



奧冠教育中心

OLYMPIAD CHAMPION EDUCATION CENTRE

Room 309-310, 8 Jordan Road, Yau Ma Tei, Kowloon, Hong Kong SAR, CHINA

Tel (852) 3153 2028 / 9310 1240 Fax (852) 3153 2074

Website: www.olympiadchampion.com Email: olympiadchampion@gmail.com



Hong Kong International
Science Olympiad

香港國際科學競賽初賽 2019 - 2020 (香港賽區)

HONG KONG INTERNATIONAL SCIENCE OLYMPIAD

HEAT ROUND 2019 - 2020 (HONG KONG REGION)

小學六年級 Primary 6

時限：60 分鐘

Time allowed: 60 minutes

模擬試題

Mock Paper

考生須知：

Instructions to Contestants:

1. 本卷包括 試題 乙份，試題紙不可取走。
Each contestant should have ONE Question-Answer Book which CANNOT be taken away.
2. 本卷共 4 個範疇，每範疇有 5 題，共 20 題，答對得 2 分，空題得 0 分，**答錯倒扣 1 分。**
There are 4 exam areas and 5 questions in each exam area. There are a total of 20 questions in this Question-Answer Book. Two points for correct answers. No points for incorrect answers. **ONE penalty point will be deducted for incorrect answers.**
3. 請將答案寫在 **答題紙** 上。
All answers should be written on ANSWER SHEET.
4. 比賽期間，小學組不得使用計算工具，**中學組可以使用計算工具。**
During the contest, NO calculators can be used for PRIMARY GROUP **but calculators can be used for SECONDARY GROUP.**
5. 本卷中所有圖形不一定依比例繪成。
All figures in the paper are not necessarily drawn to scale.
6. 比賽完畢時，本試題會被收回。
This Question-Answer Book will be collected at the end of the contest.

本試題不可取走。

請將答案寫在

答題紙

 上。

All answers should be written on the ANSWER SHEET.

THIS Question-Answer Book CANNOT BE TAKEN AWAY.

未得監考官同意，切勿翻閱試題，否則參賽者將有可能被取消資格。

DO NOT turn over this Question-Answer Book without approval of the examiner.

Otherwise, contestant may be DISQUALIFIED.

請將答案寫在 **答題紙** 上。

All answers should be written on the ANSWER SHEET.

選擇題 (第 1 至 20 題) (答對得 2 分, 空題得 0 分, 答錯倒扣 1 分)

Multiple Choice Questions (1st ~20th) (Two points for correct answers. No points for incorrect answers. **ONE penalty point will be deducted for incorrect answers.**)

Physics

物理

1. The volume of Jupiter is approximately 1300 times that of the Earth and the mass of Jupiter is about 317 times that of the Earth. Calculate the ratio of mass density of Jupiter and the Earth.
木星的體積大約是地球的 1300 倍, 木星的重量大約是地球的 317 倍, 求木星與地球的重量密度比例。

A	B	C	D	E
0.24	1	4.10	317	1300

2. From a mercury thermometer, the distance between 0°C and 70°C is 35 cm. Calculate the temperature when the mercury is 42 cm long.

在一枝水銀溫度計中, 0 度與 70 度的距離是 35 厘米, 在水銀長 42 厘米時, 求溫度。

A	B	C	D	E
0	35	42	84	126

3. Which metal below is used for aerospace?

下列哪種金屬是常用於航天科技?

A	B	C	D	E
Boron	Iodine	Titanium	Bromine	Silicon
硼	碘	鈦	溴	矽

4. Which of the following process is a physical reaction?

下列哪一項不是物理轉變?

A	B	C	D	E
Boiling water	Dissolving	Melting	Freezing	Corrosion
燒水	溶解	融化	冷凍	腐蝕

5. What energy is the potential energy of a ball transferred to when the ball is dropped from mid-air?

當球從半空中落下時, 球的勢能轉換到什麼能量?

A	B	C	D	E
Electrical energy	Kinetic energy	Chemical energy	Thermal energy	Light energy

請將答案寫在 **答題紙** 上。

All answers should be written on the ANSWER SHEET.

電能	動能	化學能	熱能	光能
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Biology
生物

6. Which animal has the smallest population in that ecosystem?

下列哪一種動物於生態系統中產生最少污染?

A	B	C	D	E
Insect	Bird	Mouse	Cricket	Snake
昆蟲	鳥	老鼠	蟋蟀	蛇

7. If you want to see the frequency of exhalation and inhalation of an insect, which parts of the insect's body should you observe?

