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The 4 page 60 minute ESL British English lesson – 20/05/14

Why do Zebras have stripes?

Why do Zebras have stripes? The question has plagued scientists for centuries. Now biologists at the University of California have come up with an answer, which is that their stripes help protect them from biting flies. The scientists believe zebra monochrome markings evolved in order to repel biting insects, such as horseflies, which tend to avoid striped surfaces.

So next time you go on holiday and you are attacked by mosquito bites wear some striped clothing and it should help protect you. Certainly it will help cut the risk of you being bitten. Scientists though have cautioned this last thought. Tim Caro, lead author and UC Davis professor of wildlife biology explains...

"If you buy a striped T-shirt, make sure the stripes are thin. Don't buy a striped jumper too quickly. Black and white striped surfaces reflect different sorts of visible light but also reflect different sorts of polarised light which we can't see but flies can."

"The extent of the polarised light reflected also depends on the nature of the surface – think of gloss and matt paint – and hairs probably reflect polarised light in different ways. So it may be that the different hairs on a zebra's pelt are important in preventing flies from landing on them."

Charles Darwin and Alfred Russel Wallace debated zebra stripes more than 140 years ago. Their thoughts included camouflage from predators by visually confusing them. Other theories include so they can hide in the tall grass. The stripes may also serve as visual clues and identification, even motion dazzle – a group of zebras of flickering stripes may dazzle predators, like lions.

SPEAKING – WARM UP

Think of three types of animals with stripes. Go round the room swapping details with others.

LISTENING – WRITING - DICTATION

The teacher will read some lines of the article slowly to the class.

READING

Students should now read the article aloud, swapping readers every paragraph.

SPEAKING - UNDERSTANDING

1) The article – Students check any unknown vocabulary or phrases with the teacher.

2) The article - Students should look through the article with the teacher.

- 1) What is the article about?
- 2) What do you think about the article?
- 3) Was this an easy or difficult article to understand?
- 4) Was this a boring or interesting article?
- 5) Discuss the article.

3) Article quiz - Students quiz each other in pairs. Score a point for each correct answer. Score half a point each time you have to look at the article for help. See who can get the highest score!

Student A questions

- 1) What colour is a zebra?
- 2) Name the university.
- 3) Who is Tim Caro?
- 4) Who was Charles Darwin?
- 5) When did Mr Darwin debate zebra stripes?

Student B questions

- 1) What is a jumper?
- 2) What is a mosquito?
- 3) What do we mean by monochrome markings?
- 4) What is gloss paint and what is matt paint?
- 5) Sum up what Mr Caro explained.

**Category: Animals / Zebras / Africa
Intermediate / Upper Intermediate**

Why do zebras have stripes? - 20th May 2014

WRITING / SPEAKING

In pairs. On the board write as many words as you can to do with 'Zebras'. One-two minutes. Compare with other teams. Using your words compile a short dialogue together.

WRITING / SPEAKING

In pairs – From the article choose three things about why stripes on zebras are useful? Write them below. Talk about them.

- 1) _____
- 2) _____
- 3) _____

Add three ways you might protect yourself from flies and insects. Discuss together.

- 1) _____
- 2) _____
- 3) _____

The teacher will choose some pairs to discuss their findings in front of the class.

WRITING / SPEAKING

In pairs – You are going on a safari holiday to Africa. Write down a country or countries you might visit. Add ten things you might take with you. Then discuss what you might need to do before you go, e.g. book your ticket and actual safari etc...

The teacher will choose some students to read out their work to the class.

DISCUSSION

Student A questions

- 1) Did the headline make you want to read the article?
- 2) In which country might you find zebras?
- 3) What do zebras eat?
- 4) Which is the best country in the world to go on a safari?
- 5) Why do zebras have stripes?
- 6) Should zebras be kept in zoos or in circuses? Explain.
- 7) How much do you think a safari costs to go on?
- 8) Where did you last see a zebra?
- 9) Why is it important to protect animals in Africa today?
- 10) Have you learnt anything in today's English lesson?

SPEAKING – ROLEPLAY 1

In groups. One of you is the interviewer. There are up to four guests. You are in the BBC Travel TV studio. Today's interview is: *The advantages and disadvantages of a safari holiday in Africa?* 10 mins.

- 1) A journalist.
- 2) A tourist.
- 3) A tour guide.
- 4) A safari owner.

The teacher will choose some groups to roleplay their interview in front of the class.

SPEAKING – ROLEPLAY 2

In pairs. Student A has been backpacking in Africa. Student B has been living in 5* lodges and hotels. Both of you went on safari – student A was doing it on the cheap, student B in luxury. Discuss and compare your adventures together. (Imagine!) 5-10 mins.

SPEAKING – DISCUSSION

Allow 10 minutes – As a class.

Going on safari in Africa!

Describe what you might see!

Add in where you might stay, what you might eat, who you might meet! Most importantly what animals you might see!

The teacher can moderate the session.

DISCUSSION

Student B questions

- 1) What do you think about what you've read?
- 2) What is 'a zebra crossing'?
- 3) Why do you think flies land less on white stripes than black stripes?
- 4) Do you know anyone who has been on a safari?
- 5) How dangerous is it going on safari?
- 6) Think of three things about flies!
- 7) Can you think of any books, films or TV shows with the word 'zebra' in?
- 8) Would you like to go on holiday to Africa to see a herd of zebras?
- 9) Has this been a difficult lesson for you to understand?
- 10) Did you like this discussion?

GAP FILL: READING

Why do Zebras have stripes?

