

## Summative Assessment Test Term IV Grade 10

### Vocabulary A Complete the sentences with the correct word.

- fertility • expansion • radicals • contraction • process • elements • properties
- constellation • evolution • collapse

- 1 According to the Cyclical Universe Theory, the ..... of our universe will occur trillions of years from now, when it stops expanding.
- 2 The documentary showed the ..... of life on Earth over the last three million years.
- 3 When I looked up to the sky at night, I could see a(n) ..... of stars that had the shape of a bear.
- 4 The periodic table has over a hundred chemical .....
- 5 The enzyme telomerase helped improve the ..... of mice.
- 6 Some scientists believe one of the things which caused the Big Bang was the ..... of a prior universe.
- 7 Free ..... are molecules which harm our cells over time.
- 8 When scientists talk about the ..... of the universe, they are referring to when it gets bigger.
- 9 Many scientists are trying to slow down the ageing .....
- 10 The teacher asked her students to write down the ..... of the materials in their notebooks.

### B Circle the correct item.

- 1 If something is anaerobic, it means that it can **breed / survive** without oxygen.
- 2 A hiccup sound is caused when air meets our **voice / vocal** box.
- 3 Never drive when you're tired – you need to **stay / become** alert when you're on the road.
- 4 This treatment will help to **repair / convert** some of those damaged cells.
- 5 Beth has a(n) **virus / allergy** to nuts and so she has to be careful what she eats.
- 6 In our class, we learnt about the **impact / motivation** science has had on our lives.
- 7 Our bodies **breathe / release** adrenalin when we are scared, excited or embarrassed.
- 8 Exercise **stretches / increases** our heart rate and makes us breathe more quickly.

### Grammar C Choose the correct item.

- 1 What is one of ..... theories on the universe?  
A the latest            C later  
B the most latest    D latest
- 2 If I ..... in the same situation as you were, I'd have done the same thing.  
A am                    C would be

**B** were                      **D** had been

**3** Did you know that Jupiter is ..... than Mars?

**A** larger                      **C** more larger

**B** more large                **D** the largest

**4** Sophia wishes she ..... more attention in chemistry class.

**A** pays                        **C** would pay

**B** will pay                    **D** would have paid

**5** British Science Week is one of the ..... known events in the UK.

**A** most                        **C** more

**B** best                         **D** well

**6** If I ..... the newspaper, I'd have known about the exhibition.

**A** read                        **C** was reading

**B** would read               **D** had read

**7** All ..... forms depend on water for their survival.

**A** life                         **C** alive

**B** living                      **D** lively

**8** Make sure you don't spend ..... money than you can afford on your new camera.

**A** much                       **C** most

**B** more                       **D** the most

**9** It would have been better if you ..... the tickets earlier.

**A** would buy                **C** bought

**B** had bought               **D** have bought

**10** If only I ..... in British Science Week, but I have to study for my exams.

**A** would participate

**B** could participate

**C** would have participated

**D** had participated

**11** If I ..... warmer clothes, I wouldn't have felt so cold.

- A wore                      C has worn  
B was wearing            D would have worn

12 If only I ..... better at chemistry; I'd be able to take part in the science fair.

- A am                        C would be  
B were                      D had been

13 If only I ..... harder; I'd have passed my exams.

- A studied                 C would have studied  
B was studying          D had studied

14 Many people still want to explore space ..... its risks.

- A although                C despite  
B however                D even though

15 Everything at John's party was ....., the decorations, the gifts and even the food!

- A science-theme  
B science-themed  
C scientific-themed  
D scientifically-themed

**D Fill in the correct particle.**

- 1 "When did you become a member of this book club?" "I joined ..... last month."
- 2 The teacher spent all morning handing ..... information sheets about British Science Week.
- 3 There is nothing better than hanging ..... with family and friends.
- 4 We need to prevent pollution from building ..... in the atmosphere.
- 5 There will be science activities at the museum this weekend. Do you want to join .....

**Reading E** Read the text and match the headings to the paragraphs. One heading is extra.

Black Holes

*Black holes are considered amongst the most mysterious objects in the universe.*

*What are they and what can we learn from them?*

1

A black hole is a region of space where gravity is so strong that nothing can escape the region once it has been pulled into it. Ever.

