

# Social Behaviour & Primates

1. The statements describe examples of behaviour used by animals as protection from predators.

1. A hedgehog rolls into a ball so that its spines protect it from a fox.
2. Mackerel swim in a large shoal making it difficult for a predator to single one out.
3. An individual meerkat watches for predators while the other meerkats feed.

Which are examples of social defence?

- A 1 and 2 only
- B 1 and 3 only
- C 2 and 3 only
- D 1, 2 and 3

2. Many animals live in social groups and have behaviours that are adapted to group living.

Which row in the table matches a type of behaviour with an example of this behaviour?

|   | Type of behaviour   | Example of behaviour                                |
|---|---------------------|---|
| A | cooperative hunting | vampire bats giving a blood meal to other bats      |
| B | reciprocal altruism | herring forming large groups to confuse predators   |
| C | cooperative hunting | killer whales (Orca) working together to kill seals |
| D | social defence      | killer whales (Orca) working together to kill seals |

3. Primates such as chimpanzees (*Pan troglodytes*) live in large groups, in which social hierarchies exist.

Which row in the table shows the type of behaviour displayed by a dominant chimpanzee and its effect on conflict?

|   | Type of behaviour | Effect on conflict |
|---|-------------------|--------------------|
| A | ritualistic       | increases          |
| B | appeasement       | increases          |
| C | ritualistic       | decreases          |
| D | appeasement       | decreases          |

4. Domestic chickens kept in social groups form a social hierarchy in which the most dominant birds give most pecks to others and receive least.

In an investigation, four individual domestic chickens from a group were marked with lettered leg rings. The number of pecks given and received by each bird in one hour was recorded and the results shown in the table below.

|   |                 | Number of pecks given by each bird to the others |    |    |   |
|---|-----------------|--|----|----|---|
|   |                 | W  | X  | Y  | Z |
| Number of pecks received by each bird from the others | Leg ring letter |  |    |    |   |
|   | W               | –  | 0  | 12 | 9 |
|   | X               | 15   | –  | 8  | 7 |
|   | Y               | 0  | 0  | –  | 0 |
| Z   | 0               | 0  | 10 | –  |   |

The social hierarchy among the chickens with the most dominant bird first is

- A Y, Z, W, X
- B X, W, Z, Y
- C Y, W, Z, X
- D X, Z, W, Y.

75

5. Painted wolves hunt in packs ranging in size from 3 to 20 individuals.

Compared to hunting alone this means that

- A each individual gains less energy
- B only subordinate wolves gain more energy
- C only dominant wolves gain more energy
- D less energy is used per individual.

6. In primates such as chimpanzees, parental care

- A occurs over a short time period
- B provides time for learning complex social behaviour
- C increases the parent's social status within their group
- D involves appeasement behaviour within a group.

## Social Behaviour & Primates

7. An investigation was carried out into the social hierarchy in a group of five hens, V, W, X, Y and Z. Hens establish dominance by pecking each other aggressively. The number of pecks given and received was recorded.

The results are shown in the table.

|                                      |   | Number of pecks given by each hen |    |   |    |   |
|--------------------------------------|---|-----------------------------------|----|---|----|---|
|                                      |   | V                                 | W  | X | Y  | Z |
| Number of pecks received by each hen | V | -                                 | -  | - | 10 | - |
|                                      | W | 2                                 | -  | - | 13 | - |
|                                      | X | 6                                 | 8  | - | 7  | - |
|                                      | Y | -                                 | -  | - | -  | - |
|                                      | Z | 11                                | 10 | 5 | 4  | - |

The order of hierarchy from most dominant to least dominant hen is

- A Z, V, X, W, Y
- B Y, V, W, X, Z
- C Z, X, W, V, Y
- D Y, W, V, X, Z.

9.

- 8 The list of statements below refers to advantages gained by hunting behaviour.

