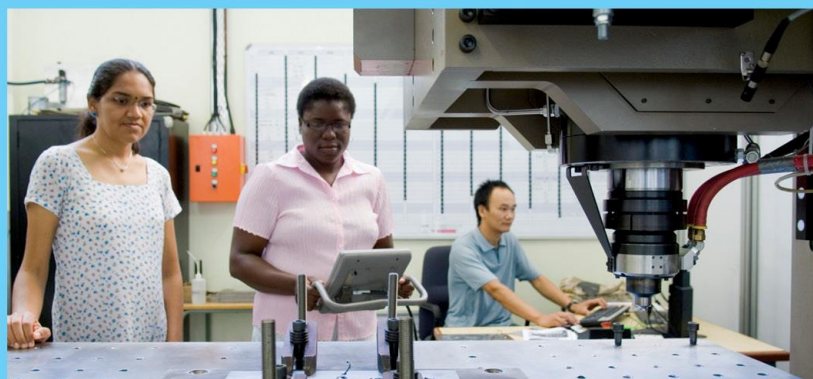
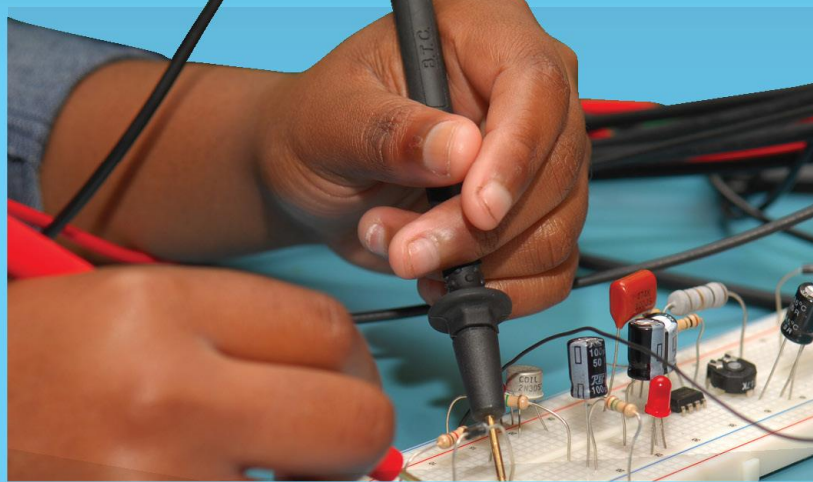


“STEM in ACTION”



STEM in ACTION

Presented by: Isabel van Gend

Faculty: EBEIT

Department: Mechanical Engineering

Entity: AMTC

Contact Details: 041 504 1185 /
isabel.vangend@nmmu.ac.za

[STEM-in-Action](#)

Origins.....

Initiated in 2009 by the sponsor of a similar program. The perception was that the previous program was ineffective in terms of learning outcomes and making a difference in the Physical Science space learners occupy!

Engagement categories

- Community interaction, Service and Outreach
- Teaching and Learning
- Service provision

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Objectives

The key objective of this intervention is to:

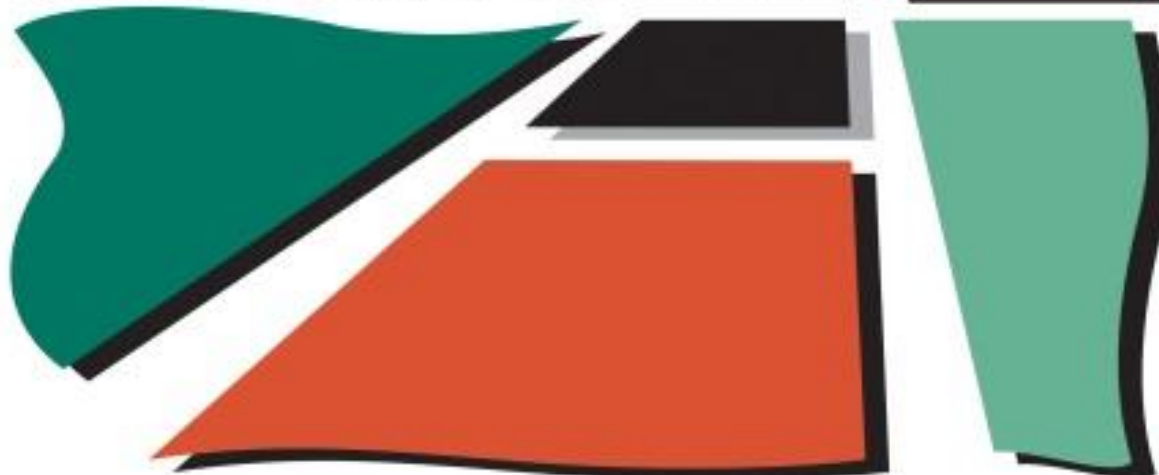
- stimulate interest in Physical Science as a subject
- empower Grade 10 -12 learners to perform well enough in Physical Science as a subject
- sensitise learners to careers in Science, Technology, Engineering and Maths (STEM)

