



PART 1

Read the text below and answer questions 1–13.

ANIMAL INTELLIGENCE: MORE THAN JUST INSTINCT

For much of the twentieth century, scientists were wary of describing animals as intelligent. Early ethologists such as Konrad Lorenz and Niko Tinbergen argued that behaviour should be explained, where possible, through observable mechanisms rather than through human-like mental states. Researchers feared that anthropomorphism would distort field notes: if an animal succeeded once, an observer might wrongly infer “planning” or “insight” instead of simpler processes such as conditioning or trial and error. Even as late as the 1970s, scepticism remained common, partly because intelligence was assumed to be a uniquely human trait linked to language. Over time, however, improved experimental design and long-term field studies began to reveal consistent patterns of flexibility that could not be explained convincingly as fixed instinct alone.

A major reason the debate persists is that intelligence is not a single, uniform trait. In the wild, “smart” behaviour can mean efficient foraging, remembering scattered resources, navigating difficult terrain, recognising individuals, cooperating with partners, or manipulating objects. Different environments reward different cognitive skills. In a 2018 overview of comparative cognition, Dr Jennifer Vonk and colleagues argued that researchers should avoid ranking species on a single ladder and instead examine the particular problems animals must solve. A dolphin coordinating a hunt, a food-caching bird recalling hundreds of locations, and a forest primate negotiating alliances may all show advanced cognition, but in different forms. This approach treats intelligence as an evolved set of capacities shaped by ecological pressures rather than as a human benchmark that other species either meet or fail.

Tool use is often treated as a landmark because it appears to require flexible control and an ability to adapt actions to materials. New Caledonian crows (*Corvus moneduloides*) have been documented in New Caledonia selecting twigs of suitable length and stiffness, and in some cases shaping pandanus leaves into tools to extract insects from crevices. Field research highlighted that these birds do not simply pick up any object; they frequently choose or modify materials to fit a specific task. Among primates, chimpanzees in parts of West Africa use stones to crack nuts, adjusting force and technique depending on the shell. Such behaviours suggest more than reflex, because the animal must coordinate perception and movement and sometimes alter its method when conditions change. However, researchers also caution that tool use is not the only route to sophisticated



cognition, and it is not always the best indicator across species whose survival does not depend on manipulating objects.

For many animals, the most demanding problems are social. Living in groups requires individuals to track relationships, dominance ranks, and cooperative opportunities over time. Primatologists have argued that social life can create repeated challenges that select for mental flexibility, such as predicting rivals' behaviour, maintaining alliances, or resolving conflict. Observational work on baboons and macaques, for example, suggests that individuals adjust their actions depending on who is watching and on the relative status of nearby group members. In marine mammals, studies from Shark Bay in Western Australia have described dolphins coordinating movement during hunts, where timing and role differentiation appear to matter. Social cognition therefore involves interpreting other animals as changing agents rather than as static features of the environment.

Communication adds another layer, but it is also the area where over-interpretation is easiest. Many species use calls, gestures, or chemical signals to warn of danger, coordinate movement, or maintain contact. Yet a signal can produce a reliable response without implying that the animal holds a human-like concept. Researchers therefore distinguish between signalling and language-like representation. Laboratory studies have explored whether some animals can learn symbolic systems when carefully trained. Dr Irene Pepperberg's work with an African grey parrot named Alex, beginning in the late 1970s, showed that the bird could learn labels for colours, shapes, and quantities and could respond appropriately to spoken questions. The results did not mean parrots possess human language, but they demonstrated that, under controlled conditions, certain animals can use symbols in ways that go beyond simple stimulus-response routines.

Learning and memory are central to most accounts of animal intelligence. Food-caching birds can remember numerous hiding locations, and migratory species integrate multiple cues—such as the sun, stars, and geomagnetic information—to travel long distances. Some animals also show “learning sets”, improving their performance on new tasks by recognising patterns from earlier experience; in effect, they become better at learning itself. This sort of flexibility can be especially valuable in changing environments, where rigid instincts may fail. At the same time, scientists remain cautious. A behaviour that looks like insight may sometimes be explained by gradual trial and error, and anecdotes can exaggerate rare successes. The modern focus is therefore on careful testing and on describing what an animal can do without assuming it does so for human reasons.

Method has reshaped the field as much as discovery has. Early experiments sometimes underestimated animals because tasks were designed around human hands, human



vision, or human expectations of what should be “obvious”. More recent studies attempt to build tests around the animal’s sensory modalities and natural behaviour, sometimes producing very different outcomes. A species might fail a visual puzzle but succeed when information is presented through smell or touch. Scientists increasingly emphasise ecological validity: whether a task reflects challenges an animal would actually face. This approach has practical implications. If animals can experience complex cognitive states, welfare standards in captivity may need to address boredom, stress, and social needs, not just physical health. In conservation, recognising cognition can improve reintroduction programmes by training animals to avoid predators or unfamiliar hazards in changed habitats. Overall, animal intelligence is best understood as a collection of evolved capacities—diverse, measurable, and shaped by the demands of life.

Questions 1–5

Choose **TRUE** if the statement agrees with the information given in the text, choose **FALSE** if the statement contradicts the information, or choose **NOT GIVEN** if there is no information on this.

- 1** The passage suggests that early researchers avoided calling animals intelligent partly because they feared human ideas might distort what they observed.
- 2** The passage claims that intelligence is best measured as a single ability that applies equally to all species.
- 3** The passage gives an exact percentage of New Caledonian crows that modify pandanus leaves into tools.
- 4** The passage suggests that living in complex social groups can repeatedly require animals to solve difficult problems involving other individuals.
- 5** The passage implies that animal signals can always be interpreted as evidence of human-like concepts.

Questions 6–9

Select the correct answer.

- 6** What is the writer’s main view of animal intelligence?
- A** It should be defined only through behaviours that closely resemble human reasoning
 - B** It is mainly the expression of instinct and does not depend on learning
 - C** It includes a range of capacities shaped by the problems animals face in their environments
 - D** It can be accurately measured using a single test that works for all species



7 Why does the passage mention Dr Jennifer Vonk's work?

- A** To support the idea that intelligence should be studied as species-specific abilities rather than a single ranking
- B** To show that early ethologists rejected the use of field observations
- C** To argue that tool use is the only reliable measure of cognition
- D** To claim that migration depends solely on learned behaviour

8 What does the passage indicate about Dr Irene Pepperberg's research with Alex?

- A** It proved that parrots naturally use human grammar in the wild
- B** It showed that signalling and representation are the same process
- C** It demonstrated that chimpanzees learn symbols more easily than parrots
- D** It demonstrated that some animals can learn to use symbols under controlled training

9 Why do scientists increasingly emphasise ecological validity in intelligence research?

- A** Because controlled experiments are no longer considered useful
- B** Because tests should reflect challenges that animals would naturally encounter
- C** Because intelligence can be measured only through physical strength tests
- D** Because trial-and-error explanations should be excluded from all studies

Questions 10–13

Complete the sentences below. Choose **NO MORE THAN TWO WORDS** from the text for each answer.

10 Researchers feared that using human-like labels could encourage in field observations.

11 Scientists distinguish basic signalling from language-like when interpreting animal communication.

12 Some animals develop, improving their ability to master unfamiliar tasks.

13 Alongside boredom and stress, welfare standards in captivity may need to address animals'

Answer Key

1. TRUE
2. FALSE
3. NOT GIVEN



4. TRUE
5. FALSE
6. C
7. A
8. D
9. B
10. anthropomorphism
11. representation
12. learning sets
13. social needs