be required and must be displayed on the file.

PLEASE TRAVEL WITH a CERTIFIED COPY OF YOUR ID OR BIRTH CERTIFICATE

FLIGHTS TO JOHNNESBURG and RETURN TO PORT ELIZABETH

Travelling Mango Flight JE 534 TUESDAY OCTOBER 4th Dep 08:40 Arr 10:20

Flight JE 541 FRIDAY OCTOBER 7th Dep 16:00 Arr 17:45

Please be at the airport by 7:30 so that we can have a few group team photographs.

Pack lightly as you will need space for your project. Bring some pocket money for cold drinks and for your lunch on Tuesday at the Wimpy. All other meals will be provided.

If you bring your cell phone PLEASE remember that we cannot accept responsibility for the loss thereof, so please keep ALL your laptops, cell phones and valuables near you at all times. Remember your Delegation Leaders Mrs Tracey Woods is there to help you so please ask for assistance at any time and we will gladly help. You will have our team members cell phone at all times so if you need to contact us you may call us at any time. The Delegation Leader will be with the team at all times.

Curfew for Bedtime will be **LATEST 22:00 for JUNIORS and 23:00 for SENIORS** depending on the functions that are arranged by ESKOM. If a learner is found loitering around after bedtime then action will be taken according to the code of conduct. PLEASE ALWAYS STAY TOGETHER WITH THE TEAM and notify the Delegation Leader if you have to go elsewhere.

ITINERARY: Please see the program as per previous letter. Very important to note that no parents, teachers or unofficial guests are allowed in the exhibition hall during the official hours (Only those with official accreditation) On the day that there is public viewing the parents are allowed to enter the exhibit hall.

DRESS CODE:

Wednesday: Judging – Formal or School Uniform

Wednesday night: Eskom branding attire and jeans / or navy cotton pants

Thursday: Public day – Formal or School Uniform

Thursday night: Formal or School Uniform

Friday: Formal or School Uniform

Formal attire: **Females** : Formal pants/ skirts and blouse or dress (No open tops or short skirts and dress)

Males: Jacket/ coat, collared shirt and tie.

A further letter with more information will be emailed to you from the Delegation Leader. Mrs Tracey Woods. Please do not hesitate to contact either of us if you are worried about anything as we will gladly answer any of your queries.

Yours in Science

Marilyn Gibbs

JUNIOR EXPO 23rd AUGUST 2016

	Category 0		JUNIORS	Grade 2-4
1	Chante	Gerber	Kabega Primary	Hoe oud was Raponsie?
2	Marvin	Palmer	Kabega Primary	Demonstrating black holes
	Khanyiso	Ngewu		
3	Shannon	Viljoen	Kabega Primary	Judo - do girls have the X-factor?
4	Zahra	Johaar	Kabega Primary	Celery Experiment
5	Aasiya	Benjamin	Nasruddin Islamic	Cooked Oats versus Instant Oats
6	Ammar	Jooste	Nasruddin Islamic	Should humans consider ants as
	Samiah	Jooste	Nasruddin Islamic	intellectual and social beings
7	Tasmiyah	Desai	Nasruddin Islamic	Photon Flower Fun
8	Zakiyah	Desai	Nasruddin Islamic	Plastic From Milk
9	Azra'	Chansen	Nasruddin Islamic	Corn Starch Versus Plain Flour
10	Naeefah	Davids	Nasruddin Islamic	Waterless Hand Cleaning vs Soap &Water
11	Dayyan	Begg	Nasruddin Islamic	Effects of Certain Acid Substances on the Calcium in the Bones of the Body
12	Kauthar	Quantoi	Nasruddin Islamic	Photosynthesis
13	Ridwaan	Jaylarnie	Nasruddin Islamic	To Fizz or Not To Fizz
14	Afeefa	Muhammed	Nasruddin Islamic	Cleaning Power
15	Salman	Hendricks	Nasruddin Islamic	Density
16	Zeyad	Abdellatif	Nizamiye Al-Azhar	How to stop soda from exploding
17	Nura	Abrahams	Nizamiye Al-Azhar	Colour changing flower
18	Anissa	Ahmed	Nizamiye Al-Azhar	Underwater candle
19	Aaliyah	Allie	Nizamiye Al-Azhar	Cosmetics
20	Laeeqa	De Maine	Nizamiye Al-Azhar	Bubble-ology
21	Kaitoem	Omar	Nizamiye Al-Azhar	The Air
22	Sofiyyah	Abrahams	Nizamiye Al-Azhar	Cleaning Coins
23	Guthaifa	Abrahams	Nizamiye Al-Azhar	Balloon Explosion
24	Habibullah	Alli	Nizamiye Al-Azhar	Crayon Rock Cycle
25	Imraan	Grimsel	Nizamiye Al-Azhar	How to make a turbine
26	Mogamat Goesnie	Jappie	Nizamiye Al-Azhar	Lemons as a cleanser
27	Nazia	Soomar	Nizamiye Al-Azhar	Succulent Regeneration
28	Urooj	Tahir	Nizamiye Al-Azhar	Balloon Inflation
29	Saarah	Williams	Nizamiye Al-Azhar	Water Purification
	Nuhaa	Benjamin		
30	Juwairiyyah	Abrahams	Nizamiye Al-Azhar	Fruit juice from different fruits
	Thuraiyah	Poonoosamy		
31	Mohamed	Bhayat	Nizamiye Al-Azhar	Crazy putty
	Khaleel	Moosagie		
32	Yusairah	Panday	Nizamiye Al-Azhar	Lava lamp
33	Rahma	Nasiib	Nizamiye Al-Azhar	Energy from garbage-Bio gas
34	Mari	Nagel	Settlerspark Primary	Tooth decay
35	Gita-Ann	Rademeyer	Settlerspark Primary	How plastic is made
	Asemahle	Cuthbert		
36	Luniko	Ntshidi	Settlerspark Primary	What is blood made of?
	Ukhona	Maxengana		
37	Aviwe	Goduka	Settlerspark Primary	The water cycle
	Jordan	Dadosa		