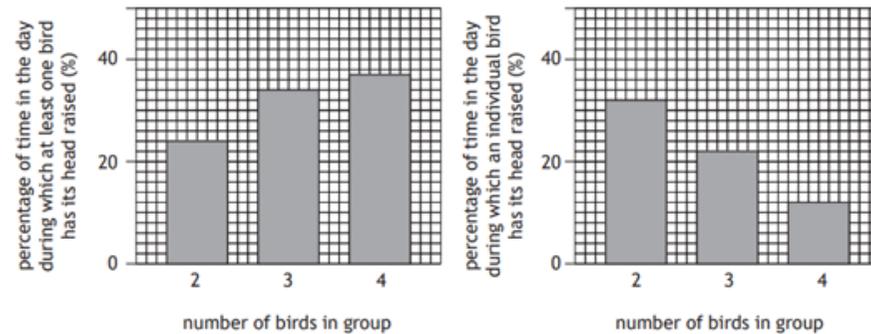
- 1 Much larger prey may be killed than by hunting alone.
- 2 Both dominant and subordinate animals benefit.
- 3 Individuals gain more energy than by hunting alone.

Which of the statements could be true of cooperative hunting?

- A 1 and 2 only
- B 1 and 3 only
- C 2 and 3 only
- D 1, 2 and 3

9. Ostriches are large birds that live on open plains in Africa. They divide their time between feeding on vegetation and raising their heads to look for predators.

The graphs show the results of a study on the effect of group size in ostriches on their behaviour.



Which of the following is a valid conclusion from these results?

In larger groups, an individual ostrich spends

- A less time with its head raised so the group is less likely to see predators
- B less time with its head raised but the group is more likely to see predators
- C more time with its head raised so the group is more likely to see predators
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10. The list below shows benefits which an animal species can obtain from certain types of social behaviour.

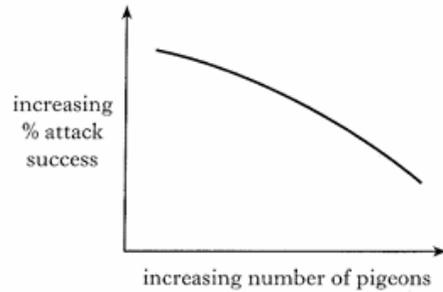
- 1 Aggression between individuals is controlled.
- 2 Subordinate animals are more likely to gain an adequate food supply.
- 3 Experienced leadership is guaranteed.
- 4 Energy used by individuals to obtain food is reduced.

Which statements refer to co-operative hunting?

- A 1 and 2 only
- B 1 and 3 only
- C 2 and 4 only
- D 3 and 4 only

## Social Behaviour

11. Hawks are predators which attack flocks of pigeons. The graph below shows how attack success by a hawk varies with the number of pigeons in a flock.



Which of the following statements could explain the observations shown in the graph?

- A A hawk only needs to eat a small percentage of a large flock of prey.
- B Co-operative hunting is more effective with small numbers of prey.
- C A predator can be more selective when prey numbers increase.
- D A hawk has difficulty focussing on one pigeon in a large flock.

12

Some animal species live in social groups for defence.

Which of the following statements describes a change which could result from an increase in the size of such a social group?

- A Individuals are able to spend less time feeding.
- B There are fewer times when more than one animal is looking for predators.
- C Each animal can spend more time looking for predators than foraging.
- D Individuals are able to spend less time looking for predators.

# Social Behaviour

1. Lions living in a pride is an example of a social hierarchy.

(i) Describe what is meant by social hierarchy.

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1

(ii) Name a type of behaviour shown by animals living in a social hierarchy which reduces conflict.

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(iii) Other than reducing conflict, give an advantage of living in a social hierarchy.

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1

2. (i) Meerkats live in social hierarchies.

Name a type of behaviour that is often shown by dominant members of a social group.

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1

(ii) Give an advantage of being in a social hierarchy.

---

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1

3. African wild dogs hunt in packs.



(i) Pack members work together to chase down prey, increasing hunting success.

Name this type of behaviour.

---

1

(ii) State an advantage, not already mentioned, of hunting in packs.

---

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1

## Social Behaviour

4. Primates often form alliances with others and carry out appeasement behaviour within their group.

State the advantages of these behaviours.

Forming alliances \_\_\_\_\_

\_\_\_\_\_

Appeasement \_\_\_\_\_

5. State an advantage of co-operative hunting.

1

\_\_\_\_\_

\_\_\_\_\_

6. Primates, such as capuchin monkeys, have a long period of parental care. Explain why the scientists only recorded the calls from adult monkeys.

