



# KANCIL SCIENCE *Competition* 2023

COMPETITION DAY  
**14<sup>TH</sup> JUNE**

SCAN ME!



KANCILSCIENCEMALAYSIA



MALAYSIANEDUCOMPETITION



WWW.KANCILSCIENCE.MY

## INTRODUCTION

Kancil Science Competition is an annual competition for primary, secondary, and pre-university students that aims to challenge students' science knowledge through critical thinking, problem-solving, and general scientific knowledge. More than 56,000 students from almost 3,000 schools have participated in this competition since 2018. In Kancil 2022, there were 18,477 participants representing over 771 schools from all over Malaysia. This competition also is a platform for students to be selected in the national team and participate in the International Junior Science Olympiad (IJSO).



## OBJECTIVES

- To allow students to apply their inquiry-based science skills and knowledge that they have learned in school
- To increase students' interest in science by relating science with their daily life and current environment
- To generate the students' creativity and critical thinking skills with some of our higher-order thinking skills questions
- To invite the medalists in this competition to join the Malaysian Junior Science Olympiad (MyJSO) and then form a national team to participate in International Junior Science Olympiad (IJSO)

## STUDENTS' BENEFITS

1. Enhance students' interest and knowledge in science
2. Expose students with some critical thinking and daily life science related questions
3. Get a chance to participate in the International Junior Science Olympiad (IJSO)

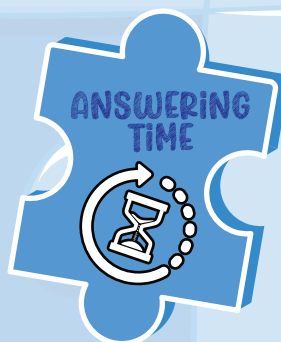
# COMPETITION FORMAT



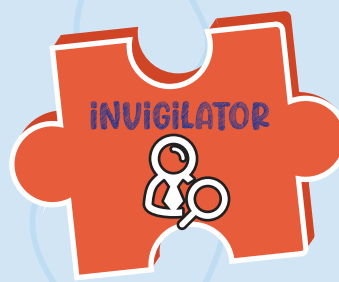
Paper-based competition



30 objective questions with three level of difficulties (easy, medium, and difficult)



60 minutes



Invigilated by the assigned Teacher-In-Charge

## LANGUAGES

- ENGLISH
- BAHASA MELAYU
- MANDARIN
- TAMIL (for Alpha & Beta categories only)

## CATEGORIES

- ALPHA  
Year 1, 2 & 3  
Age 7, 8 & 9
- BETA  
Year 4, 5 & 6  
Age 10, 11 & 12
- GAMMA  
Form 1, 2 & 3  
Age 13, 14 & 15
- DELTA  
Form 4, 5, 6 & Pre-University  
Age 16, 17 & 18



Students should be registered into the mentioned categories according to their academic year in 2023/2024 session

# COMPETITION PROCEDURE

1. The students should **ONLY** be registered by the designated Teacher-In-Charge
2. Register at [www.contesthub.my/register](http://www.contesthub.my/register)
3. Fill in the teacher's and school's details
4. Fill in the student details in the **List of Competition**
5. Complete the payment
6. The question package and Teachers' Guide booklet will be sent to schools/centers
7. On the competition day, the schools will conduct the contest at their own venues
8. Schools are responsible for enforcing the regulations of the competition
9. Schools will send the OMR answer sheets to the Secretariat
10. The results will be announced 3 months after the competition
11. The certificate and medal (if any) will be posted to the school one month after the result is published

*There is no online method for individual participants*

*Individual participants should register under their school or join another school as a surrogate candidates*



# KANCIL SCIENCE ROAD TOUR

We introduced our competition to schools from various regions around Malaysia who had invited us by giving talks and conducting some fun activities



## ACHIEVEMENTS OF THE MALAYSIAN TEAM IN IJSO



### International Junior Science Olympiad (IJSO)

IJSO is an annual competition in the Natural Sciences for students who are under sixteen years old on 31<sup>st</sup> December of the competition year. IJSO has been established in recognition of the significance of the Natural Sciences in the general education of young people and in all aspects of their lives. It is a purely educational event. Previously, IJSO has been participated by 67 countries all around the world. Visit [www.ijsoweb.org](http://www.ijsoweb.org) for more info. IJSO 2023 will be hosted by Thailand.

