

LOVE IN THE ANIMAL KINGDOM

GRADE 8 AND UP READING

Science Applicability

Sub Plan

Improve students'
literacy skills



SCROLL
to take a look inside!

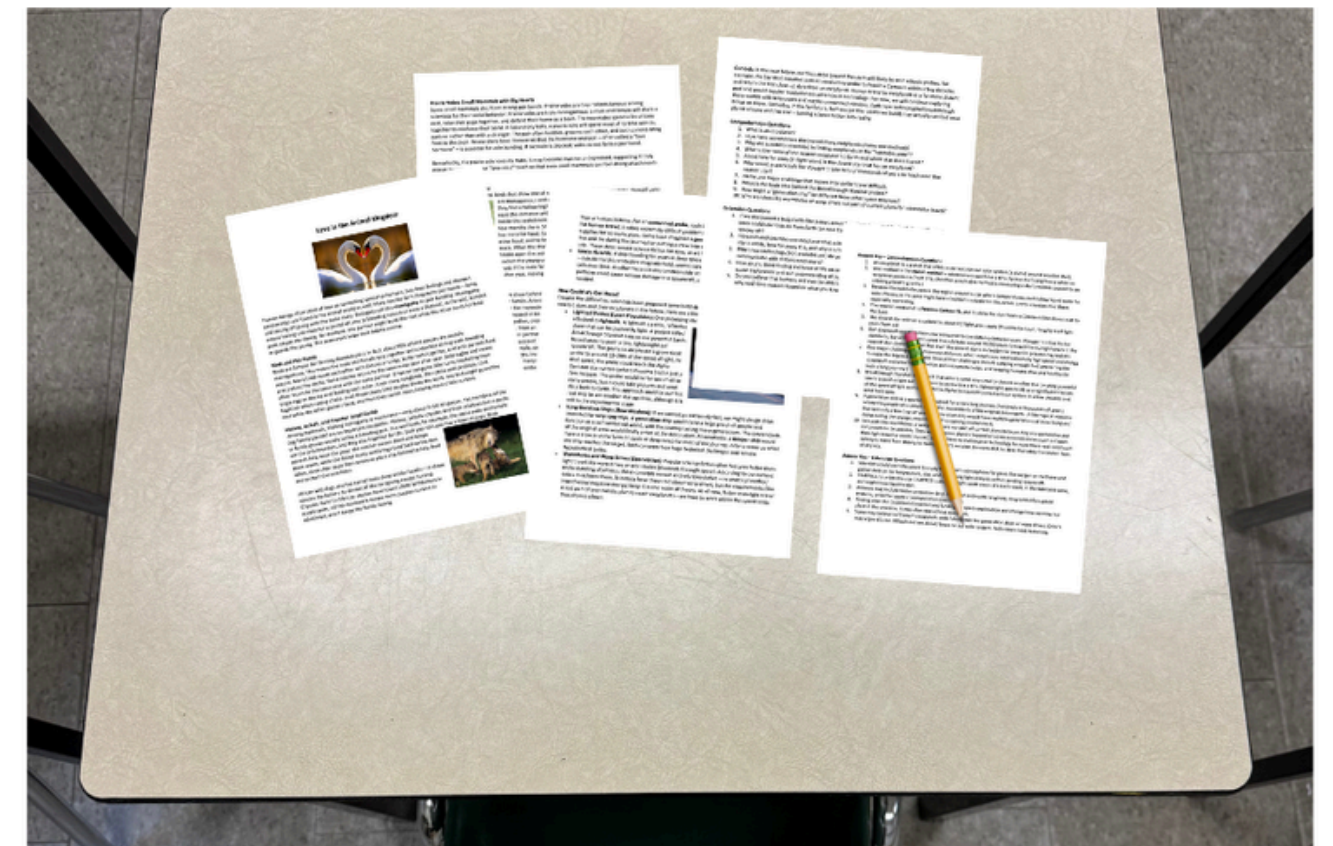


THE PROBLEMS YOU FACE

- Limited time to teach scientific literacy and strengthen students' reading and analysis skills.
- Need meaningful extension activities to engage fast-moving learners.
- Difficulty creating effective last-minute sub plans that still support student learning.

CLASSROOM READY

- Questions and Answer Key
- **No Prep, Ready-to-Use:** Print or assign digitally with Google Docs, Microsoft Word, and PDF formats for flexible classroom use
- **Includes Varied Question Types:** Knowledge, thinking, connecting, application, and open-ended questions.



What Will Your Students Learn?