38	Lungisa Phiwokuhle	Nontshinga Thompson	Settlerspark Primary	Which foods are ants most attracted to?
39	Ayabuya Clarity	Boyce Mabhawu	Settlerspark Primary	Renewable energy - Power from water
40	Patricia Sivenathi	Chimudzunga Khani	Settlerspark Primary	Lava lamp
41	Kia	Quinton	St Dominic's Priory	Tornadoes
42	Siphokazi Sara	Lockett Daniels	St Dominic's Priory	Does coloured light affect plant growth
43	Mia Emma	Rautenbach Puffett	St Dominic's Priory	Aquaponics
44	Joel	Lawrence	St Dominic's Priory	What if these products were poured onto healthy plants
45	Aidan	Barnard	Sunridge Primary	Methods of collecting water
46	Pieter AJ	Terblanche	Sunridge Primary	Die Droogmaak proses van hout vir huishoudelike gebruik
47	Talitha Merle	Dorfling	Sunridge Primary	Why don't the toothpaste colours mix inside the tube?
48	Siân	Dearmer	Sunridge Primary	Ice skating explained
49	Maryke	Stiglingh	Sunridge Primary	Is die gas wat ons uitasem dieselfde as die gas in koeldranke?
50	Dihan	de Vos	Kabega Primary	Bottelproppies vir die aanleer van Wiskunde vaardighede
51	Aatiqah	Hendricks	Nasruddin Islamic	Colour Therapy
52	Khwezilethu	Landella	Sunridge Primary	Why does Ice float in water?
	Category 1 JUN		**Agricultural Science**	**Grade 5-7**
53	Alnay	Ruiters	Kabega Primary	Under what condition do potatoes sprout the best?
54	Kyle	Domingo	Grey Boys' Primary	Rise of the Black Soldier Fly
55	Jak	Nel	Grey Boys' Primary	Angora Goats for profit
56	Jano	Oelofse	Grey Boys' Primary	Super Human Thickets for lunch!
57	Natasha	Labuschagne	Sunridge Primary	Urine as fertilizer
58	Jessica	Carter	Theodor Herzl	The Sustainability Of Dry Land Dairy Farming in 2016
59	Carys	Scott	LS Gamtoosvallei	To wax or not to wax?
60	Ilzaan	van Jaarsveld	LS Gamtoosvallei	Arundo Donax , regop of onderstebo?
61	Tiana	Moodley	Theodor Herzl	The effect of soil conductivity on the growth of plants
62	Dayile	Sibulele	Seyisi Primary	Orange sweet potato and plant propagation
	Category 2 JUN		**Animal/Veterinary Science/Marine**	**Grade 5-7**
70	Emma	Saunders	Lorraine Primary	Does education change peoples behaviour
71	Wehan Cornel	Smith Louw	Lorraine Primary	What colour are coastal birds most attracted to?
72	Abu Bakr	Carloo	Nasruddin Islamic	Whales
	Category 3 JUN		**Chemistry and Biochemistry**	**Grade 5-7**
74	Tristan	Parfitt	Grey Boys' Primary	Combustibility of Materials
75	Kian	Claassen	Grey Boys' Primary	If it's waterproof, can it breathe?
76	Laith	Nordien	Nizamiye Al-Azhar	Why oil cannot dissolve in water
77	Mariam Saarah	Kassiem Abrahams	Nizamiye Al-Azhar	The bouncing egg