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Affiliation

- The program is the Addressed
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the inception of the program

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ROADS AGENCY SOC
LTD



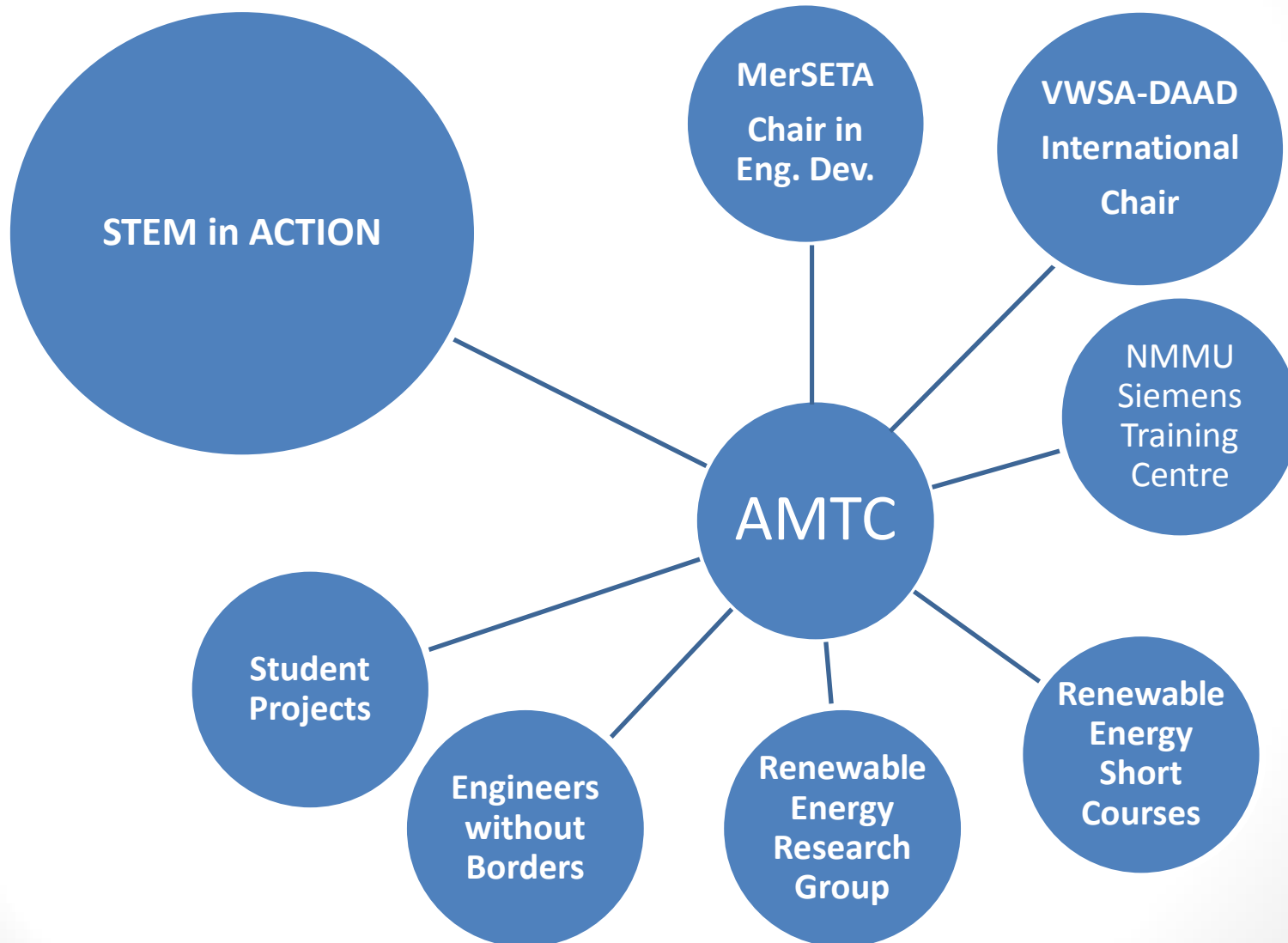
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Affiliation



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Focus group: FET Physical Science

