

SPECTRUM

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SPECTRUM as the newsletter editorial name is taken from spectrum widely known in physics world as an image or distribution of components of any electromagnetic radiation arranged in a progressive series according to wavelength that can be found in rainbow as the separation of colors.

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GET TO KNOW THE KILOMETER ZERO OF YOGYAKARTA

The kilometer zero was traditionally used to measure driving distances in guidebooks as the point where drivers marked their odometers at zero. These traditional markers are common to be found in many countries. Kilometer zero in other languages also known as zero mile marker, control stations, or control points.

Kilometer zero of Yogyakarta is marked by the monument located at the intersection of Jendral Sudirman Street and Mangkubumi Street. It is called "Serangan Umum" Monument that represented historical event of Indonesian independence. The monument that is also near the presidential palace of Indonesia has a symbolic value and it is also a reconstruction of general offensive that was happened on March 1st, 1949 in Yogyakarta.

The kilometer zero area in Yogyakarta located at the heart of the city. Therefore, the area around Serangan Umum Monument is very strategic. Around the kilometer zero area there are ancient buildings of the Dutch heritage and street markets. The existence of these buildings and street markets makes this kilometer zero becomes the economic center in the city because it is always crowded by tourists.

Some of them are Malioboro, Beringharjo Market, Kyai Ahmad Dahlan street, and Wijilan street. During night, along the sidewalk around the crossroads of Jenderal Ahmad Yani and Kyai Ahmad Dahlan street also become the location of youngsters and communities to gather and spend the night, accompanied by the city atmosphere that is very typical of its culture.





WITNESS THE JAVANESE CULTURE INSIDE YOGYAKARTA PALACE



Yogyakarta Palace, or Karaton Ngayogyakarta Hadiningrat in Javanese language, is a palace that was inaugurated as part of the Republic of Indonesia in 1950. Even so, this palace has existed since two centuries before. One of the Sultan's aides, KMP Widyosaputro, stated that the palace has been established in 1756.

"The palace was founded in 1756. Before the palace had stood, it was a kingdom called the Mataram Kingdom," he said.

KMP Widyosaputro also explained why the palace area is covered by sand. According to his explanation, there is a myth that when the palace was made, the Sultan asked Queen Kidul from the South Beach for help. The sand origin was from Parangtritis Beach. It covered the entire yard of the palace just in a single night. He said the people believed in the Queen Kidul that she will protect the city and reject reinforcements. They believed the Queen Kidul will come to Labuhan Ceremony at the shore of the South Beach.



"The Labuhan Ceremony is also held at Mount Merapi, Tawangmangu, and the South Beach. In the palace, there are also Sawo Kecik trees as a symbol of goodness," he told to Spectrum.

Many leaders said that Yogyakarta Palace was very interesting to them because they had never seen the life inside the Yogyakarta Palace before.

"I found that it is really interesting to learn about the Sultan, the history of Yogyakarta, and also Indonesia, to see a lot of really

unique artifacts and architecture, to see the clothes of the Sultan," said Chris Whittle, leader from Australia.

Yogyakarta Palace is one of the treasures in Indonesia. All heirlooms and cultural heritage there are important to be treated well. Therefore, the younger generation can see how the palace really upholds the respect and courtesy to the people.

A SOLID EXAMINATION INSIDE THE JURY ROOM



Something really serious happened inside the Jury Room of the 48th International Physics Olympiad in the afternoon. Dozens of sheets were checked by people that was divided into some arrangement. The room was filled with solid tension. All jury members were busy examining the exam sheets to be distributed later to the leaders. They got a really tight deadline for this task, as they only got time until 6 P.M. to examine all exam sheets.

The examination was a little bit tough, because the leaders had to stay focus all the time. They needed to check the sheets really carefully, to make sure they meet the appointed time. To deal with it, the jury members teamed up with the committees to help them fastening the process. Once in a while, the jury members also rested their eyes by going outside and seeing the greenery or simply drinking water for refreshment. Those were their

ways to make sure their speed was stable until the deadline ended.

The key to complete this task was time management. If something went wrong during the examination, the possibility of delay would be larger. They needed to race with the time, so the leaders could complete the task according to the deadline as well.

BEHIND IPHO 2017: THE TASK OF RESTLESS MEDICAL OFFICER



Medical team is the vital part during the IPHO 2017, because this team needed to stay available all the time. They are in charge to take care of everyone contributing in the IPHO

2017, whether it is the participants, leaders, jury members, committees, or other people. Among of them are doctor, nurse, and also volunteers from Indonesian Red Cross.

"Yes, we need to be available all the time. If someone gets sick or something happens, we will give them the first aid to minimize the effect of sickness or accident as soon as possible", said Hendroyono, the medical staff of IPHO 2017.

Obviously, it is not easy to maintain the time management. They were prepared to take necessary action if something bad happens, so all of them were mentally and physically ready to accompany the all participants of the IPHO 2017 until the end.

Most of the time, they handled the exhausted students. Yet, an inevitable occurrence happened once. "There was an urgent condition where a student had an alleged heart attack, so we needed to drive him to hospital as soon as possible. Luckily, the student was okay. He was checked and went home afterwards", added him.



KOTAGEDE SILVER CRAFT MAKER



“The real voyage of discovery consists not in seeking new landscapes, but in having new eyes.”