78	Natasha Venessa	Sonnekus Bouwer	Kabega Primary	Kristalvorming in reen-,kraan-,en minerale water
79	Jake	Barnes	Grey Boys' Primary	Light my Fire
80	Justin	Charles	Grey Boys' Primary	Which Socks retain heat the best.
81	Ryan	Wilmot	Grey Boys' Primary	Boiled egg illusion
82	Lee-Ann	Barnard	Kabega Primary	Effek van verskillende opwasmiddels op die verspreiding van kleursel
83	Joshua	Pienaar	Kabega Primary	Asyn en koeksoda - verskillende reaksies
84	Aakhifa	Hendricks	Nasruddin Islamic	Henna
85	Abdul Mu'iz	Boomgaard	Nasruddin Islamic	Density in Liquids
86	Ebrahim	Allie	Nasruddin Islamic	The Heart
87	Aaliyah Tasneem	Parker Davids	Nasruddin Islamic	Vapour recovery
88	Micah Micah	Moodaley Williams	St. Joseph's R.C.	Venom as Medication
89	Thabisa	Dube	Theodor Herzl	Waterproofing Canvas Material
90	Thina Okuhle	Filani Thomas	Emafini Primary	Neutralization Reaction
91	Ovayo Likhanyiso	Mfeketo Zonyane	Emafini Primary	Sink or float
92	Minke	Colling	LS Gamtoosvallei	Toets van waspoeiers.
93	Khadija	Mc Carthy	Nasruddin Islamic	How to Create Long-lasting Fresh Whipped Cream
94	Mugammad Ammaar	Benjamin De Maine	Nizamiye Al-Azhar	Bottle vacuum
95	Ethan	Klibansky	Theodor Herzl	What is inside the rivers of Port Elizabeth?
96	Williams Poyo	Busisiwe Khuselo	Seyisi Primary	Which organic dye is permanent
97	Gxekwa	Aphiwe	Seyisi Primary	Baby vs Mother potato salt race
	Category 4 JUN	**Computer Science and Information Technology**		**Grade 5-7**
103	Tasmiya Connor-Ross	Savahl Potgieter	St. Joseph's R.C.	Xbox 360 Vs PlayStation 3
	Category 6 JUN	**Energy - Non renewable -fossil fuels, use of electricity**		**Grade 5-7**
104	Monray	Geswindt	Cotswold Primary	Electrical Circuits
105	Michelle Ian	Mubzabene Sampidi	Collen Glen	Energy transfer
	Category 7 JUN	**Energy - Renewable -Solar,wind wave, hydro**		**Grade 5-7**
109	Reece	Parker	Grey Boys' Primary	Blow Wind Blow
110	Dylan	de Fin	Grey Boys' Primary	Are Magnets Green?
111	Reece	Parker	Grey Boys' Primary	Are your thumbs green?
112	Moegamad Aasif	Bloew	Nizamiye Al-Azhar	Thermometer
113	Aliah	Osman Abdullah	Nizamiye Al-Azhar	Air in Water
114	Thaakirah Ragheemah	Isaacs Sataar	Nizamiye Al-Azhar	Capillary action to transport water
115	Jorgia Amy	La Reservee Barnes	St. Joseph's R.C.	Hydropower
116	Charlize	Els	Lorraine Primary	Hydroelectricity at home
117	Hugo	Richter	Theodor Herzl	Saving energy by running a tap
	Category 8 JUN	**Energy - Renewable , geothermal, biodigestors**		**Grade 5-7**
119	Dieu-Donne Liyema	Nagel Hani	Settlerspark	Peanut power