In order to be selected to participate in IJSO, the medalist of Kancil Science Competition (gold, silver, and bronze) from Gamma category (student aged 13, 14, and 15 years old) will be invited to participate in the Malaysian Junior Science Olympiad (MyJSO). They will be invited via email after the announcement of Kancil's result. The top six contestants from MyJSO will then be selected and be trained in order to represent Malaysia in IJSO 2023. For more info, kindly visit [www.kancilscience.my](http://www.kancilscience.my).



IJSO 2018, Botswana, Southern Africa  
1 bronze medal



IJSO 2019, Doha, Qatar  
1 silver and 5 bronze medals



# SAMPLE QUESTIONS



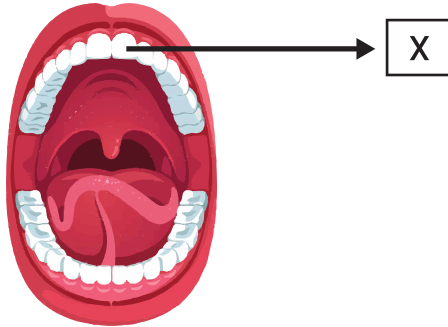
**Alpha Category**

Age: 7, 8 & 9

## QUESTION 1

The picture shows some human teeth.

Gambar di bawah menunjukkan gambar gigi manusia.



What happened if the part X broken?

Apakah yang akan terjadi sekiranya bahagian X patah?

- A. Cannot tear food**  
*Tidak dapat mengoyakkan makanan*
- B. Cannot cut food**  
*Tidak dapat memotong makanan*
- C. Cannot grind food**  
*Tidak dapat melumatkan makanan*
- D. Cannot break food**  
*Tidak dapat mematahkan makanan*
- E. Cannot destroy food**  
*Tidak dapat menghancurkan makanan*

## SOLUTION

Humans have three types of teeth which are canines, incisors and molars. The part X in the picture refers to the **incisors** and the function of incisors is **to cut food**. If part X is broken, then it is difficult for a person to cut his food in the mouth.

**Answer: B**

## QUESTION 2

Aminah is moving around in a dark room due to power failure. What type of sense she can use to move around in a dark room?

Aminah bergerak di dalam sebuah bilik gelap kerana bekalan elektrik terputus. Apakah jenis deria yang boleh dia gunakan untuk bergerak di dalam bilik gelap?

- A. Sense of sight / Deria penglihatan**
- B. Sense of taste / Deria rasa**
- C. Sense of hearing / Deria pendengaran**
- D. Sense of smell / Deria bau**
- E. Sense of touch / Deria sentuhan**

## SOLUTION

There are five types of senses namely sight, smell, hearing, taste and touch. Eyes are used for sight, nose for smell, ears for hearing, tongue for taste and hands for touch. Since the room is dark due to power failure, it is hard to see the surrounding. Hence, we can use our sense of **touch** by touching the nearby things in order to help us move around in the room. Hence, the answer is sense of touch.

**Answer: E**



### QUESTION 3

Picture below shows a dolphin.

*Gambar di bawah menunjukkan seekor ikan lumba-lumba.*



Dolphin rises to the surface of the water to inhale air to allow it to breathe. Why do dolphins often swim to the surface of the water although their habitat is in the water?

*Ikan lumba-lumba naik ke permukaan air untuk menyedut udara bagi membolehkannya bernafas. Mengapakah ikan lumba-lumba kerap naik ke atas permukaan air walaupun habitatnya di dalam air?*

**A. Dolphins breathe through gills**

*Ikan lumba-lumba bernafas dengan menggunakan insang*

**B. Dolphins breathe through moist skin**

*Ikan lumba-lumba bernafas dengan menggunakan kulit lembap*

**C. Dolphins breathe through spiracles**

*Ikan lumba-lumba bernafas dengan menggunakan spirakel*

**D. Dolphins breathe through gills and moist skin**

*Ikan lumba-lumba bernafas dengan menggunakan insang dan kulit lembap*

**E. Dolphins breathe through lungs**

*Ikan lumba-lumba bernafas dengan menggunakan peparu*

**Answer: E**

### **SOLUTION**

There are four respiratory organs in animals which are lungs, gills, moist skin and spiracles. Although dolphins live in water, but dolphins breathe through **lungs**. That explains the reason dolphin rises to the surface to inhale air.



## Gamma Category

Age: 13, 14 & 15

### QUESTION 4

Aisyah has symptoms such as fever, rash, joint pain and conjunctivitis such as red eyes. What is the name of diseases faced by Aisyah?

