

Reading

Reading Passage 1

You should spend about **20 minutes** on **Questions 1-13**, which are based on **Reading Passage 1**.

Questions 1-6

Reading passage 1 has six paragraphs, **A-F**.

Choose the correct heading for each paragraph from the list of headings below.

Write the correct number, **i-viii**, in boxes **1-6** on your answer sheet.

LIST OF HEADING

- i. Archaeological evidences in Asia showing that some dinosaurs had feathers
- ii. Three scientists with three contrasting findings
- iii. Weird creatures in the prehistoric period
- iv. Comparison between theropods and sauropods
- v. The end of an era and the dawn of another
- vi. Social characteristics that differentiate dinosaurs from other reptiles
- vii. Another body feature of dinosaurs resembling that of birds
- viii. Opinions agreeing that some dinosaur species were similar to birds nowadays

- 1. Paragraph A
- 2. Paragraph B
- 3. Paragraph C
- 4. Paragraph D
- 5. Paragraph E
- 6. Paragraph F

BIRDLIKE DINOSAURS

- A. Dinosaurs have been getting slowly more birdlike for decades - perhaps not in mainstream depictions, but at least in the minds of paleontologists. This is thanks to three pioneers: the late John Ostrom of Yale, who discovered a fossil called *Deinonychus* in 1964 and hypothesized that it was warm blooded; John McLaughlin, a brilliant illustrator, science fiction writer, and scientist, who suggested that many dinosaurs were feathered and warm blooded in a 1979 book called *Archosauria*; and perhaps most memorable, Robert Bakker, a bearded, ponytailed paleontologist, who was once called a "fossil-junkie genius, the Galileo of paleontology." He liked to describe *Tyrannosaurus rex* as "the 20,000-pound roadrunner from Hell." Now dinosaur-obsessed kids don't just think but know: "Dinosaurs had feathers!" And not just hairy kiwi-style feathers, but complex, asymmetrical vaned ones, like the flight feathers of modern birds. This new thinking has been spurred on by discoveries of exquisitely detailed fossils in deposits of fine-textured lithographic limestone.
- B. Since 1983, hundreds of such fossils - most of them from China - have reinforced the idea of warm-blooded, active, feathered dinos. Many are as detailed in their perfect reproduction of feathers as the iconic *Archaeopteryx*. The new fossils have provided clues for reinterpreting older fossils, too: we can now see where complex feathers attached (or "inserted") on the arm bones of theropods, the carnivorous bipedal dinosaurs such as *T. rex*. Still other fossils with feathers have been found in Mongolia.
- C. When paleontologists say that dinosaurs were birdlike, they're talking about more than just feathers. It turns out that *Saurischia* - the dinosaur group that includes the theropods (including velociraptors and tyrannosaurs) and also the great sauropods (the largest land animals ever to walk the Earth, some formerly called "brontosaurus") - had the incredibly efficient respiratory systems that distinguish birds today from all other animals. Air comes in, cycles through a network of air sacs in one direction, and flows out, allowing the animals to extract far more oxygen than the simple in-and-out breathing of mammals and reptiles. Paleontologist Peter Ward believed this was an evolutionary response to the catastrophic extinctions in the Permian Period, more than 250 million years ago. This was the greatest disaster life has ever faced (probably caused by hydrogen sulfide poisoning), when sea-level oxygen was equivalent to that at the top of Mt. Everest today. The efficient respiratory plan of dinosaurs and birds

evolved then and, flowering in the Triassic, gave them the advantage over all other land animals, until their fatal asteroid crashed into the planet 65 million years ago.

- D. That respiratory system must have helped the enormous sauropods make it through this period. Before their relationship to birds was understood, evidence from fossilized tracks seemed to show that they lived in large migratory groups, with younger animals staying inside the protection of the herd, and with three-toed predators dogging their flanks. They must have eaten so much that they could not remain long in any single place, waiting for trees to replenish their growth. A sluggish “lizard” could hardly have had such a lifestyle.
- E. The Mesozoic world was stranger than we ever imagined. It really was the Weird Feathered Thing planet. The biggest carnivores, with their nine-inch teeth, were more like roadrunners than lizards. The skies were full of pterosaurs, which were not dinosaurs, birds, or reptiles, in any sense that we understand the word reptile. Their wings were covered with fur or fuzzy feathers and they ranged from the size of a hummingbird to the wingspan, if not the weight, of a 747. Mark Witton's book *Pterosaurs* and his blog show how some had crests like radio antennae, some walked around and fed like storks, and some had bold stripes on their impossible headdresses. Several modern forms of birds had already emerged - possibly, species not unlike chickens, ducks, parrots, and loons flew and swam around, surrounded by all those Weird Feathered Things. Only the mammals persisted like living fossils, remnants of a vanished age before the dinosaurs, furry and low-slung. As far as we know, no mammals were even as big as a German shepherd yet.
- F. Then, in a moment, the world of birdlike monsters crashed. Their paradigm had shifted, leaving only bones to remind us of the ancient time. Their smaller relatives, the line of creatures we call true birds - and the mundane crawling furry things called mammals that the great dinos had suppressed and dominated for untold millennia - would radiate to fill the world once again with Darwin's “endless forms.” We would not be here if the world of the Mesozoic rulers had survived. But for a moment, let's raise a glass to them, whose planetary reign of some 200 million years was far longer than our species has yet achieved. Their smallest survivors are everywhere you look: the chickadees at your feeder, the roadrunners bashing lizards against rocks, the condors soaring over mountain ranges. And when you think about them, remember this: they had feathers.

Questions 7-9

Complete the sentences below.

Choose **NO MORE THAN TWO WORDS** from the passage for each answer

Write your answer in boxes **7-9** on your answer sheet.

7. T.rex and velociraptors are relatives, categorized as _____.
8. Mammals in the dinosaur era were smaller than a _____.
9. As dinosaurs have become extinct, we now can only base on their _____ to describe them.

Questions 10-13

Reading Passage 1 has six paragraphs, **A-F**.

Which paragraph contains the following information?

Write the correct letter, **A-F**, in boxes **10-13** on your answer sheet.

10. a reference to a natural catastrophe that killed many animals prior to the dinosaur era
11. a brief comparison between the existence on Earth of humans and dinosaurs
12. locations where fossils of feathered dinosaurs were discovered
13. the reason why dinosaurs could dominate the animal world