120	Gabriella Siphosethu	de Meyer Gzora	Lorraine Primary	Lemon power vs potato battery
121	Carike Tamryn	Erasmus Fisher	Lorraine Primary	Using biogas and turning in into energy
	Category 9 JUN	**Energy- efficiency and conservation**		**Grade 5-7**
124	Davago Siyaxolisa	Williams Sibuta	Settlerspark	Passive cooling - solar air heater
125	Lauren Holly	Pattle Blignaut	St Dominic's Priory	Energy and motion
126	Daniel	Holmes	Grey Boys' Primary	Salt water lamp
127	Connor	Hufkie	Grey Boys' Primary	Electricity Free! Eco Friendly air cooling
128	Luke	Flood	Grey Boys' Primary	Green Machine
129	Pieter	du Toit	Grey Boys' Primary	Insulation for a nation.
130	Ivan	Ingram	Grey Boys' Primary	Power plus Gold ...9 Lives
131	James	Kruger	St George's Prep	Eco Cooler - Does it really work
132	Sunet	Barnard	Sunridge Primary	Can exercise create electricity
133	Babalwa Sinesipho	Kefile Chaza	Little Flower RC	Energy Efficiency
134	Amy Jordan	Mulock Houwer Swanepoel	Lorraine Primary	More light, less energy is it possible?
135	Lize Shani	Viljoen van Heerden	Lorraine Primary	Zap the tap
136	Ruark Adriaan	Potgieter Pieters	Lorraine Primary	Turning coffee ground waste into energy
	Category 13 JUN	**Environmental management: human interaction**		**Grade 5-7**
146	Nicole	Coote	Kabega Primary	Watter materiaal absorbeer olie die beste?
147	J.P	White	Kabega Primary	Filtering water
148	Braam	Colesky	LS Gamtoosvallei	Wees veilig! Bly leef!
149	Lara	Lotter	Lorraine Primary	Do natural methods work to get rid of ants?
150	Xoliswa Emihle Ovayo	Scout Mqikela	Emafini Primary	Recycling
151	Dylan-Claude	Windvogel	Kabega Primary	Artificial grass vs. natural grass at schools
152	Tiaan	Bouwer	Lorraine Primary	The effect of micro plastic pollution in the Port Elizabeth Area
153	Mntwaphi	Simosethu	Seyisi Primary	Wetland vegetation and it's wild life
	Category 14 JUN	**Environmental science**		**Grade 5-7**
155	Asive Aphelele	Diamane Stokhwe	Emafini Primary	Acid Rain
	Category 15 JUN	**Food Science, Food Technology and Healthy eating**		**Grade 5-7**
158	Matthew Kwakho	Drinkrow Kweza	Settlerspark	Effects of carbonated drinks on meat
159	Darren Jongozethu	Julies Maranti	Settlerspark	Effects of vinegar on egg shells
160	Adam	Harrison	St Dominic's Priory	Ants like sugar but not sweet fruit
161	Joshua	Witthuhn	Grey Boys' Primary	Grusome Gluten
162	Noah	Henen	Grey Boys' Primary	Tender Tactics
163	Shanell	van Heerden	Kabega Primary	Watter kos muf die vinnigste?
164	Esona Kaylin	Bhokoyi Damons	Lorraine Primary	How does packaging effect the ripening of fruit?
165	Sopie	France	St George's Prep	The Chewing Gum Project

166	Madison	Huggard	Theodor Herzl	How long does fruit stay fresh
167	Tolulope	Olowookorun	Theodor Herzl	Childhood Obesity
168	Jime	Bezuidenhout	Lorraine Primary	Protect strawberries from spoiling.
169	Zaafirah Maryam	Kerdemay Ajani	Nasruddin Islamic	Fast Food Versus Home Made Food
170	Twani	Uzusiphe	Seyisi Primary	Which hotdog will bark the longest
171	Banjwa	Sinovuyo	Seyisi Primary	Which bread flour is of good quality
172	Magaga Tupeni	Lamla Luthando	Seyisi Primary	What is the potential of my fizzy thirst quencher
	Category 16 JUN	**Health Care and Sports Science**		**Grade 5-7**
183	Dennis	De Villiers	Grey Boys' Primary	Swimming in Acid
184	Christian	Davidson	Grey Boys' Primary	Drag in Swimming
185	Anika	Ferreira	LS Gamtoosvallei	So, werk jou tandepasta?
186	Ammaarah	Raban	Nasruddin Islamic	Cupping
187	Junaid	Raja	Nizamiye Al-Azhar	Rickets
188	Moegamat Noor	Agherdien	Nizamiye Al-Azhar	What smoking does to your lungs
189	Tara Jorja	Sacke Sacke	St George's Prep	Heart Rate vs Running Surfaces
190	Dylan	Bouwer	St George's Prep	Sugar to the rescue
191	Jessica	Davidson	Theodor Herzl	The Bug Buggy, do sanitising wipes make a difference?
192	Patrige Ahleigh	Chimwendo Mayhead	Lorraine Primary	The Aerodynamics of riding a bicycle
193	Cara	Van Wyk	Lorraine Primary	Does stride length increase with speed?
194	Bradley Ryan	Bosman Alfonso	Lorraine Primary	The Golf Ball - the price effect
195	Lamis	Laher	Nizamiye Al-Azhar	The effects of smoking
196	Prince	Thole	Settlerspark Primary	Energy drink gives most effective performance
197	Musheerah Denzel	Baboo Mandiza	Settlerspark Primary	Fizzy drinks: Friends or foe?
198	Mthini	Asemahle	Seyisi Primary	Which hand softener is the best?
	Category 17 JUN	**Innovation and Technology**		**Grade 5-7**
203	Stuart	Grant	Grey Boys' Primary	Maximum sound from your mobile device
204	Tyler	Horrmann	Grey Boys' Primary	Sunny 4x4
205	Sarah Siyamamkela	Labuschagne Tiso	Hoërskool McLachlan	Alles-in-1 boks
206	Roseria	Zulu	Settlerspark	Smart phone-powered multimedia shoe box projector
207	Kelly	Mathiesen	Sunridge Primary	Tsunami Barriers
208	Milla	Otto	Sunridge Primary	Creative packaging of eggs
209	Ashleigh	Rensburg	Kabega Primary	Is home-made flubber preferable to shop bought flubber?
210	Mikaeel	Jooste	Nasruddin Islamic	The effect of modern day technology on behaviour
211	Sherif	Serour	Nizamiye Al-Azhar	How to make a simple motor
212	Natheer	Jardien	Nizamiye Al-Azhar	Siphon water pump
213	Louis	De Beer	Theodor Herzl	The influences of metal thicknesses on pattern formations caused by sound waves
214	Naledi Sibusiso	July Mqikela	Emafini Primary	White candles burn faster than coloured

