

tpo_30_passage_3

Play is easier to define with examples than with concepts. In any case, in animals it consists of leaping, running, climbing, throwing, wrestling, and other movements, either alone, with objects, or with other animals. Depending on the species, play may be primarily for social interaction, exercise, or exploration. One of the problems in providing a clear definition of play is that it involves the same behaviors that take place in other circumstances – dominance, predation, competition, and real fighting. Thus, whether play occurs or not depends on the intention of the animal, and intentions are not always clear from behavior alone. Play appears to be a developmental characteristic of animals with fairly sophisticated nervous systems, mainly birds and mammals. Play has been studied most extensively in primates and canids (dogs). Exactly why animals play is still a matter debated in the research literature, and the reasons may not be the same for every species that plays. Determining the functions of play is difficult because the functions may be long-term, with beneficial effects not showing up until the animal's adulthood. Play is not without considerable costs to the individual animal. Play is usually very active, involving movement in space and, at times, noisemaking. Therefore, it results in the loss of fuel or energy that might better be used for growth or for building up fat stores in a young animal. Another potential cost of this activity is greater exposure to predators since play is attention-getting behavior. Greater activity also increases the risk of injury in slipping or falling. The benefits of play must outweigh the costs, or play would not have evolved, according to Darwin's theory. Some of the potential benefits relate directly to the healthy development of the brain and nervous system. In one research study, two groups of young rats were raised under different conditions. One group developed in an "enriched" environment, which allowed the rats to interact with other rats, play with toys, and receive maze training. The other group lived in an "impoverished" environment in individual cages in a dimly lit room with little stimulation. At the end of the experiments, the results showed that the actual weight of the brains of the impoverished rats was less than that of those raised in the enriched environment (though they were fed the same diets). Other studies have shown that greater stimulation not only affects the size of the brain but also increases the number of connections between the nerve cells. Thus, active play may provide necessary stimulation to the growth of synaptic connections in the brain, especially the cerebellum, which is responsible for motor functioning and movements. Play also stimulates the development of the muscle tissues themselves and may provide the opportunity to practice those movements needed for survival. Prey species, like young deer or goats, for example, typically play by performing sudden flight movements and turns, whereas predator species, such as cats, practice stalking, pouncing, and biting. Play allows a young animal to explore its environment and practice skills in comparative safety since the surrounding adults generally do not expect the young to deal with threats or predators. Play can also provide practice in social behaviors needed for courtship and mating. Learning appropriate social behaviors is especially important in species that live in groups, like young monkeys that need to learn to control selfishness and aggression and to understand the give-and-take involved in social groups. They need to learn how to be dominant and submissive because each monkey might have to play either role in the future. Most of these things are learned in the long developmental periods that primates have, during which they engage in countless play experiences with their peers. There is a danger, of course, that play may be

misinterpreted or not recognized as play by others, potentially leading to aggression. This is especially true when play consists of practicing normal aggressive or predator behaviors. Thus, many species have evolved clear signals to delineate playfulness. Dogs, for example, will wag their tails, get down their front legs, and stick their behinds in the air to indicate "what follows is just for play."

question 1

According to paragraph 1, why is play difficult to define?

- A Play must be defined with concepts, not examples.
- B Play behavior often looks like nonplay behavior.
- C Play often occurs in the presence of animals that are not playing.
- D Play occurs independently of an animal's intentions.

question 2

According to paragraph 2, which of the following presents a particular challenge to researchers who study play behavior in animals?

- A The delay between play activities and the benefits the animal derives from them
- B The difficulty in determining which animal species play and which do not
- C The fact that for most animals, there is no clear transition from youth to full adulthood
- D The lack of research on the play behavior of animals other than canids and primates

question 3

According to paragraph 3, each of the following is a cost to animals that engage in play EXCEPT

- A exposure to predators
- B a buildup of fat stores
- C a loss of fuel that could be used for growth

D risk of injury from slipping or falling

question 4

Why does the author include the comment "though they were fed the same diets" ?

A To show why rats living in impoverished environments need less food than those living in enriched environments

B To eliminate the possibility that differences in diet were responsible for observed differences in brain weight

C To emphasize the point that the rats were fed only the amount of food needed to keep them alive

D To suggest that rats fed the same diet have smaller brains than those fed a varied diet

question 5

According to paragraph 5, why might play behaviors of prey species be different from those of predator species?

A Unlike predator species, prey species use play to prevent inappropriate social behaviors, such as biting.

B Some prey species are physically incapable of certain types of predator movements.

C The survival of each species type is linked to particular sets of muscular movements.

D Predator species have more opportunities to practice play behaviors than prey species.

question 6

The word "comparative" in the passage is closest in meaning to

A relative

B temporary

C sufficient

D complete

question 7

Which of the sentences below best expresses the essential information in the highlighted sentence in the passage? Incorrect choices change the meaning in important ways or leave out essential information.

A Only monkeys that have learned to control their selfish and aggressive behaviors can be involved in social groups.

B Selfish and aggressive animals like monkeys live in groups in order to practice appropriate social behaviors.

C Monkeys and other social animals need to learn behaviors appropriate for their social groups.

D Some monkeys are naturally too selfish and aggressive to understand the give-and-take of social groups, so they learn such important behaviors while young.

question 8

What can be inferred from paragraph 6 about the role of adults in play activities of the young?

A Adults help their young learn to become dominant within the social group.

B Young animals learn how to play from the adults within their social group.

C Adults allow the young to engage in play behaviors within a protected, safe environment.

D The long developmental period of some animals allows adults more time to teach their young how to deal with the threats of predators.

question 9

Look at the four squares [] that indicate where the following sentence could be added to the passage.

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misinterpreted or not recognized as play by others, potentially leading to aggression. [] This is especially true when play consists of practicing normal aggressive or predator behaviors. [] Thus, many species have evolved clear signals to delineate playfulness. [] Dogs, for example, will wag their tails, get down their front legs, and stick their behinds in the air to indicate "what follows is just for play." []

question 10

Directions: An introductory sentence for a brief summary of the passage is provided below. Complete the summary by selecting the THREE answer choices that express the most important ideas in the passage. Some sentences do not belong in the summary because they express ideas that are not presented in the passage or are minor ideas in the passage. This question is worth 2 points.

- A. Although play often resembles aggression, fight, or other purposeful activities, researchers do not agree on the reasons for and functions of play.
- B. The function of play is still debated in the research literature primarily because each animal species uses so few of the many available types of play behavior.
- C. Although many animals develop physically from play, too many young animals become victims of their natural predators while playing.
- D. Energy expenditure and security risks are some of the costs to animals of play behavior, but the costs are not so great that they outweigh the long-term benefits of play to the species.
- E. Animals such as rats, dogs, deer, goats, and monkeys learn how to be both dominant and submissive during play activities so that they will fit in better with their adult social groups.
- F. As experiments and observations have shown, animals that play at some stage of their development obtain neurological, muscular, or social benefits from the play behaviors.