Grades 10 - 12 Physical Science

In order to excel in Physical Science, a combination of verbal, non-verbal and reasoning skills are required. Learners should demonstrate the following science knowledge and skills:

- Understanding concepts
- Organising, analysing and interpreting data
- Problem solving by applying knowledge to new situations
- Acquiring habits and capabilities in scientific inquiry
- Acquiring the skill to plan and design investigations
- Performing experiments
- Appreciating the nature of science and developing positive attitudes

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The focus? ... and why

“Studies have shown that learners learn more from science lessons when they are given the opportunity to learn through doing, thinking and feeling than when they are simply passive and allowed to observe.” From

Teaching Science by Van Rooyen & De Beer

Physical Science performance is the gate keeper to access tertiary studies in Science and Engineering.

- Physical Science learners are empirically selected in the Nelson Mandela Bay Municipality and are offered an opportunity to visit the laboratory to perform Physics and Chemistry experiments aligned with the Curriculum Assessment Policy Statement (CAPS).
- 80% of experiments performed make use of ICT's and data logging equipment.
- Results and conclusions are related to theory.

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Strategy

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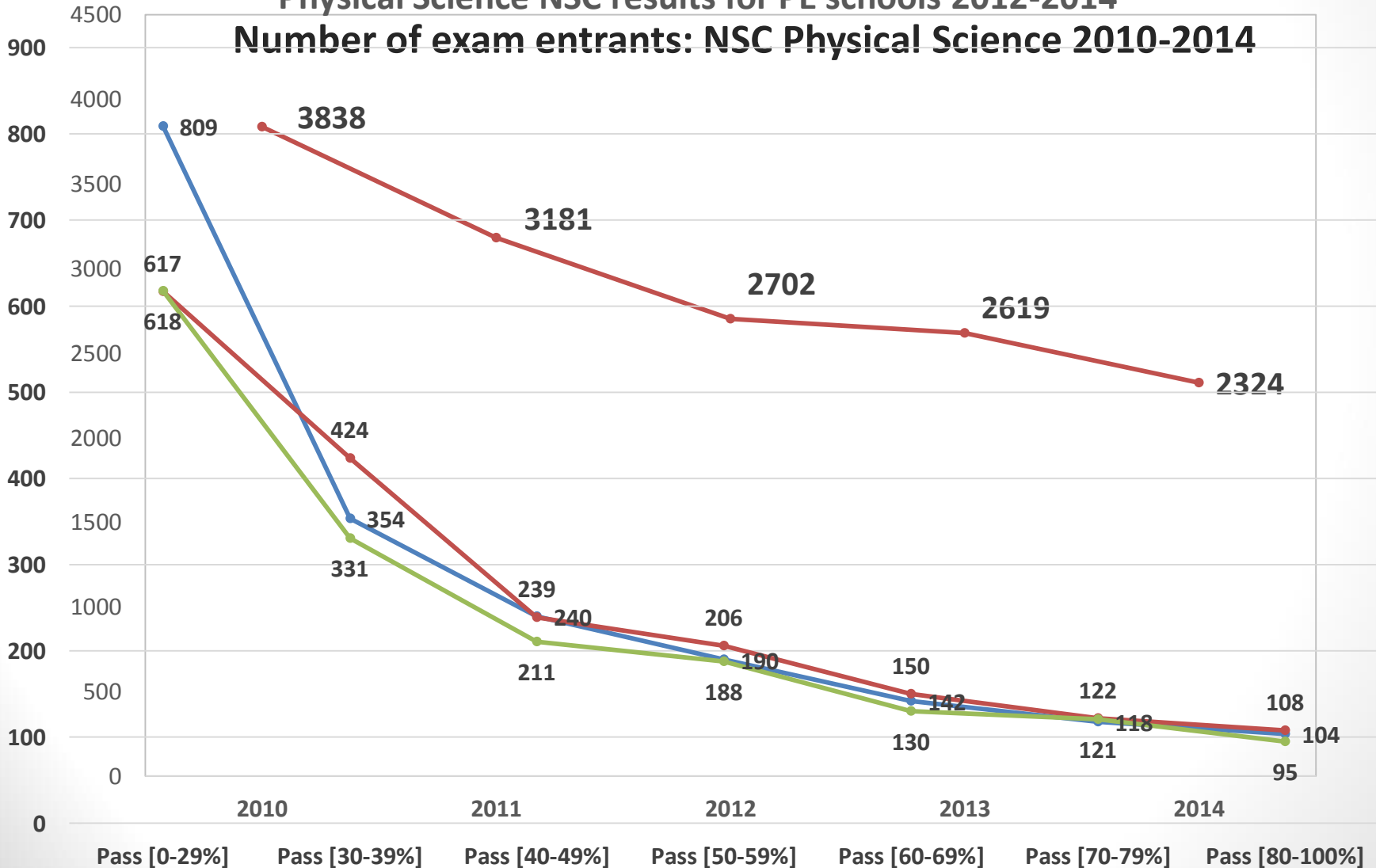
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Desperate times.....

