Term 13 of 40

What is a lek in the context of animal mating?

- A lek is a location where animals hunt and store food.
- A lek is a site where animals gather for hibernation and shelter.
- A lek is a territory marked for exclusive feeding purposes.
- A lek is a site where animals aggregate to attract mates through displays or calls, with no other purpose than mating.

Term 14 of 40

What is the expected outcome when altruism is present in a population?

- Altruism can result in increased competition and resource depletion within the population.
- Altruism can cause a decline in genetic diversity due to reduced individual reproduction.
- Altruism can lead to decreased survival and reproductive success of unrelated individuals.
- Altruism can lead to increased survival and reproductive success of related individuals, benefiting the population as a whole.

Term 15 of 40

How do plants exhibit social interactions?

- Plants can communicate through root systems to share nutrients, indicating social interactions.
- Plants can have defense responses when neighboring individuals are attacked by herbivores, indicating social interactions.
- Plants can release pheromones to attract pollinators, demonstrating reproductive interactions.
- Plants can alter their growth patterns based on sunlight availability, showing individual adaptation.

Term 16 of 40

Under what conditions do dominance hierarchies form?

- Dominance hierarchies form when group size is small and isolated.
- Dominance hierarchies form when individuals prefer solitary behavior.
- Dominance hierarchies form when resources are ephemeral or when group benefits outweigh the need for territory defense.
- Dominance hierarchies form when resources are stable and territory is easily defended.

Term 17 of 40

What is the Dilution Effect?

- The Dilution Effect describes the enhanced ability of a group to attract predators by increasing their visibility.
- The Dilution Effect refers to the reduced probability of predation for an individual in a group, as the risk is spread out among many.
- The Dilution Effect refers to the increased probability of survival for an individual in isolation due to reduced competition.
- The Dilution Effect relates to the concentration of resources around a single individual in a group.

Term 18 of 40

What is kin selection?

- The process where competition between unrelated individuals is maximized.
- The process where natural selection favors solitary survival.
- The process where indirect fitness through relatives is favored by natural selection.
- The process where individuals select mates based on physical traits.

Term 19 of 40

How is direct fitness favored?

- By helping a brother or half-brother successfully mate, allowing the brother to sire 6.1 offspring.
- Through direct selection.
- Through indirect selection (kin selection).
- Both the donor and recipient experience reduced fitness, which cannot be favored by natural selection.

LIVEWORKSHEETS

Term 20 of 40

What roles do sterile castes play in eusocial species?

- ○ They specialize in hunting for their own food.
- ○ They focus on individual survival and reproduction.
- ○ They engage in territorial disputes and mating rituals.
- ○ They specialize in tasks such as defending and foraging for the group or caring for offspring.

Term 21 of 40

What characterizes cooperation in social interactions?

- ○ Only the donor experiences increased fitness.
- ○ Both the donor and recipient experience reduced fitness.
- ○ Both the donor and recipient experience increased fitness.
- ○ The donor loses fitness while the recipient benefits.

Term 22 of 40

What is the average number of offspring for subordinate males?

- ○ 1 offspring on average.
- ○ 5 offspring on average.
- ○ 0 offspring.
- ○ 2 offspring on average.

Term 23 of 40

What is the relationship between resource abundance and territorial behavior?

- ○ When resources are limited, territorial behavior becomes more aggressive.
- ○ When resources are abundant, the benefit of defending a territory diminishes, leading to less territorial behavior.
- ○ When resources are scarce, territorial behavior increases.
- ○ When resources are depleted, territorial behavior intensifies.

Term 24 of 40

How does haplodiploidy affect the evolution of eusociality?

- ○ It establishes equal relatedness, promoting solitary behavior.
- ○ It creates strong asymmetries in coefficients of relatedness, favoring the evolution of eusocial behavior.
- ○ It creates uniform relatedness, favoring individual reproduction.
- ○ It reduces genetic diversity, hindering the evolution of eusocial behavior.

Term 25 of 40

How does socializing improve mating success in animals?

- ○ Socializing decreases mating success by increasing competition among animals.
- ○ Socializing enhances the ability to find mates, as animals may aggregate to attract potential partners through displays.
- ○ Socializing enhances territorial defense, improving access to resources but not mates.
- ○ Socializing reduces the need for mating displays as animals find partners independently.

Term 26 of 40

What is inclusive fitness?

- ○ The sum of an individual's direct and indirect fitness.
- ○ The combination of an individual's personal and environmental fitness.
- ○ The total of an individual's reproductive and survival fitness.
- ○ The sum of an individual's direct and competitive fitness.

LIVEWORKSHEETS

Term 27 of 40

What factors influence whether animals maintain a territory?

