



Republic of the Philippines
Department of Education

04 MAR 2020

DepEd MEMORANDUM
No. **028**, s. 2020

2020 INTERNATIONAL DAY OF MATHEMATICS

To: Undersecretaries
Assistant Secretaries
Bureau and Service Directors
Regional Directors
Schools Division Superintendents
Public Elementary and Secondary School Heads
All Others Concerned

1. The Department of Education (DepEd) announces the **Observance of the 2020 International Day of Mathematics (IDM)** on March 14, 2020. This year's theme, Mathematics is Everywhere, highlights the essential role of mathematics and its application in all aspects of human activity.

2. The UNESCO proclaimed March 14 as International Day of Mathematics during its 40th General Assembly on November 26, 2019. Therefore, **this year marks the first official celebration of the IDM**, although many countries already celebrate March 14 as Pi Day since the date written 3/14 coincides with the first three digits of the mathematical constant π (3.14).

3. The International Mathematical Union (IMU), a nongovernment, non-profit scientific organization that promotes international cooperation in mathematics, leads the IDM. The IDM aims to contribute to the achievement of the Sustainable Development Goals (SDGs), specifically:

- a. improve understanding among the general public, decision makers and in schools, of the importance of mathematics in education;
- b. contribute to capacity building in mathematical and scientific education, with special focus on girls and children from developing countries (SDG4);
- c. achieve gender equality and empower women and girls in mathematics (SDG5);
- d. improve understanding among the general public, with decision makers and in schools of the importance of mathematics as a tool for developments which lead to more prosperous economy circumstances (SDG9);
- e. emphasize the importance of basic research in mathematical sciences as the seed to breakthroughs in technology and the management of society (SDG8);
- f. highlight the role of mathematics in the organization of modern society, including economic, financial, health and transport systems, telecommunications in the quest for human well-being, etc. (SDG3);
- g. raise awareness of the role of mathematics in fighting disasters, epidemics, emerging diseases, invasive species (SDG11);
- h. highlight the role of mathematics in moving to a circular economy of sustainability compatible with preservation of biodiversity (SDG14 and 15);

- i. equip the general public and young people with tools for understanding the planetary challenges and the capacity to respond as knowledgeable citizens;
 - j. increase international networking and collaborations in public awareness of mathematics; and
 - k. increase the access to information, providing a simple way to give citizens a choice in all aspects of their daily life.
4. All schools, schools division offices, and regional offices are enjoined to support the 2020 IDM by organizing creative curriculum enrichment activities for learners and advocacy activities for other stakeholders such as parents, teachers, and non-teaching personnel.
5. Since March 14 falls on a Saturday, IDM activities shall be conducted on March 13, 2020, Friday, the same day that international official launch events will take place in Paris, France and Nairobi, Kenya.
6. Open source materials, including downloadable activities are available at the IDM website <https://www.idm314.org/>. In addition, illustrated examples of where mathematics can be found (Enclosure No. 1) may be accessed through a website dedicated to this year's theme, <https://everywhere.idm314.org/>.
7. The use of the IDM logo must be in accordance with the guidelines set by the IMU (Enclosure No. 2). An electronic copy of the logo and the logo usage guidelines may be downloaded from <https://www.idm314.org/logos.html>. On the other hand, the use of the DepEd logo in the promotion or advocacy of the IDM shall be guided by DepEd Order No. 31, s. 2019 titled **The Department of Education Service Marks and Visual Identity Manual**.
8. Expenses incurred relative to the observance of the 2020 IDM shall be charged to local funds, subject to the usual accounting and auditing rules and regulations.
9. For more information, please contact the **Bureau of Learning Delivery**, 4th Floor, Bonifacio Bldg., Department of Education Central Office, DepEd Complex, Meralco Avenue, Pasig City through email at bld.od@deped.gov.ph or at telephone nos. (02) 8638-4799 and (02) 8687-2948.
10. Immediate dissemination of this Memorandum is desired.


