

15 Bird brain

Level: 

Let's think!

1. What bird is known for its ability to carry mail?
2. What bird is known for its ability to copy human speech?

PLAYLIST



READ ALONG



VOL. 2 Little Scientist
NO. 15 Summer Issue

Birds are smarter than you think

1 Have you ever wondered if birds are an intelligent species? We often use the term 'bird brain' to say that someone is unintelligent, but we have been mistaken all along. Despite their small brains, birds are much cleverer than we think.

5



PIGEON

2 Take one of the most common birds in Hong Kong, pigeons, for example. They can be trained to differentiate between the artwork of Picasso and Monet, two artists who painted in distinct styles. What is more fascinating is that they can recognise the paintings even though they have never seen the two artists' works before. This demonstrates their understanding of different painting styles.

10

3 Scientists now know that birds' brains are not actually small in relation to their size. In fact, they are packed with neurons, giving them superior learning abilities. They have a higher density of neurons than many mammals, including primates.

4 Many bird species possess remarkable memory. Birds like jays and nuthatches are known for their habit of storing food. Can you imagine remembering hundreds of locations where you have hidden your food, even after many months have passed?

15



JAY

5 Crows, on the other hand, can remember human faces. In an experiment, crows were captured and then released by a man wearing a mask. When a different man wearing the same mask appeared at a later time, even the crows who were not present during the first experiment avoided him. Surprisingly, many years after the

20



NUTHATCH



CROW

25

original crows had died, their offspring still avoided masked men. It appears that crows pass on this knowledge from generation to generation!

PARROT



6 For a long time, scientists believed that language and tool usage were unique to humans. However, have you ever considered that birds are capable of both? Birds communicate through singing for various purposes: attracting mates, warning others of danger or staying connected with their family. Parrots, parakeets and cockatoos can mimic hundreds of human words with impressive accuracy. They can even communicate using words and phrases they have learnt.

7 The New Caledonian crow, found on the Pacific island

of New Caledonia, uses leaves to extract insect larvae from trees. In an experiment, they were faced with food inside tall glass tubes and a steel wire. The crows ingeniously bent the straight wire into a hook to help them retrieve the food. In Japan, to obtain food, carrion crows even use cars as tools. They drop walnuts onto the road and patiently wait on the pavement for passing traffic to crack them. They then return to the road to enjoy their meals.



8 Businesses are starting to harness bird intelligence for their benefit as well. A Swedish company has developed a device to train crows to collect cigarette butts. Whenever a crow drops a cigarette butt into the device, they receive a food reward. This innovative approach could reduce clean-up costs by up to 75 percent.

9 Considering the intelligence of birds, you should think again the next time you are about to call someone 'bird brain'.

~470 words

Looking into Grammar

We can use a **to-infinitive clause** to state goals and purposes.

- ✓ We often use the term 'bird brain' **to say that someone is unintelligent**, but we have been mistaken all along.
- ✓ In Japan, **to obtain food**, carrion crows even use cars as tools.

? Underline a **to-infinitive clause** in paragraph 2.

Read the text and answer questions 1–12. For multiple-choice questions, choose the best answer and blacken ONE circle only. (25 marks)

1. The tone in paragraph 1 can be described as _____.

- A. critical
- B. positive
- C. doubtful
- D. cruel

A B C D

2. The pigeons in paragraph 2 _____.

- A. are from Hong Kong
- B. have poor memory
- C. are more intelligent than other bird species
- D. can identify paintings by different artists

A B C D

3. According to paragraph 2, what ability do the pigeons display by distinguishing between artwork?

They show that they can distinguish between _____.

4. Based on the information in paragraph 3, complete the summary by writing ONE word in each blank below. Note that the suitable word or phrase may not appear in the text. Make sure your answers are grammatically correct.

Compared to their body size, birds have (i) _____ brains with many (ii) _____. Scientists believe this makes them good (iii) _____.

5. Read paragraphs 4–5. Determine whether the following statements are True (T), False (F) or Not Given (NG).

	T	F	NG
(i) Jays and nuthatches are able to hide food in various places.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(ii) The crows stayed away from people who wore masks.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(iii) Crows cannot teach their chicks.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(iv) A large number of crows were involved in the experiment.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

6. According to paragraph 6, which of the following is TRUE about birds' communication abilities?

- A. Birds are able to invent new words.
- B. Birds can copy what humans have said.
- C. Birds use songs to communicate with humans.
- D. Birds do not communicate through body movements.

A B C D

Vocabulary

GLOSSARY



A. Complete the blog entry below with the given words. Make sure your answers are grammatically correct.

Adjective: innovative intelligent superior

Adverb: ingeniously **Noun:** accuracy

Verb: differentiate harness mimic obtain retrieve

← → ↺ ⬆

Marine Animals > Exploring Animal Intelligence



The wonders of octopus intelligence

Octopuses are incredibly (1) _____ animals. Interestingly, what makes them smart creatures is not the size of their brains, but rather the location of their brains. In addition to the brain in their heads, there is also a 'mini-brain' in each of their arms, or tentacles. This feature enables each tentacle to perform tasks on its own. In an experiment, an octopus was observed to (2) _____ get out of a maze, using its tentacles to feel out different possible paths. This intelligence was again proven when another octopus was able to (3) _____ between people's faces and recognise the person who had fed it.

