NMCC

Investigation

The investigation in NMCC is a mathematical task that the class should explore carefully. It is possible to solve the problem using various methods and strategies.

Advice will also be given to the teacher about how the work might be organised so that all of the pupils can make a contribution to the work that is undertaken in the class.

Mathematical ideas and procedures can be represented in many ways. We can use casual everyday language and the formal language of mathematics – both in spoken and written forms. We can use concrete materials, models and drawings to highlight a mathematical idea.

Criteria for assessing the specialisation

The work done by the class will be assessed by a jury consisting of teachers and mathematicians. The grounds for the assessment will be:

I. A report that describes part A of the task.
II. An exhibition of part B of the task, presentable to an ”external audience”.
III. An oral presentation of part B of the task, presentable to an ”external audience”.

NOTE:

The exhibition and oral presentation must be self-contained so that they can be assessed by two different juries respectively.

A Subject report

Formal requirements

The report must be written in 12 pt Times New Roman and with 1.5 line spacing. Headings may have a different size. The page numbers should be centralised at the bottom of the pages.

The subject report must not consist of more than 18 000 characters including spacing.

The report must be submitted as a Word- or a pdf-document, preferably Word-file (*.docx).

The report must include:

I. Front page: Title of the task, competition name (NMCC), year, nation, name of the school and class.
II. Table of contents with reference to page numbers.
III. The content should

i. present to the readers your interpretation of the task

ii. be well structured and offer the reader insight into

  i. how the class has been working with the problem

  ii. how the class has struggled with the challenges in the problem

  iii. the mathematical process and solutions obtained

  iv. how the teacher or others provided ideas, suggestions or challenges during the work

  v. the way other resources have been used

iii. explain the mathematics used through different representations

IV. A conclusion

  i. comparing your interpretation with your work on the task and the solutions you have obtained

  ii. revealing reflections and giving examples upon your own learning

B1 Exhibition

Only the four pupils representing the class may take part in the work required to prepare and carry out the exhibition during the finals event.

Formal requirements

The content of the exhibition must be brought to the location of the competition by the students. The exhibition can consist of poster(s) and objects placed on a table in front of the wall where the poster(s) are exhibited.

The poster(s) must not be larger than 1 m^2 (A0 format).

The text on the posters must have a minimum height of 2 cm.

The objects must fit on a rectangular table of size 0,5 m^2, usually 1 m long and 50 cm wide.

Characteristics of a good quality exhibition

A good exhibition should

- have an appealing form that catches the attention
- make young people curious about mathematics

B2 Presentation

The presenting pupils will have technical equipment, such as a projector (standard HDMI or VGA), speakers that can be connected to a computer and a whiteboard or flip-over at their

disposal. The organisers of the event will be responsible for providing fully functional equipment.

Formal requirements

The participants must bring any other equipment they might need during the presentations and take responsibility that this equipment functions as it should.

Only the four pupils representing the class may take part in the work required to prepare and carry out the presentation during the finals event.

The presentation can last a maximum of 10 minutes.

Characteristics of a good quality presentation

A good presentation should

- have a clear introduction where the pupils outline what they have been working on
- focus on the pupils and minimise the use of media such as film and recorded music
- show that the pupils can convey a mathematical message in a way that captures the attention and interest of the audience
- demonstrate that the members of the group at the stage understand the mathematics they have been working with and that they have all been participating actively
- use simple materials or accessories to highlight the message
- express the message through for example sketches, role-play, ”interviews”, original songs or similar. The presentation should not merely consist of reading a script.

Marks

Subject report, maximum 24 points

Up to 3 points can be deducted from a report that does not meet the formal criteria.

Exhibition, maximum 8 points

Up to 2 points can be deducted if the exhibition does not meet the formal criteria.

Oral presentation, maximum 8 points

Up to 2 points can be deducted if formal criteria are not met.