- Animals are likely to maintain a territory if the resources are easily shared and the defense is unnecessary.
- Animals are likely to maintain a territory if the resource can be defended and the benefits of defending it outweigh the costs.
- Animals are likely to maintain a territory if the resources are scarce and difficult to defend.
- Animals are likely to maintain a territory if the costs of defending it are high and the benefits are minimal.

Term 28 of 40

What is the optimal group size for yellow baboons?

- The optimal group size for yellow baboons ranges from 50-75 individuals, which minimizes stress and competition.
- The optimal group size for yellow baboons is 100-150 individuals, maximizing resource use.
- The optimal group size for yellow baboons is 2-5 individuals, reducing social interaction.
- The optimal group size for yellow baboons is 20-30 individuals, promoting solitary behavior.

Term 29 of 40

What is the significance of the term 'ephemeral' in resource availability?

- Ephemeral resources are predictable and maintain consistent hierarchies.
- Ephemeral resources are temporary and can lead to the formation of dominance hierarchies when they are present.
- Ephemeral resources are permanent and lead to stable territories.
- Ephemeral resources are abundant and reduce territorial behavior.

Term 30 of 40

What is the impact of social interactions on fitness?

- Interactions always increase the fitness of both participants.
- Interactions can positively or negatively affect the fitness of both the donor and recipient.
- Interactions have no impact on the fitness of either party.
- Interactions only affect the fitness of the donor.

Term 31 of 40

What is the coefficient of relatedness between siblings?

- 0.25, indicating a 25% probability of receiving the same gene from a parent.
- 0.5, indicating a 50% probability of receiving the same gene from a parent.
- 1.0, indicating a 100% probability of receiving the same gene from a parent.
- 0.75, indicating a 75% probability of receiving the same gene from a parent.

Term 32 of 40

How do plants distinguish between relatives and non-relatives?

- Some plant species can recognize relatives and alter their growth strategies accordingly, often allocating less energy to competition against relatives.
- Plants can recognize relatives through genetic matching and increase resource allocation to them.
- Plants distinguish relatives by size and proximity, favoring non-relatives for resource allocation.
- Some plant species can identify relatives using pheromones and enhance their defense mechanisms.

Term 33 of 40

What is the primary advantage of the Many-Eyes Effect in predator detection?

- The primary advantage is that it enables more efficient communication among group members.
- The primary advantage is that it allows for quicker detection of predators, enabling better evasive actions by the group.
- The primary advantage is that it enhances individual hunting skills for better prey capture.
- The primary advantage is that it allows for better resource allocation within the group.

LIVEWORKSHEETS

Term 34 of 40

What is the relationship between group size and parasite infection risk?

- Smaller group sizes can lead to higher parasite infection rates due to increased competition.
- Group size has no impact on the risk of parasite infection.
- Larger group sizes reduce the risk of parasite infection due to isolation.
- Larger group sizes can lead to a higher risk of parasite infection due to easier spread among individuals.

Term 35 of 40

How do social behaviors relate to evolutionary processes?

- Social behaviors are entirely learned and not subject to evolutionary change.
- Social behaviors are fixed and cannot be modified by natural selection.
- Social behaviors are random and unrelated to genetic factors.
- Social behaviors are influenced by genetic factors and are subject to evolutionary modification through natural selection.

Term 36 of 40

What is a linear dominance hierarchy?

- A ranking system based on age rather than dominance.
- A hierarchy where lower-ranked members dominate higher-ranked ones.
- A system where all members share equal status and resources.
- A ranking system where the first-ranked member dominates all others, the second-ranked dominates all but the first, and so on.

Term 37 of 40

What is the role of dominance hierarchies in social interactions?

- Once established, dominance hierarchies are constantly challenged and reformed.
- Once established, dominance hierarchies are determined by random chance.
- Once established, dominance hierarchies are ignored in subsequent interactions.
- Once established, dominance hierarchies resolve subsequent contests based on social ranking.

Term 38 of 40

What is the coefficient of relatedness between an individual and its offspring?

- 0.75, indicating they share 75% of their genes.
- 1.0, indicating they share all of their genes.
- 0.25, indicating they share 25% of their genes.
- 0.5, indicating they share 50% of their genes.

Term 39 of 40

What is the average number of offspring for dominant males?

- 3.2 offspring on average.
- 6.1 offspring on average.
- 10.1 offspring on average.
- 8.5 offspring on average.

Term 40 of 40

What is the significance of sterile castes in eusocial species?

- They do not reproduce but contribute to the colony's success through specialized roles.
- They focus on individual survival without contributing to the colony.
- They compete for resources with reproductive members.
- They reproduce independently and establish new colonies.

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