— Marcel Proust (Novelist)

As the quote goes, the bus was started to be filled with the students from the participating countries of the IPhO 2017. After days of tiresome study for the exams, the students finally embarked on their journey to experience the other side of Yogyakarta. So here came the time to chill. They went to some well-known spots of Yogyakarta. Therefore, the only memory they had about the IPhO 2017 is not only about competing, but also having fun together.

Our first stop was the Artisan Silver Craft Maker of Kotagede, a historical district of Yogyakarta. It was formerly known as Mentaok Forest. The myth grew that this district was the meditation site of Danang Sutawijaya, the king of ancient Mataram Kingdom. It was principally a pilgrimage town with

its famous big tomb. Yet, a few years ago, the district was transformed into the central of chocolate, coffee, batik, and silverware central of Yogyakarta. Kotagede had been a tourist attraction with ancient touch in it since then.

There, the students got a brief insight about the whole process of crafting the silver into jewelry, tableware, and so on. It is one of the biggest handcrafter central in Indonesia that is specialized in metal forgery. The first time we arrived there, the place was quiet, as it was 9 in the morning. It felt more comfortable without too many people. It was really nice to see the process of the end-used product,

so we could learn from each of silverware.

Yet, it was not all about Batik on Kotagede. The students also learned the process of handcrafted batik making and coffee roasting. They visited each spot within 15 minutes, and spent their time worthwhile. Some of them bought coffee, while the other bought chocolate and silverware.

To end the journey to Kotagede, the students got into the bus. They were ready for the next destination. They wondered what surprises they were going to get. What a wonderful experience.



PLOWING IS LIVING: A TEMBI JOURNEY

Tembi Village is well-known for its distinction on making nature as the part of lifestyle. The village lives a simple life, with their wooden-made house as the sanctuary and farming as their way of conserving food. The coconut trees and rice fields could be seen everywhere. It is a tranquil place that would easily make you happy. It is the main thing that you

could think of while you were in the village. It holds the documentation as well as the history of Javanese culture that was placed at Bantul Region of Yogyakarta. Continuing the journey to Tembi Village, the students were welcomed by the villagers, and entertained by the local musicians.

The most awaited activities was plowing the rice fields. The students experienced what Javanese called “mbajak sawah”. It included a water buffalo as the supporter and a human to control it, so the field could be worked on for farming purposes. Some adrenaline-rushed students got down to the field, to be able to know how it feels.

However, the heat that crawled around Tembi made some of students undo their intension to do it. Instead, they hung around together and talked about each culture and experience in the competition. It didn't make it less fun, yet it is challenging, because a lot of students got out from the field with twinkle on their faces.



HUNTING THE LOCAL CRAFTS AT THE SUBURBS

Batik is a craft that has high artistic value and adheres to the Javanese culture. Batik tradition is a hereditary. Luckily, Batik is one of the heritage of Indonesia's ancestors that is still preserved. Even, in 2009, Batik was selected for UNESCO's (United Nations Educational, Scientific and Cultural Organization) Representative List of the Intangible Cultural Heritage of Humanity.

While visiting Yogyakarta, it seems incomplete if we do not take some time to look for some souvenirs. Therefore, in the afternoon, some of the leaders went to Hamzah Batik to find souvenirs. Not only Batik, in the store, there are also various



types of traditional crafts. There are silverware, necklaces, bracelets, toys, and others.

Ramal Coorey, leader from Sri Lanka, had other plans to buy Batik. Ramal will use the Batik as a material to make a dress. “Actually, I bought the materials for my wife to make a dress,” he told Spectrum.



Leaders from Bosnia and Herzegovina, Senad Isaković, also bought some gifts for his family and relatives in his country. “I bought some magnets, I bought some jewelries for my mom, the figures for my friends, just bought the thing that shows Indonesian spirit,” he said.



Image source: <https://i.ytimg.com>

WATER GLASS MAGIC TO FASCINATE YOUR FRIEND!

Magic is not only for magicians. So many daily life hacks contain physics in it. One of them is the water glass magic. When the glass is full of air, you will have the same amount of pressure, both downwards and upwards. They will be balanced on both sides. When the glass full of water, the water will start to move downwards and nothing can take its place. This produces an area of extremely low pressure. The higher pressure from the outside will be strong enough to keep the paper in place as if it is floating against the gravity.

YOU NEED:



Image source: <http://img.kb-cdn.com/>

A glass of water



Image source: <http://polandfarm.com/>

One paper postcard

YOU HAVE TO:

1. Prepare a glass of water on a flat surface
2. Put the paper on the top glass
3. Press the paper gently while raising the glass
4. Slowly turn the glass upside down
5. Voila, you have become a magician!

M	T	X	B	T	J	M	J	M	M	W	L
B	A	T	I	K	N	A	E	O	D	L	N
E	T	L	J	E	V	E	D	D	O	D	E
Y	D	B	I	A	R	E	D	O	A	X	Y
B	P	U	N	O	R	U	H	U	C	L	F
K	L	E	C	A	B	C	T	U	T	A	N
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K	H	L	N	D	L	R	A	N	N	K	P
R	B	M	T	L	D	M	T	B	M	Z	J

IPhO 2017 WORD SEARCH

Find 12 words about the IPhO 2017 and Yogyakarta horizontally, vertically, diagonally, forwards, or backwards