如果你打算觀察昆蟲呼氣和吸入的頻率，你應該觀察昆蟲的哪一部份?

A	B	C	D	E
Head	Antennae	Abdomen	Thorax	Legs
頭	觸角	腹部	胸部	腳

8. A man has a broken humerus. At which part of the body do you have to apply a plaster cast in order to heal the man's bones?

一名男士的大臂出現骨折，為了愈合骨頭，你應該在他哪一個身體部分放置石膏模型?

A	B	C	D	E
Upper foot	Neck	Stomach	Palm and finger	Pelvic
腳的上部分	頸	胃	手掌和手指	骨盆

9. Which of the following animals is in the same group as a dog?

下列哪一種動物與狗是同一類的?

A	B	C	D	E
Blue whale	Octopus	Sea horse	Frog	Fly
藍鯨	章魚	海馬	青蛙	蒼蠅

10. Which of the following food contains vitamin C?

以下哪種食物內含有維他命 C?

請將答案寫在 **答題紙** 上。

All answers should be written on the ANSWER SHEET.

A	B	C	D	E
Carrots	Spinach	Rice	Orange	None of the above
紅蘿蔔	菠菜	米飯	橙	以上皆非

Chemistry

化學

11. What is the highest temperature of steam?

水蒸氣的最高溫度是多少？

A	B	C	D	E
100°C	100°F	274°C	374.5°C	infinitely large
100°C	100°F	274°C	374.5°C	無限大

12. Which element below is in gas state at room temperature?

下列哪種元素在室溫下是氣態？

A	B	C	D	E
Potassium	Carbon	Titanium	Sodium	Nitrogen
鉀	碳	鈦	鈉	氮

13. Which substance below cannot conduct electricity?

以下哪一項不能夠導電？

A	B	C	D	E
Hydrochloric acid	Sulfuric acid	Lime water	Distilled water	Lemon juice
鹽酸	硫酸	石灰水	蒸餾水	檸檬汁

14. What is the pH value of lemon?

檸檬的酸鹼性值是多少？

A	B	C	D	E
1.0	3.0	5.0	8.0	12.0

15. Which metal is usually used to make roads?

以下哪種金屬通常用來建造馬路？

請將答案寫在 **答題紙** 上。

All answers should be written on the ANSWER SHEET.

A	B	C	D	E
Copper	Calcium	Iron	Lithium	Asphalt
銅	鈣	鐵	鋰	瀝青

Integrated Science

綜合科學

16. What is the percentage of nitrogen in the air?

空氣中大概有百分之幾是氮氣?

A	B	C	D	E
26%	39%	65%	78%	100%

17. Why do scientists repeat the measurement during the experiments?

為什麼科學家在做實驗期間重複測試?

A	B	C	D	E
check that the equipment is working	manipulate the equipment	list all the results in a table	minimize experimental error	change the experimental conditions
檢查器材是否正常運作	操控器材	將所有結果皆列在同一個表單內	減少實驗中的誤差	改變在實驗中的條件

18. What is the smallest Ocean in the world?

世界上最小的海洋是什麼?

A	B	C	D	E
The Atlantic Ocean	The Pacific Ocean	The Indian Ocean	The Southern Ocean	The Arctic Ocean
大西洋	太平洋	印度洋	南大洋	北冰洋

19. Who is the discoverer of steam engine?

誰發現了蒸汽機?

請將答案寫在 **答題紙** 上。

All answers should be written on the ANSWER SHEET.

A	B	C	D	E
Thomas Edison	Isaac Newton	Albert Einstein	Nicola Tesla	Watt
愛迪生	牛頓	愛因斯坦	特斯拉	瓦特

20. Andy is a scientist. He noticed that bacteria are growing on a plate of Agar. Bacteria did not grow near a mold that appears on the same plate. He wrote in his laboratory report: "The mold may produce a substance that kills bacteria." This statement is best described as

安迪是一名科學家，他發現了細菌在一碟菜上繁殖中，細菌沒有在霉菌附近繁殖，他寫在實驗報告中「霉菌可以製造一個物質來殺死細菌」。這句說法最佳是

A	B	C	D	E
an observation	a hypothesis	a generalization	a conclusion	an assumption
一個觀察	一個假設	一個推論	一個結論	一個假設

~ 全卷完 ~
~ End of Paper ~