*Aisyah mempunyai gejala seperti demam, ruam, sakit sendi dan konjuktivitis iaitu mata kemerahan. Apakah nama penyakit yang dihadapi oleh Aisyah?*

- A. Zika / Zika
- B. Malaria / Malaria
- C. Dengue / Denggi
- D. Cholera / Kolera
- E. Typhoid / Kepialu



### SOLUTION

Fever, rash, muscle pain, joint pain, headache and conjunctivitis are symptoms of being infected with the **Zika** virus. Symptoms of Malaria are shivering, fever and sweating. Dengue symptoms such as joint pain, fever, headache and watery eyes. Zika virus, Malaria and dengue disease can be infected through mosquito bites. Cholera symptoms are diarrhea and vomiting. Symptoms of Typhoid are fever, bloody intestines and a red rash. Cholera and Typhoid disease are caused by contaminated food and water.



## Delta Category

Age: 16, 17, 18 & Pre-university

### QUESTION 5

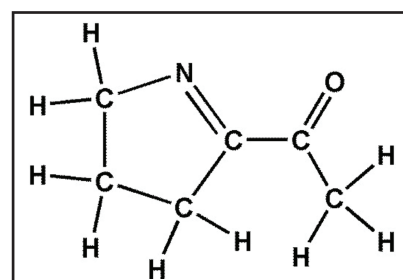
Pandan leaves, well-known for their distinct aroma and flavour, is widely used in Malaysian cuisine. The characteristic aroma of pandan comes from a compound, 2-acetyl-1-pyrroline as shown in the picture below. Based on the picture, which of the following are true about this compound?

*Daun pandan, terkenal dengan aroma dan perisa yang unik, selalunya digunakan dalam masakan Malaysia. Aroma daun pandan terhasil daripada satu sebatian, 2-asetil-1-pirolina seperti yang ditunjukkan pada gambar di bawah. Berdasarkan gambar tersebut, yang manakah antara berikut adalah benar tentang sebatian ini?*

[RAM / JAR: H=1, C=12.0, N=14.0, O=16.0]

- I. The molecular formula of this compound is  $C_6H_9NO$   
*Formula molekul sebatian ini ialah  $C_6H_9NO$*
- II. This compound has only covalent bonds  
*Sebatian ini hanya mengandungi ikatan kovalen*
- III. This compound has a molecular weight of  $111g\ mol^{-1}$   
*Sebatian ini mempunyai berat molekul  $111\ g\ mol^{-1}$*
- IV. This compound is an ionic compound  
*Sebatian ini merupakan sebatian ionik*

- A. I & II
- B. I & IV
- C. II & III
- D. I, II & III
- E. I, III & IV



Structure of 2-acetyl-1-pyrroline

### SOLUTION

From the above statement, the only statement that is not true is statement IV. A compound that contains ions and is held together by ionic bonds is called an ionic compound. The periodic table can help us recognise many of the compounds that are ionic; when metal is combined with one or more non-metals, the compound is usually ionic. Therefore, C-carbon, H-hydrogen, N-nitrogen and O-oxygen are non-metal;  $C_6H_9NO$  is non-ionic compound.



## AWARDS AND CERTIFICATES

- Every participant will receive a certificate of participation issued by Kancil Science Malaysia
- Top 10% of the students will receive a gold, silver or bronze medal
- The allocation of percentage for participants is as follows:



## IMPORTANT DATES

Early Bird Registration	3 <sup>RD</sup> JAN – 24 <sup>TH</sup> MARCH 2023
Normal Registration	25 <sup>TH</sup> MARCH – 17 <sup>TH</sup> MAY 2023
<b>KANCIL DAY</b>	<b>14<sup>TH</sup> JUNE 2023</b>
OMR Answer Sheets Deadline	21 <sup>ST</sup> JUNE 2023
Result Announcement	SEPTEMBER 2023

## REGISTRATION FEE

**RM31.50**  
per participant

**EARLY BIRD  
10% DISCOUNT**  
(3<sup>RD</sup> JAN UNTIL 24<sup>TH</sup> MARCH 2023)

**RM35**  
per participant

**NORMAL  
REGISTRATION**  
(25<sup>TH</sup> MARCH UNTIL 17<sup>TH</sup> MAY 2023)

**Payment method:** Online payment (BillPliz) or manual payment (cheque or local order (LO))

## HOW TO REGISTER?

- Registration can be made at **[www.contesthub.my](http://www.contesthub.my)**

## CONTACT US

**KANCIL SCIENCE MALAYSIA**  
c/o ARDENT EDUCATIONAL CONSULTANTS SDN BHD  
100-1, Jalan 2/23A, Off Jalan Genting Klang, Taman Danau Kota, 53300, Setapak, Kuala Lumpur.