215	Mukhtaar	Ahmed	Nasruddin Islamic	Bait Launcher
216	Carla	Gouws	Sunridge Primary	Solutions for controlling water tank
217	Caelin Quin	Falconer	Theodor Herzl	How To Make Water Out of Thin Air
218	Marco	Scribante	Theodor Herzl	Magnetic Levitation
219	Tupeni	Andiseka	Seyisi Primary	Pepile the turbo-charger
	Category 18 JUN	**Mathematics and Statistics**		**Grade 5-7**
230	Ronzard Christo	Botha Putter	Kabega Primary	Woordsomme: Is dogters beter?
231	Imkita Preshani	Mngqundaniso Chetty	Kabega Primary	What impacts on the South African currency?
232	Tannica	Bentley	LS Gamtoosvallei	Wat is goedkopper, bad of stort?
233	Paige	Black	Lorraine Primary	Does knowing your multiplication tables affect your mathematics results?
	Category 19 JUN	**Medical Sciences**		**Grade 5-7**
235	Saira	Visagie	Nasruddin Islamic	The Use of Robotics in Medicine
236	Saarrah	Astrie	Nasruddin Islamic	Kidney Stones
237	Rania Jenna	Moodley Mcintosh	St Dominic's Priory	How cell phones affect the body/brain
238	Ben	Tucker	Grey Boys' Primary	How not to get hungry
239	James	Rodger	Grey Boys' Primary	Excercise and memory
240	Mark	Malherbe	Grey Boys' Primary	The quest for concentration & memory
241	Keegan	Fourie	Grey Boys' Primary	Chewing gum improves your Maths
242	Cade	Hoffmann	Grey Boys' Primary	What is your text colour?
243	Joshua	Wood	Grey Boys' Primary	The Aca-digital effect
244	James	Kigosi	Grey Boys' Primary	Glucose Levels
245	Ayan Hasaanah	Acha Ahmed Lala	Nizamiye Al-Azhar	Flexible bones
246	Shanique	Visser	Lorraine Primary	Does electronics effect the human brain
247	Kiara Amarise	Matthys Muller	St. Joseph"s R.C	The Effects of Vegan Nutrition on Morph types
	Category 21 JUN	**Physics,Astronomy and Space Science**		**Grade 5-7**
258	Mohamed	Moosagie	Nizamiye Al-Azhar	Microphone
259	Kiera	Farley	Theodor Herzl	The Study and Demonstration of Hydraulic Force
260	Dyan Ndube	Siyamthanda Thuso	Seyisi Primary	Potato-Lemon Zinc/Copper
261	Dyan Nono	Sinothando Simbongile	Seyisi Primary	The gravity pull of different liquids at the same height
262	Ania	Draper	LS Newtonpark	Life after Earth?
263	Elmien Lize	Hartslief Heather	Sunridge Primary	Is mining possible on other planets
264	Tamsin	Sterling	St. Joseph's R.C.	Colour of the Sun
265	Shuaib	Lindoor	Nasruddin Islamic	Wonders of the Moon
	Category 22 JUN	**Plant Sciences Marine and Plant Ecology**		**Grade 5-7**
271	Ethan	John	Grey Boys' Primary	This is ..... aspartame
272	Xander	Van Niekerk	Grey Boys' Primary	From tree to product
273	Mehmet Taha	Kaya	Nizamiye Al-Azhar	Oil spill clean up
274	Lerina Paige	Ferreira Ivings	St Dominic's Priory	How to extend the life of cut flowers
275	Sebastian	Eckley	Grey Boys' Primary	The effect of WiFi radiation on plants
276	Alex	Morris	Grey Boys' Primary	Every Breathe I take- A plant's perspective