READING COMPREHENSION ARTICLE & QUESTION BUNDLE

Article with
Comprehension
Questions

Grade 8 and Up

Print & Digital

- Animal Pair Bonding and Monogamy
- Social Monogamy in Birds
- Shared Parenting and Cooperative Care
- Canids (Wolves, Coyotes, Jackals) and Family Groups
- Prairie Voles and Hormonal Bonding
- Oxytocin, Dopamine, and Attachment Chemistry
- Hornbill Nesting and Extreme Trust
- Grief-Like Behavior in Animals
- Evolutionary Advantages of Long-Term Partnerships
- Connections Between Animal and Human Bonding

Comprehension Questions - Answer Key

1. It means a male and female bird stay together and share the work of raising chicks during breeding season.
2. About 90% of bird species.
3. Answers may vary: for example, *bald eagle*, *swan*, or *emperor penguin*. Each of these often pairs with the same mate year after year.
4. Because two parents working together help raise their young more successfully. In the albatross, the male stays in a group breeds, so that pair remains together to care for their pups.
5. Both parents help with the chicks. The mother stays with the chicks while the father hunts and forages for food.
6. Prairie voles are a type of rodent that live in family groups. Both parents care for the young.
7. Scientists have found that prairie voles have a high level of oxytocin, a hormone that is associated with bonding.
8. Oxytocin is a hormone that is associated with bonding. It is released when a person is in a close relationship with another person.
9. The hormone oxytocin is released when a person is in a close relationship with another person.
10. The hormone oxytocin is released when a person is in a close relationship with another person.

Love in the Animal Kingdom



Human beings often think of love as something special to humans, but deep feelings and devoted partnerships are found in the animal world as well. Many species form long-term pair bonds ~ living means having one mate for a period of time (a breeding season or even a lifetime). Monogamy means pairs cooperate closely: for example, one partner might build the nest while the other hunts for food or guards the young. This teamwork helps their babies survive.

Birds and Pair Bonds

Birds are famous for forming devoted pairs. In fact, about 90% of bird species are socially monogamous. This means the male and female stay together and cooperate during each breeding season. Many birds court each other with dances or songs, build nests together, and both parents feed and protect the chicks. Some species return to the same mate year after year. Bald eagles and swans often return to the same nest with the same partner. Emperor penguins take turns incubating their single egg on the ice and feeding each other. Even many songbirds, like robins and cardinals, stick together when raising chicks. In all these cases, bird couples divide the work: one bird might guard the nest while the other gathers food, and then they switch roles, helping more chicks survive.

Wolves, Jackals, and Coyotes: Loyal Canids

Among mammals, lifelong monogamy is much rarer ~ only about 3-5% of species. Yet members of the dog family (canids) are an important exception. Wolves, jackals, coyotes and their relatives live in packs and are the only breeders, and they stay together for life. Each year this pair has a litter of pups. Both parents help raise the pups: the mother nurses them and keeps them warm, while the father hunts and brings them food. In some species, the father also helps guard the pups.

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Your Reading

Love in the Animal Kingdom



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African wild dogs and bat-eared foxes show similar loyalty – in those species the fathers do almost all the caregiving except nursing. Coyotes mate for life too: studies have found 100% faithfulness in coyote pairs. All this teamwork means more puppies survive to adulthood, and it keeps the family strong.



Prairie Voles: Small Mammals with Big Hearts

Some small mammals also form strong pair bonds. Prairie voles are tiny rodents i scientists for their social behavior. Prairie voles are truly monogamous: a male ar nest, raise their pups together, and defend their home as a team. The two mates together to reinforce their bond. In laboratory tests, a prairie vole will spend mo: partner rather than with a stranger. The pair often huddles, grooms each other, i food to the pups. Researchers have discovered that the hormone oxytocin – ofte hormone” – is essential for vole bonding. If oxytocin is blocked, voles do not forn

Remarkably, if a prairie vole loses its mate, it may become inactive or depressed, misses its partner. These “love mice” teach us that even small mammals can feel and loyalty.

Hornbills: Sealed in Trust

Hornbills are large tropical birds that show one of nature’s most dramatic partn are monogamous and usually mate for life. When a i they find a hollow high in a tree. The female crawls i seals the entrance with mud and droppings, leaving Inside this sealed nest, the female lays her eggs and four months there. She cannot leave, and she is cor her mate for food. Each day, the male flies out to ga other food, and he feeds the female (and later the c crack. When the chicks grow too large and space rur breaks open the seal and comes out. At that point, t protect the young until they can fly. This system wo trust: if the male failed to bring food, the female an



Hornbill mates stay loyal year after year, making them symbols of devotion and t

Behaviors Like Human Love

The partnerships described above show behaviors similar to human ideas of love loyalty, teamwork, and caring for family. Animals and humans often use many of chemicals for bonding. Hormones like oxytocin, dopamine, and vasopressin are released in both people and animals when partners are together, creating feelings of attachment and reward. From an evolutionary point of view, long-term partnerships often evolved because they help families succeed. Two parents can divide the work: for example, one might defend the nest while the other forages, increasing the chances that all the young survive. In many species, even older offspring or other group members help care for the young. These coo boost the survival of the family.



