

**SECTION 4 Questions 31–40**

Complete the notes below.

Write **ONE WORD ONLY** for each answer.

### Effects of urban environments on animals

#### Introduction

Recent urban developments represent massive environmental changes. It was previously thought that only a few animals were suitable for city life, e.g.

- the 31 ..... – because of its general adaptability
- the pigeon – because walls of city buildings are similar to 32 .....

In fact, many urban animals are adapting with unusual 33 .....

#### Recent research

- Emilie Snell-Rood studied small urbanised mammal specimens from museums in Minnesota.
  - She found the size of their 34 ..... had increased.
  - She suggests this may be due to the need to locate new sources of 35 ..... and to deal with new dangers.
- Catarina Miranda focused on the 36 ..... of urban and rural blackbirds.
  - She found urban birds were often braver, but were afraid of situations that were 37 .....
- Jonathan Atwell studies how animals respond to urban environments.
  - He found that some animals respond to 38 ..... by producing lower levels of hormones.
- Sarah Partan's team found urban squirrels use their 39 ..... to help them communicate.

#### Long-term possibilities

Species of animals may develop which are unique to cities. However, some changes may not be 40 .....

## LESSON 13 – LISTENING SECTION 4

### **TAPESCRIP**T

Hi. Today we're going to be looking at animals \_\_\_\_\_ and I'm going to \_\_\_\_\_ you about some \_\_\_\_\_ how they're \_\_\_\_\_ these environments.

Now, \_\_\_\_\_, urban developments represent \_\_\_\_\_, the sorts of \_\_\_\_\_ that usually happen over millions of years. And we \_\_\_\_\_ that only a few species could \_\_\_\_\_ this new environment. One species which is well known as being highly adaptable is \_\_\_\_\_, and there've been various studies about how they \_\_\_\_\_ new skills. Another \_\_\_\_\_ is the pigeon, because they're \_\_\_\_\_ perch on \_\_\_\_\_ of city buildings, just like they once \_\_\_\_\_ by the sea.

But in fact, we're now finding that these \_\_\_\_\_ were just \_\_\_\_\_ a more \_\_\_\_\_ of animals into cities, and of adaptation by these animals to city life. And one thing that researchers are finding especially interesting is the speed \_\_\_\_\_ they're doing this – we're not talking about \_\_\_\_\_ here – these animals are changing fast.

Let me tell you about some of the studies that have been \_\_\_\_\_ in this area. So, in the University of Minnesota, a biologist called Emilie Snell-Rood and \_\_\_\_\_ looked at \_\_\_\_\_ urbanized small mammals such as mice and \_\_\_\_\_ that had been collected in Minnesota, and that \_\_\_\_\_ in museums there. And she looked at specimens that \_\_\_\_\_ over the last hundred years, which is a very short time in \_\_\_\_\_. And she found that during that time, these small mammals had experienced \_\_\_\_\_ when \_\_\_\_\_ rural mammals. Now, we can't be sure this means they're more intelligent, but since the size of \_\_\_\_\_ of the body didn't change, \_\_\_\_\_ something cognitive was going on. And Snell-Rood thinks that this change might \_\_\_\_\_ the \_\_\_\_\_ of adjusting to city life – having to \_\_\_\_\_ to find food, \_\_\_\_\_, and \_\_\_\_\_ a whole new \_\_\_\_\_.

Then over in Germany at the Max Planck Institute, there's another biologist called Catarina Miranda who's done \_\_\_\_\_ with blackbirds \_\_\_\_\_. urban and rural areas. And she's been looking not at \_\_\_\_\_ but at their \_\_\_\_\_. So as you might expect, she's found that the urban blackbirds \_\_\_\_\_ quite bold – they're prepared to \_\_\_\_\_ a lot of threats that would \_\_\_\_\_ their country \_\_\_\_\_. But there's one type of situation that \_\_\_\_\_ the urban blackbirds, and that's anything new – anything they haven't experienced before. And if you think about it, that's quite \_\_\_\_\_ a bird living in the city.

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Jonathan Atwell, in Indiana University, is looking at how \_\_\_\_\_ animals \_\_\_\_\_ urban environments. He's found that when they're \_\_\_\_\_, their \_\_\_\_\_ react by reducing the amount of hormones such as corticosterone into their blood. It's a \_\_\_\_\_ adaptation. A rat that \_\_\_\_\_ every time a subway train \_\_\_\_\_ won't be very successful.

There's just one more study I'd like to mention which is by Sarah Partan and her team, and they've \_\_\_\_\_ how squirrels communicate in an urban environment, and they've found that \_\_\_\_\_ of their communication is carried out by \_\_\_\_\_. You do also see this in the country, but it's \_\_\_\_\_ in cities, possibly because it's effective in a noisy environment.

So what are the \_\_\_\_\_ of this? One possibility is that we may see completely new species developing in cities. But on the other hand, it's possible that not all of \_\_\_\_\_ will be \_\_\_\_\_. Once the animal's \_\_\_\_\_ its new environment, it may \_\_\_\_\_ the features it's developed.

So, now we've had a look...

## VOCABULARY

**Translate these following expressions into Vietnamese**

1. research on
2. affected by
3. in evolutionary terms
4. huge upheavals
5. massive changes
6. adapt to
7. the crow
8. manage to
9. ledges on the walls
10. perched on cliffs
11. gradual evolution
12. carried out
13. specimens of
14. gophers
15. a jump in brain size
16. compared to
17. reflect
18. cognitive demands
19. a whole new set of dangers
20. living in
21. their anatomy
22. face up to
23. frighten away
24. sensible for
25. endocrine systems
26. sensible-seeming adaptation
27. a subway train rolls past
28. waving their tails
29. much more prevalent
30. long-term implications
31. permanent
32. got accustomed to