277	Dené-Grete	van Jaarsveld	LS Gamtoosvallei	Hoekom watte om bone te ontkiem?
278	Dina	Levin	Theodor Herzl	Does Wi-Fi affect plant growth
279	Jordan	Ah Shene	Theodor Herzl	Affect of Microwave Radiation on Germination and Fungal Growth
280	Matthew	Klette	Theodor Herzl	The Amaryllis Caterpillar
281	Hayley Braden	Jackson Henning	Kabega Primary	Does a cellphone tower impact on plant growth
282	Ance	Vermaak	LS Gamtoosvallei	Die spekboom toets.
283	Michaela	Botha	Lorraine Primary	The effects of fertilizers on growth of mushrooms
284	Lance	Brummer	Lorraine Primary	Hydroponics - bean growth in different liquids
285	Zadie-Ann	Gamba	Sunridge Primary	Electrical currencies in vegetables
286	Josh	Levin	Theodor Herzl	Does colour effect plant growth
	Category 23 JUN	**Social and Psychological Sciences**		**Grade 5-7**
292	Hugo	Nothnagel	LS Newtonpark	Wagwoord vs Ouderdom
293	Chloe	Critchlow	Sunridge Primary	What is the cause of back pain for children
294	Kathryn	Ferreira	Sunridge Primary	Do tweens and teens get enough sleep?
295	James	Smith	Grey Boys' Primary	Corks that count
296	Siphesihle Timna	Ngqeleni Mki	Kabega Primary	Comparing netball court surfaces
297	Alex	Norris	Kabega Primary	Comparing twins
298	Tiaan Bianco	de Beer Lansdown	Lorraine Primary	Music and your mind
299	Matthew Juan-Dylan	Bezuidenhout Claassen	Lorraine Primary	Do cellphones affect children?
300	Ammaar	Loggenberg	Nizamiye Al-Azhar	Lie detector
301	Juhi	Gajjar	St George's Prep	Can texters type?
302	Anja	De Klerk	Summerwood Prim	A book a week keeps the English marks at peak
303	Sarah	Garden	Sunridge Primary	Cyber bullying in pre-adolescent girls.
304	Matthew	Coetzee	Sunridge Primary	Sleeping patterns at home and away
305	Emma	Saunders	Lorraine Primary	Does education change peoples behaviour.
306	Meagan	Wasserman	Lorraine Primary	Common fear and age
307	Taybah	Conradie	Nasruddin Islamic	How Does Listening to Quraan Recitation Affect Our Sleep
308	Maryam	Ellemdin	Nasruddin Islamic	Why not to use a cellphone while driving
309	Evagelos	Batsis	Sunridge Primary	Competency of teachers
310	Tyler Lenita	Bosworth Kotze	Theodor Herzl	How Stress Affects the Body'sHealth
311	Hannah	Stone	Theodor Herzl	Hand Dominance
	Category 24 JUN	**Sustainable Development, Recycling**		**Grade 5-7**
324	Jude Lian	Lawack Goosen	Kabega Primary	Glasherwinning spaar elektrisiteit
325	Paisleigh	Routledge	Lorraine Primary	Recyling for charity
326	Zahraa	Laher	Nasruddin Islamic	Sea Water in The Home
327	Ilham	Simon	Nizamiye Al-Azhar	Water Purification
328	Zaandre	Lombard	Lorraine Primary	Recycling - The effect on the environment & easy ways to recycle at home.
329	Blake	Cotterrell	Theodor Herzl	Sustainable Development
330	Kenneth	Garrod	Grey Boys' Primary	Don't bin it...recycle it