Physical Science NSC results for PE schools 2012-2014

Number of exam entrants: NSC Physical Science 2010-2014



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Expectation

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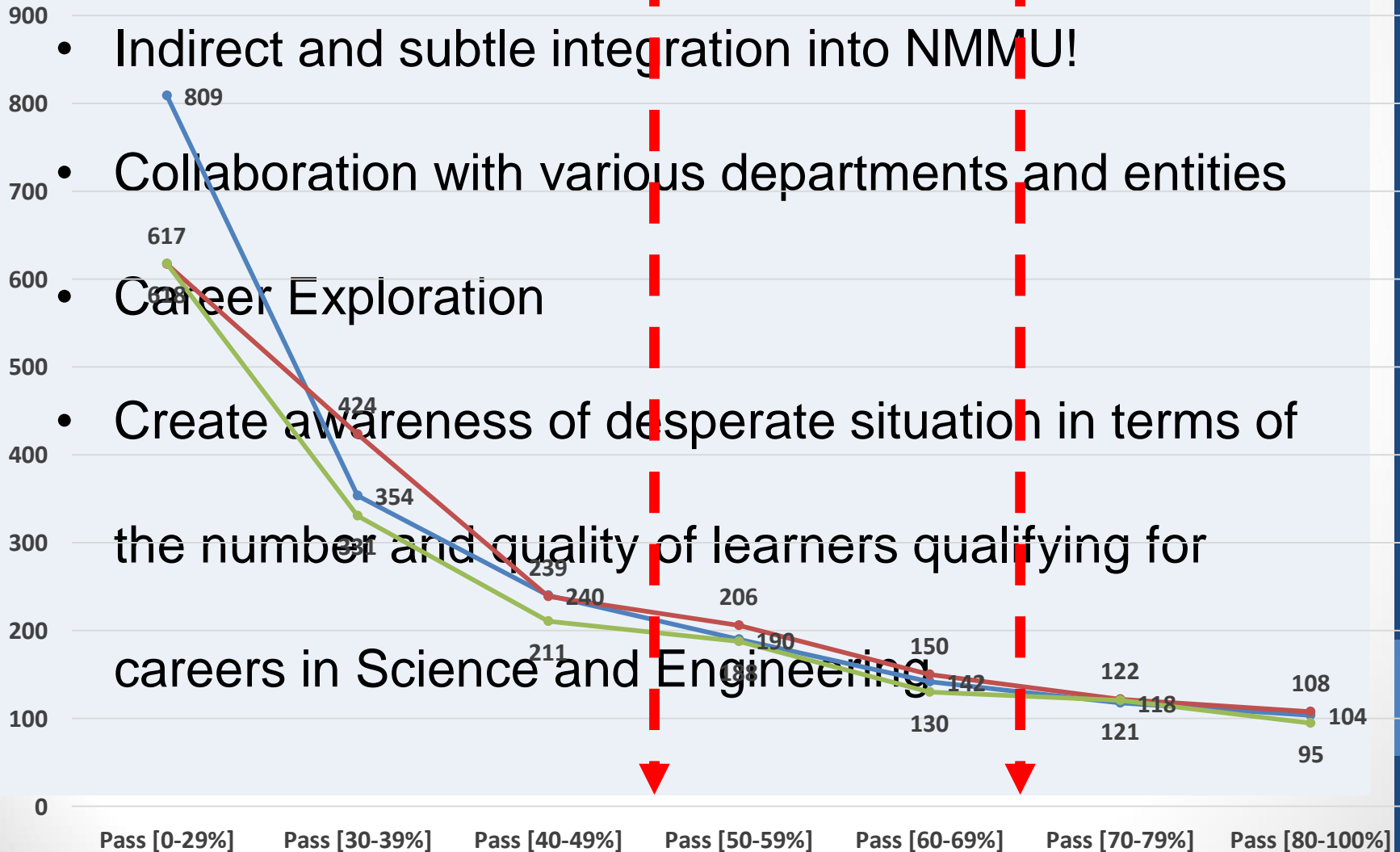
starting
to experience STEM working

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ments.

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Integration into NMMU!

Physical Science NSC results for PE schools 2012-2014



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Engagement challenges

Challenges:

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