2

In space, the only objects that can form black holes are large stars – stars many times larger than our own Sun. At the end of their lives, these stars collapse under their own weight and all their matter gets pressed into a tiny area. While the original star may have been millions of miles wide, the resulting black hole is just a few miles across. It is this huge amount of material squeezed into a small area that gives black holes their super-strong gravity.

3

Black holes are invisible; remember, nothing can escape from a black hole, not even light! However, scientists are able to find them by studying their effects on the objects around them. When something gets too close, it is swallowed up by the black hole. The central point of a black hole is where gravity is strongest.

4

Black holes have a reputation for sucking in everything around them – a bit like a vacuum cleaner! But that's not very accurate. Black holes are better compared to a waterfall: the nearer you get to the edge, the harder it is to resist being pulled over it. Stars and planets actually have to get very close to a black hole to be sucked in by its gravity. From a great distance, the gravity of a black hole is no different to the gravity of a star of the same mass. In other words, if the Sun were ever to become a black hole (which it couldn't: only stars much larger than our Sun can end their lives as black holes), there would still be no danger of Earth falling into it. Why not? Because the black hole would have the same gravity as the Sun so if the Earth did not move any closer, the black hole's gravity would not be strong enough to pull it in.

5

Black holes are everywhere. Astronomers believe there are millions of black holes in the Milky Way Galaxy alone. But don't worry. The nearest known black hole to Earth is 1.600 light years away – far too distant to affect us.

6

The gravity of black holes is so strong that scientists believe strange things happen near them. Albert Einstein proved that gravity affects time and space. For instance, if you approach a black hole, scientists think that time will seem to slow down. And at the centre of a black hole, they believe time stops altogether and the laws of physics no longer apply. No one knows how or why time could come to an end inside black holes. By studying black holes, scientists hope to one day discover new secrets about time, space and our universe!

- A Time travel – fact or fiction?
- B What can we learn from black holes?
- C What does a black hole look like?
- D What is a black hole?
- E How common are black holes?
- F How do black holes form?
- G How do black holes affect things near them?

**Listening F Listen to a teacher talking to her class about a visit to a planetarium. For questions 1-5, choose the best answer A, B, C or D.**

- 1 Where do most of the images displayed in the planetarium come from?
  - A from telescopes in the planetarium
  - B from telescopes in space
  - C from spacecraft travelling in space
  - D from people who have taken pictures of the night sky
  
- 2 What will the students experience at the planetarium?
  - A a ride in a spacecraft
  - B a virtual journey through space
  - C a chance to use a telescope
  - D an opportunity to try on a spacesuit
  
- 3 What does the teacher say about the school project?
  - A It should be handed in before the trip.
  - B It should be handed in on the day of the trip.
  - C It should be as realistic as possible.
  - D It should be about the planetarium.
  
- 4 Why is the teacher talking to the class?
  - A to tell students what homework they have to do
  - B to discuss a school excursion
  - C to advise students to visit the planetarium
  - D to teach students about the universe
  
- 5 What does the teacher mean when she says, “try to be as in depth as possible?”
  - A The students should gather plenty of information.
  - B The students should not research too many things.

- C The students' work should be completely original.
- D The students are not allowed to ask for help.

**G Read the rubric, match the viewpoints to the reasons/examples and write an essay (120-180 words). Remember to include:**

- the topic & your opinion
- viewpoints & examples
- opposite viewpoints & examples
- a summary/restatement of your opinion

**You have had a class discussion about the following question: *Should we colonise space?* Now your teacher has asked you to write an essay giving your opinion.**

**Viewpoints**

<b>1</b>		It will help us find an alternative
<b>2</b>		It will help us find more resources.
<b>3</b>		It's very expensive.

**Reasons/Examples**

- A** Technology used and developed costs millions of dollars./Money could be spent on fixing problems on Earth.
- B** Scientists have discovered the moon has rich resources for a colony./If Earth runs out of resources, we will be able to get them elsewhere.
- C** Scientists are now exploring the moon./If planet Earth runs out of space we will have another place to live.

<b>The topic:</b>		<b>Your opinion:</b>	
<b>Viewpoints:</b>		<b>Examples:</b>	
<b>Opposite viewpoints:</b>		<b>Examples:</b>	
<b>A summary of your opinion:</b>		<b>A restatement of your opinion:</b>	