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	Category 1 SP		**Agricultural Science**		**Grade 8-9**
63	M. Hussein	Lala	Alazhar High	Caffeine on Plant Growth	
64	Mia	Vermeulen	Pearson High	The effect of different types of water on plant growth	
65	Sophia	Finestone	Pearson High	Earthworms make soil more fertile than artificial fertilisers	
66	Maxine	Kleyn	Pearson High	Opgaar water vir besproeing op plase en huise	
67	Mathew	Hiles	Pearson High	The use of different fertilisers	
68	Usamah	Patel	Alazhar High	Colors of Leaves	
	Category 1 FET		**Agricultural Science**		**Grade 10-12**
69	Cyle	Smith	HS McLachlan	DIY aquaponics vs soilgrown vegetables.	
	Category 2 SP		**Animal/Veterinary Science/Marine**		**Grade 8-9**
73	Tanya	Mhziha	St James R.C. SS	Making people aware of how to save Rhinos	
	Category 3 SP		**Chemistry and Biochemistry**		**Grade 8-9**
98	Rumaisa	Bhayat	Alazhar High	Hand Sanitizers vs mold	
99	Jesse	Ackermann	St Dominic's Priory	The effect of temperature on the rate of dissolving of an effervescent tablet.	
100	Ahluma	Ngwalangwala	Alexander Road	H20 or O2H in Port Elizabeth	
	Category 3 FET		**Chemistry and Biochemistry**		**Grade 10-12**
101	Chadleigh	Ownhouse	St George's College	Ching Ching	
102	Mihlali	Adam	St George's College	Investigating the Mpemba Effect	
	Category 6 SP	**Energy - Non renewable -fossil fuels, use of electricity**			**Grade 8-9**
106	Mohammed	Yaseen	Alazhar High	Best Battery	
107	Sabeha	Laher	Alazhar High	Measuring Resistance of Conductors	
108	Aakifah	Erasmus	Alazhar High	Electrical Wires	
	Category 7 SP	**Energy - Renewable -Solar,wind wave, hydro**			**Grade 8-9**
118	Rafael	Sapere	Pearson High	Grounded Volts	
	Category 8 SP	**Energy - Renewable , geothermal, biodigestors**			**Grade 8-9**
122	Mudaththir	Daniels	Alazhar High	Biogas	
123	Raess	Benjamin	Alazhar High	Bio Plastic	
	Category 9 SP	**Energy- efficiency and conservation**			**Grade 8-9**
137	Leante	Degrass	St James R.C. SS	Water Savings	
138	Kaylin Eza	Vorster Ferreira	Framesby HS	Insulation	
139	Luzuko Asemahle	Nyambayo Skenjana	Strelitzia High	Recycling for heat	
	Category 9 FET	**Energy- efficiency and conservation**			**Grade 10-12**
140	Kamvalethu	Rengqe	Solomon Mahlangu SSS	Desalination	
141	Alice Ivethe	Magwiroto Ndayikeze	St James R.C.	Desalination using filters	
	Category 10 FET	**Engineering Electronics and Electrical**			**Grade 10-12**
142	Lohan	Wiese	D.F Malherbe	Floating globe	
143	Judah	Ruiters	D.F Malherbe	Magnetic Generator	
144	Abongile	Ngcosholo	Ndzondelelo HS	How to get a signal when your car is being stolen?	

	Category 11,12 FET	**Engineering Chemical, Metal, Civil & Mining, Mech**		**Grade 10-12**
145	Anathi	Windvoel	Ndzondelelo HS	Developing a moving crane inside the stadium
	Category 13 FET	**Environmental management: human interaction**		**Grade 10-12**
154	Vanessa	Du Plessis	St George's College	Stop the silent killer in our ocean
	Category 14 FET	**Environmental science**		**Grade 10-12**
156	Noluvo	Moses	Ndzondelelo HS	Easiest method to purify water.
157	Ronnie	Oelofsen	Nico Malan High	Gremlins of the fynbos, just add fire!
	Category 15 SP	**Food Science, Food Technology and Healthy eating**		**Grade 8-9**
173	Jessica	Fourie	Pearson High	The effect the brain has on your sense of taste
174	George	Koutsoudis	Pearson High	A Scientific approuch to the feeding of racing pigeons
175	Thaaqib	Adams	Alazhar High	Seeds of Fruits
176	Aqeelah	N	Alazhar High	Bread Mold
177	Twane'	Anderson	Framesby HS	ISONDLO AFRICA - Nobody Should Go To Bed Hungry
178	Sage	Symons	St George's College	The ultimate preservative free burger
	Category 15 SP	**Food Science, Food Technology and Healthy eating**		**Grade 10-12**
179	Tayla	Murray	Collegiate Girils High	Beverages that Stain Your Teeth
180	Khazimla Sibathande	Boya Kobese	Morningside High	This is how we roll!!!
181	Lolwethu	Ntshanyana	St George's College	Glucose content of various foods
182	Sesethu	Sxakwe	St George's College	What causes ice to melt the fastest?
	Category 16 SP	**Health Care and Sports Science**		**Grade 8-9**
199	Liebe	Venter	Pearson High	Motion Sickness
	Category 16 FET	**Health Care and Sports Science**		**Grade 10-12**
200	Sarah	Knott	Collegiate Girls High	Sinusitis and its Causes
201	Phumelela	Cuntu	St George's College	How does listening to music while exercising affect your heart rate?
202	Kyle	Scritten	St George's College	It's a Grunter
	Category 17 SP	**Innovation and Technology**		**Grade 8-9**
220	Unam	Meke	Loyiso SSS	What can make a coffee sweet without using a sugar?
221	Sucaine	Begg	St James R.C. SS	Making a home made lava lamp
222	Moegamat Yaaseen	Abdullah	Alazhar High	Hologram
223	Irshaad	Jardien	Alazhar High	Cool your soda
224	Sinothando	Lukwe	Loyiso SSS	Rain sensor
225	Jaylin	Cornelius	St George's College	The Late Worker
	Category 17 FET	**Innovation and Technology**		**Grade 10-12**
226	Karla	Muller	Framesby High	Guardian Angel.
227	Sibusiso	Mcingana	Ndzondelelo HS	Prevention of fat loss in microwaves
228	Asisipho	Nosilela	Ndzondelelo HS	How to make your own teeth whitening paste?
229	Anathi	Windvoel	Ndzondelelo HS	Developing washable pads
	Category 18 FET	**Mathematics and Statistics**		**Grade 10-12**
234	Laurika	Botha	Framesby High	Word sums: older but not colder?
	Category 19 SP	**Medical Sciences**		**Grade 8-9**
248	Kylie	Stock	Pearson High	The eye colour test
249	Jenice	van der Wat	Pearson High	Does colour matter?
250	Courtney	Wickens	Pearson High	Eye colours and eye defects
251	Jaimee	Giltrow	Pearson High	How Vitamin B affects your urine colour