Key aspects of animal pair bonds:

- **Shared parenting:** Both mother and father feed and protect the offspring together.
- **Loyalty:** Mated pairs often stay together for life or many years, defending each other’s territory.
- **Attachment chemistry:** Brain hormones like oxytocin and vasopressin underlie bonding in both humans and animals.
- **Grief-like behavior:** Animals can show signs of distress when separated from a mate (for example, howling or lethargy).

Animals even show signs of mourning when a mate is lost. Scientists have observed widowed animals acting like grieving humans. A coyote may howl for days after losing its partner, and a prairie vole separated from its mate may become quiet and inactive. Some monogamous monkeys and birds have been seen searching for a missing mate or acting stressed when they are apart. These responses suggest that bonded animals really do value and miss their partners, much like humans do.

In summary, many creatures form strong family bonds. Whether it’s a pair of geese flying in formation, a wolf couple howling together at night, a pair of voles snuggled in a nest, or hornbills trusting each other every day, these examples show that cooperation, loyalty, and shared parenting are powerful forces in nature. When you think of love and loyalty, remember that similar instincts run deep in the animal kingdom – not just in human hearts, but in the hearts (and brains) of countless other species.

Comprehension Questions

1. What does “socially monogamous” mean for birds?
2. What percentage of bird species form monogamous pairs?
3. Give one example of a bird species mentioned that often stays with the same mate each year.
4. Why are wolves, jackals, and coyotes often monogamous?
5. How do wolf parents and their family cooperate to raise pups?
6. What makes prairie voles unusual compared to most other mammals?
7. How do researchers test whether prairie voles are bonded to their partner?
8. Which hormone is important for bonding in prairie voles?
9. Describe how hornbill parents raise their chicks.
10. What do some animals do when their mate is lost, according to the text?

Extension Questions

1. Find and describe another example of an animal (not mentioned above) that mates for life. What does its pairing behavior look like?
2. Research one hormone involved in bonding (such as oxytocin or dopamine). How does it affect behavior in humans and in at least one other animal?
3. Why might monogamy be more common in birds than in mammals? Consider differences in parental care and life strategies.
4. Many animals cooperate in raising offspring. Name another animal group (other than canids) that uses cooperative parenting and describe how they help each other.
5. Discuss how studying animal pair bonding can help scientists understand human relationships. What are some similarities and differences?

Questions - Answer Key

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nts help: the mother nurses and guards the pups while the father hunts and brings r offspring from the pack may also help feed or protect the new pups.
es form lifelong monogamous pairs and both parents care for the young. This is rare mmals (most do not pair for life).
give a vole a choice between its partner and a new stranger. A bonded prairie vole ch more time with its own partner than with a stranger.
It helps prairie voles form and maintain a strong pair bond.
e hornbill sits inside a sealed tree hole (her nest) for months with only a small he male hornbill stays outside and brings food to the female and chicks through the t. After the chicks grow, the mother breaks out and then both parents feed the chicks. show grieving behaviors. For example, a coyote may howl and refuse food after its and a separated prairie vole may become inactive or depressed. This suggests they i their partners.

ons – Answer Key

is are often cited. Many albatross species form lifelong bonds; paired birds return to resting site each season and take turns incubating eggs and feeding chicks.
romotes bonding. In humans it is released during hugging and childbirth, enhancing it. In prairie voles, oxytocin causes the male and female to form a partner preference. , they do not become bonded.
; often need two parents (for feeding, keeping warm, or protecting the nest), so birds onogamy to share parenting. In many mammals the mother can feed the young nales don’t always stay. This could explain why monogamy is more common in birds. live in herds where females help each other care for calves. Meerkats live in groups er siblings watch over and feed the babies. In both cases, multiple adults cooperate in : young
udies that basic bonding mechanisms (like h i birds or dogs can reveal how oxytocin works is also involve language, culture, and complex en iological roots of attachment are similar in human

mprehension Questions

net is a planet that orbits a star outside our solar system (a planet around another star). od is the **transit method** – astronomers watch for a tiny dip in a star’s brightness when an : passes in front of it. (Another acceptable method is measuring a star’s wobble caused by an lanet’s gravity.)
he habitable zone is the region around a star where temperatures could allow liquid water to ets in this zone might have conditions suitable for life, which is why scientists find them interesting.
st exoplanet is **Proxima Centauri b**, and it orbits the star Proxima Centauri (the closest star to