Why do (1) have stripes? The question has plagued (2) for centuries. Now (3) at the University of California have come up with an answer, which is that their stripes help protect them from biting (4). The scientists believe zebra (5) markings evolved in order to (6) biting insects, such as horseflies, which tend to avoid striped surfaces.

So next time you go on holiday and you are attacked by (7) bites wear some striped clothing and it should help protect you. Certainly it will help cut the risk of you being bitten. Scientists though have cautioned this last thought. Tim Caro, lead author and UC Davis professor of wildlife biology explains...

"If you buy a striped T-shirt, make sure the stripes are thin. Don't buy a striped (8) too quickly.

mosquito / biologists / zebras / jumper / flies / repel / scientists / monochrome

Black and white striped surfaces reflect different sorts of (1) light but also reflect different sorts of polarised light which we can't see but flies can."

"The (2) of the polarised light reflected also depends on the nature of the surface – think of gloss and matt paint – and (3) probably reflect polarised light in different ways. So it may be that the different hairs on a zebra's pelt are important in preventing flies from landing on them."

Charles Darwin and Alfred Russel Wallace debated zebra stripes more than 140 years ago. Their thoughts included camouflage from predators by visually confusing them. Other (4) include so they can hide in the tall (5). The stripes may also serve as visual clues and identification, even motion (6) – a group of zebras of flickering stripes may dazzle (7), like (8).

lions / predators / dazzle / visible / hairs / extent / theories / grass

GAP FILL: GRAMMAR

Why do Zebras have stripes?

Why do Zebras have stripes? The question has plagued scientists for centuries. Now biologists at the University of California have come up (1) an answer, (2) is that their stripes help protect (3) from biting flies. The scientists believe zebra monochrome markings evolved in order to repel biting insects, (4) horseflies, which tend to avoid striped surfaces.

So next time you go on holiday and you are attacked by mosquito bites wear (5) striped clothing and it (6) help protect you. Certainly it will help cut the risk of you being bitten. Scientists (7) have cautioned (8) last thought. Tim Caro, lead author and UC Davis professor of wildlife biology explains...

"If you buy a striped T-shirt, make sure the stripes are thin. Don't buy a striped jumper too quickly.

though / should / some / which / this / with / them / such as

Black and white striped surfaces reflect different sorts of visible light but also reflect different sorts (1) polarised light which (2) can't see (3) flies can."

"The extent of the polarised light reflected also depends (4) the nature of the surface – think of gloss and matt paint – and hairs probably reflect polarised light in different ways. So it (5) be that the different hairs on a zebra's pelt are important in preventing flies from landing on them."

Charles Darwin and Alfred Russel Wallace debated zebra stripes more than 140 years ago. Their thoughts included camouflage from predators by visually confusing them. Other theories include (6) they can hide (7) the tall grass. The stripes may also serve (8) visual clues and identification, even motion dazzle – a group of zebras of flickering stripes may dazzle predators, like lions.

so / in / we / of / but / may / as / on

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GAP FILL: LISTENING

Why do Zebras have stripes?

Why do _____? The question has plagued scientists for centuries. Now biologists at the _____ have come up with an answer, which is that their stripes help protect them from biting flies. The scientists believe zebra monochrome markings evolved in order to repel biting insects, such as horseflies, which tend to avoid striped surfaces.

So next time you go on holiday and you are attacked _____ wear some striped clothing and it should help protect you. Certainly it will help cut the risk of you being bitten. Scientists though have cautioned this last thought. Tim Caro, lead author and UC Davis professor _____ explains...

"If you buy a striped T-shirt, make sure the stripes are thin. Don't buy _____ quickly.

_____ striped surfaces reflect different sorts of visible light but also reflect different sorts of polarised light which we can't see but flies can."

"The extent of the polarised light reflected also depends on the _____ – think of gloss and matt paint – and hairs probably reflect polarised light in different ways. So it may be that the different hairs on a zebra's pelt are important in preventing flies _____."

Charles Darwin and Alfred Russel Wallace debated zebra stripes more than 140 years ago. Their thoughts included _____ by visually confusing them. Other theories include so they can hide in the tall grass. The stripes may also serve as visual clues and identification, even motion dazzle – a group of zebras of flickering stripes _____, like lions.

WRITING/SPELLING

WRITING / SPEAKING

1) On the board - In pairs, as a class - write down 20 different African animals. Talk about them! 5 mins.

2) Sentence starters - Finish these sentence starters. Correct your mistakes. Compare what other people have written.

- 1) Zebras _____
- 2) Flies _____
- 3) Stripes _____

3) Homework - Write and send a 200 word email to your teacher about: **Why do zebras have stripes?** Your email can be read out in class.

GAP FILL READING

- | | | | |
|----|------------|----|-----------|
| 1) | zebras | 1) | visible |
| 2) | scientists | 2) | extent |
| 3) | biologists | 3) | hairs |
| 4) | flies | 4) | theories |
| 5) | monochrome | 5) | grass |
| 6) | repel | 6) | dazzle |
| 7) | mosquito | 7) | predators |
| 8) | jumper | 8) | lions |

SPELLING

The teacher will ask the class individually to spell the following words that are in the article. Afterwards check your answers.

- | | | | |
|-----|------------|-----|------------|
| 1) | zebras | 11) | though |
| 2) | biologists | 12) | thought |
| 3) | scientists | 13) | author |
| 4) | flies | 14) | biology |
| 5) | monochrome | 15) | wildlife |
| 6) | predators | 16) | jumper |
| 7) | horseflies | 17) | quickly |
| 8) | avoid | 18) | surface |
| 9) | mosquito | 19) | theories |
| 10) | should | 20) | camouflage |

ANSWERS

Use the following ratings:
Pass = 12
Good = 15
Very good = 18
Excellent = 20

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