Octopuses have also shown that their problem-solving skills are (4) _____ to most other animals. In a study, scientists placed some food in a jar with a lid on it. An octopus was able to learn how to open the lid and then (5) _____ the food in the jar to eat.

Being able to (6) _____ other animals with high (7) _____ is another remarkable ability of octopuses. In less than a second, they can match the appearances of dangerous marine creatures like sea snakes and lionfish, in order to scare off potential predators. Interestingly, the US army wants to (8) _____ this power for military purposes, utilising it to protect their soldiers.

Since octopuses do not have any bones, they can be very flexible. This helps them to hide in extremely cramped spaces when they are being hunted. Researchers have been inspired to develop (9) _____ robot arms that can reach into tight spaces and walk on uneven surfaces. They have faced challenges during the testing of these arms, but fortunately, they (10) _____ positive results so far.

B. Label the bird below with the given words.

Body parts of a bird

beak

belly

breast

claw

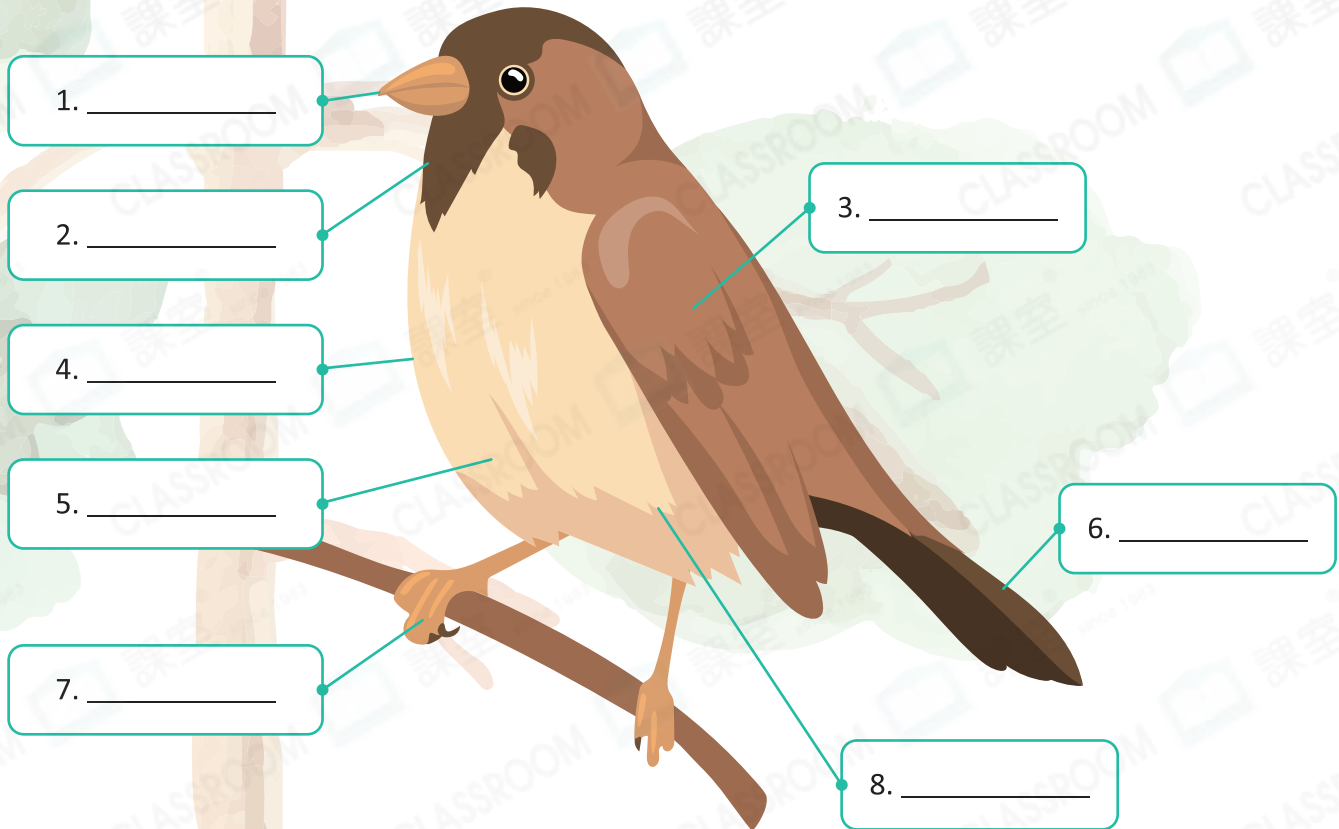
tail

thigh

throat

wing

THEME



Writing

What is it like to be a bird?

If you could turn into a bird, what bird would you choose to be? Write a blog entry of about 180 words about your preference and the reasons.