st star with an exoplanet is about 4.2 light-years away (Proxima Centauri, roughly 4.24 light- n us).
craft are extremely slow compared to the distance between stars. Voyager 1 is fast by our , but at its current speed it would take around 70,000 years to travel the 4.2 light-years to the ar. Space is so vast that even the closest star is incredibly far away for present-day rockets. r challenge is the enormous distance, which means you need extremely high speed and energy he trip in a reasonable time. (Other challenges include carrying enough fuel, protecting the t and crew from radiation and micrometeoroids, and keeping humans alive and healthy for ig journey.)
ugh Starshot is a project t aims to send very small probes to another star by using powerful ush a light sail. The idea is to accelerate a tiny, lightweight spacecraft to a significant fraction ed of light so it can reach the Alpha Centauri/Proxima Centauri system in a few decades and : data.
ion ship is a spacecraft designed for a very long journey (hundreds or thousands of years), : people who arrive will be the descendants of the original passengers. Unlike typical missions nly a few days or years, a generation ship would have multiple generations of crew living and ing the voyage, requiring a self-sustaining environment.
like wormholes or warp drives are not part of current plans because they are speculative and n to be possible. They would require physics beyond what we currently know (such as faster- travel or exotic matter), and we have no evidence or technology to make them real. Until such move from theory to reality (if ever), mission planners stick to ideas that obey the known laws .

ension Questions

could use telescopes to study the planet’s atmosphere for gases like oxygen or methane and ta on its temperature, size, and orbit using light analysis before sending spacecraft.
le orbits the star TRAPPIST-1 about 39 light-years away. It’s Earth-sized, in the habitable zone, : have liquid water.

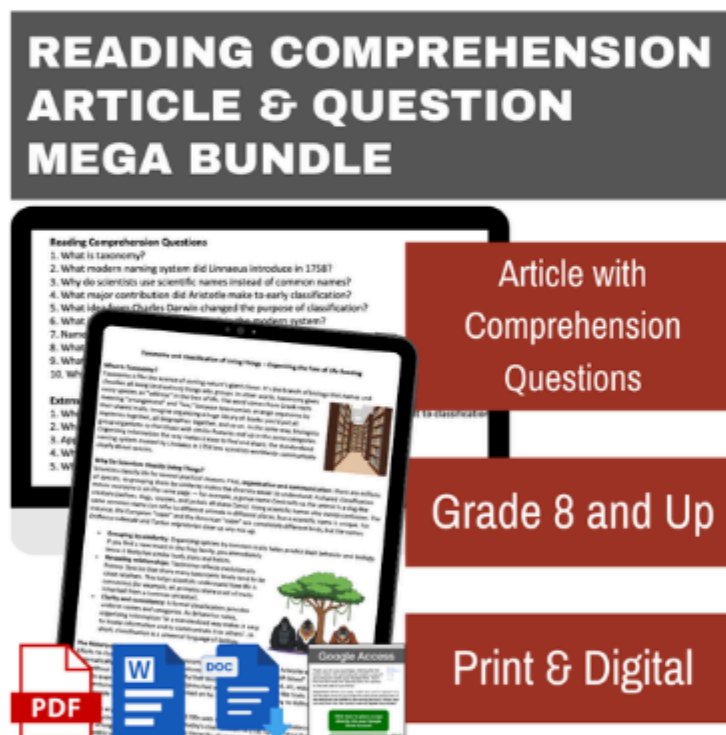
Answer Key Included

Comprehension and Extension Questions



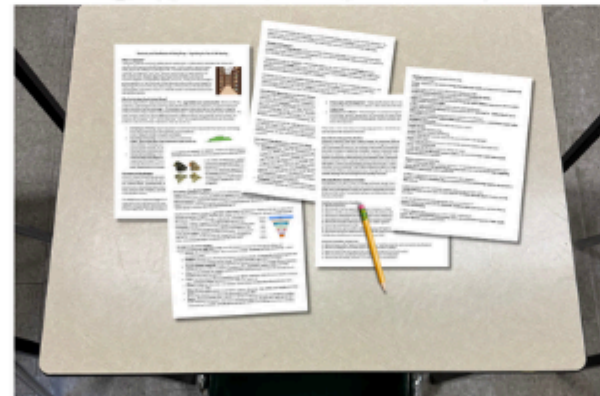
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★★★★★ Extremely satisfied - It is a good supplemental activity either for review and at the same time introducing some concept. I also use this for sub plan. It is well presented, organized and interesting.

★★★★★ Extremely satisfied - This a great resource. I used this for a sub plan. It was fun and engaging for my students.

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