1

\_\_\_\_\_

\_\_\_\_\_

7. Suggest why wild dogs in larger packs gain more energy per individual from hunting even though there are more animals to be fed.

1

\_\_\_\_\_

\_\_\_\_\_

8. Write notes on social behaviour under the following headings:

2

primate behaviour.

5

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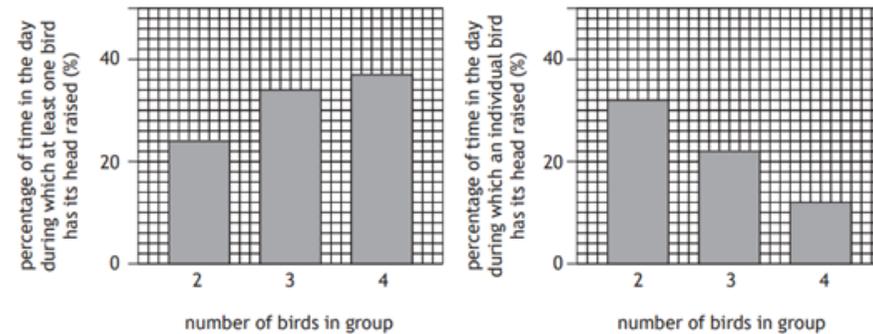
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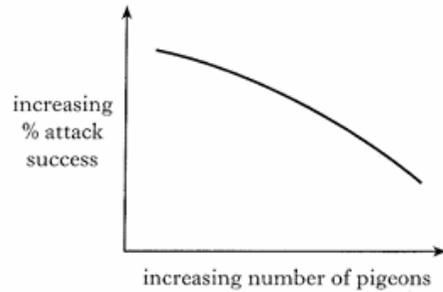
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# Social Behaviour

1. Lions living in a pride is an example of a social hierarchy.

(i) Describe what is meant by social hierarchy.

Rank order of dominant & subordinate individuals

1

(ii) Name a type of behaviour shown by animals living in a social hierarchy which reduces conflict.

Ritualistic display/appeasement behaviour

(iii) Other than reducing conflict, give an advantage of living in a social hierarchy.

1. guarantees experienced leadership

2. Increases chance of dominant's favourable alleles are passed to offspring.

1

2. (i) Meerkats live in social hierarchies.

Name a type of behaviour that is often shown by dominant members of a social group.

Ritualistic behaviour

1

(ii) Give an advantage of being in a social hierarchy.

Ritualistic behaviour

1

3. African wild dogs hunt in packs.



(i) Pack members work together to chase down prey, increasing hunting success.

Name this type of behaviour.

Co operative hunting

1

(ii) State an advantage, not already mentioned, of hunting in packs.

1

1. kill larger prey

2. less energy used per individual

3. more food than hunting alone

## Social Behaviour

4. Primates often form alliances with others and carry out appeasement behaviour within their group.

State the advantages of these behaviours.

Forming alliances Increase social status

Appeasement Reduce conflict

5. State an advantage of co-operative hunting.

1. kill larger prey

2. less energy used per individual

3. more food than hunting alone

4. higher chance of success

6. Primates, such as capuchin monkeys, have a long period of parental care.

Explain why the scientists only recorded the calls from adult monkeys.

Takes time to learn complex social behaviours.

7. Suggest why wild dogs in larger packs gain more energy per individual from hunting even though there are more animals to be fed.

Kill larger prey/higher chance of success

8. Write notes on social behaviour under the following headings:

2 primate behaviour.

- a. have a social hierarchy with a rank order/dominant and subordinates.
- b. long period of parental care.
- c. (this allows time to) learn/teach complex (social) behaviour/skills.
- d. ritualistic display/behaviour by dominant (animals).
- e. appeasement display/behaviour by subordinate (animals).
- f. Naming - ritualistic display/behaviour **AND** appeasement display/behaviour (only award if neither d or e awarded).
- g. Ritualistic/appeasement display/behaviour reduces conflict/tension/aggression.
- h. alliances formed to increase/maintain social status/rank.
- (maximum 5)

5

1

1