LEONOR MAGTOLIS BRIONES
Secretary

Encls.: As stated

Reference: DepEd Order No. 31, s. 2019

To be indicated in the Perpetual Index
under the following subjects:

BUREAUS AND OFFICES
CELEBRATIONS AND FESTIVALS
LEARNING AREA, Mathematics
SCHOOLS

2020 INTERNATIONAL DAY OF MATHEMATICS
March 14, 2020

“MATHEMATICS IS EVERYWHERE”

Mathematics is everywhere in **science and technology**.

A few examples:

- The success of search engines comes from their brilliant mathematical algorithms.
- Cryptography for secure communication relies on number theory.
- Medical imaging devices like computed tomography scan (CT-scan) or magnetic resonance imaging (MRI) measure numerical data and a mathematical algorithm builds an image out of them.
- Artificial intelligence and machine learning are now transforming the world: for instance, computer vision, automatic translation, autonomous vehicles, etc.
- The decoding of the human genome is a triumph of mathematics, statistics, and computer science.
- Mathematics was used to create the first photo of a black hole.

Mathematics is everywhere in the **organization of the civilization**.

A few examples:

- Mathematics helps optimize transport and communication networks.
- Mathematics helps understand and control the spread of epidemics.
- Statistics and optimization are used in efficient planning and managing of health, economics and social systems.
- Mathematics helps design electoral systems that better represent the people’s will.
- Mathematics helps understand the risks of natural disasters (floods, earthquakes, hurricanes) and preparing in advance.

Mathematics is essential to meet the **UN Sustainable Development Goals**.

A few examples:

- Mathematics is a tool for development. Quoting Nelson Mandela (June 1990), “Education is the most powerful weapon which you can use to change the world.” Mathematics is an essential part of education, which is necessary for better jobs.
- Mathematics is used to model the global changes and their consequences on biodiversity.
- Optimization techniques and data analysis are needed in the move to a sustainable use of the world resources.

- Artificial intelligence is used to extract data from satellite images and draw maps of urban, industrial, agricultural and forest areas, where traditional data are missing.
- Mathematics education empowers girls and women to a better future.
- Numeracy and scientific literacy help every citizen to better understand the planetary challenges.

Mathematics is **everywhere in whatever you do**.

A few examples:

- Mathematics inspires artists and musicians: perspective symmetries, tilings, fractals, geometric curves, surfaces and shapes; patterns, scales and sounds in music.
- Mathematics is helpful in games of strategy from backgammon or chess to solving a Rubik's cube or playing Awale.
- Mathematics is useful in budgeting.
- Nearly everyone uses some mathematical concepts: builders, farmers, shopkeepers, craftspersons, athletes, and many more.

Tell me about some activity or area and I will tell you where mathematics is.

A few examples:

- Mathematics is behind geolocation techniques, from navigations with the stars to GPS.
- Mathematics is behind the software of our smartphones.
- Mathematics makes your pension system sustainable.
- Mathematics makes realistic animation movies.
- Do you want to visit Mars one day? Without mathematics, this will never be possible.

Source: <https://www.idm314.org/>



IDM LOGO USAGE GUIDELINES

General use

- The logo must only be used for promoting, advertising and/or decorating locally, national or internationally organized IDM events.
- Whenever the logo is used, it must include the line “The International Day of Mathematics is a project by the International Mathematical Union (IMU) and was proclaimed by UNESCO.”
- Institutions and organizations are invited to show the relationship with the official celebration by using the line “**[Institution’s or organization’s name] celebrates the International Day of Mathematics**”.

How to use the logo

- The logo can be used in web sites, social media publications, printed posters, signs, software, videos, stickers and flyers.
- It must be at least 3 centimeters (1.2 inches) wide if printed and at least 200 pixels if on a screen.
- Requests to adapt the logo to the local language shall be made through email at info@idm314.org.

When NOT to use the logo

- For personal gain, commercial purposes, to sell products for commercial gain, to sell services or to promote a business.
- To imply that you or anyone else represents the International Day of Mathematics or that the IDM officially endorses any organization or activity.
- In association with activities that are illegal, violent, harmful or that would in any way hurt the reputation of the International Day of Mathematics.

Adapted from: <https://www.idm314.org/resources/logos/idm-logo-guidelines.pdf>