252	Luchay	Weideman	St James R.C. SS	Lung Capacity
253	Aphiwe	Kahla	Ethembeni	Teenage BP & HR
	Category 19 FET	**Medical Sciences**		**Grade 10-12**
254	Rachel	Parker	Collegiate Girls High	Menstrual Synchrony
255	Caitlin	Van Goeverden	Collegiate Girls High	Heart Rate and Blood Pressure
	Category 20 FET	**Microbiology and Diseases**		**Grade 10-12**
256	Andisiwe	Bodo	St George's College	Can UV rays disinfect contaminated Water?
257	Zander	Oosthuizen	St George's College	Dancing Bacteria
	Category 21 SP	**Physics,Astronomy and Space Science**		**Grade 8-9**
266	Wisaal	A	Alazhar High	Magnets
267	Salahuddeen	Badsha	Alazhar High	Heating Magnet
268	Robyn	Booysen	Linkside High	Does temperature affect the bounce of a ball?
	Category 21 FET	**Physics,Astronomy and Space Science**		**Grade 10-12**
269	Mbaliyethu	Tabata	St George's College	How magnets effect water
270	Tereny	Jantjies	St George's College	Sound Wave Amplitude
	Category 22 SP	**Plant Sciences Marine and Plant Ecology**		**Grade 8-9**
287	Sinoxolo	Harry	Loyiso SSS	Leaf photosynthesis and petroleum jelly
288	Thameenah	Limalia	St George's College	How does the type of water affect plant growth?
289	Michael	Crompton	St George's College	The effect of water quality on the growth of plants
290	Aphiwe	Tini	Newton Tech	Growth of Grey Water Lettuce
291	Sibongile Penelope	Magagula	St Thomas SSHS	Mould Magic
	Category 23 SP	**Social and Psychological Sciences**		**Grade 8-9**
312	Caroline	Boshoff	Cape Recife	Assistive Devices
313	Verushka	Botha	D.F. Malherbe	What effect does music have on your emotions
314	Taylor	Luck	Pearson High	Researching the negative impact of technology on the youth today
315	Taylor	Glew`	Pearson High	The sleep project
316	Courtney	Steele	Pearson High	Do more students get sick during exams than any other time?
317	Owethu	Malusi	St Dominic's Priory	The effect of social media trends on women's decisions on skin lightening.
318	Sibusiso	Mchunu	St George's College	Difference fonts equate to memory interpretation
	Category 23 FET	**Social and Psychological Sciences**		**Grade 10-12**
319	Britney	Govender	Collegiate Girls High	The Science of Sound
320	Sesethu	Lukhwe	Collegiate Girls High	The effects of Colourism in society.
321	Loida	Sam Sompo	St George's College	Level your memory up
322	Carla	de Klerk	Pearson High School	Music Therapy, Alzheimer's Remedy
323	Felipe	Tapanes Gonzale	St George's College	How does music affect the brain?
	Category 24 SP	**Sustainable Development, Recycling**		**Grade 8-9**
331	Annekè	Bushby	Framesby HS	Herwin, Hersirkuleer, hergebruik van Plastiek
332	Remo	Cicognini	Pearson High	Comparing fossil fuel buring to biomass burning
333	Collette	Magwiroto	St James R.C. SS	Turning plastics into fuel
	Category 24 FET	**Sustainable Development, Recycling**		**Grade 10-12**
334	Abbey	Kirkman	Collegiate Girls High	The effects of Household Waste Water on Pisum sativium(pea plant)
335	Brad Etienne	Spies	DF Malherbe High	Giving plastic bottles new life