7th Grade NTI DAY #22

Contents:

- Language Arts
- Math
- Science
- Social Studies

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Day 22 NTI
7th Grade Science

Instructions

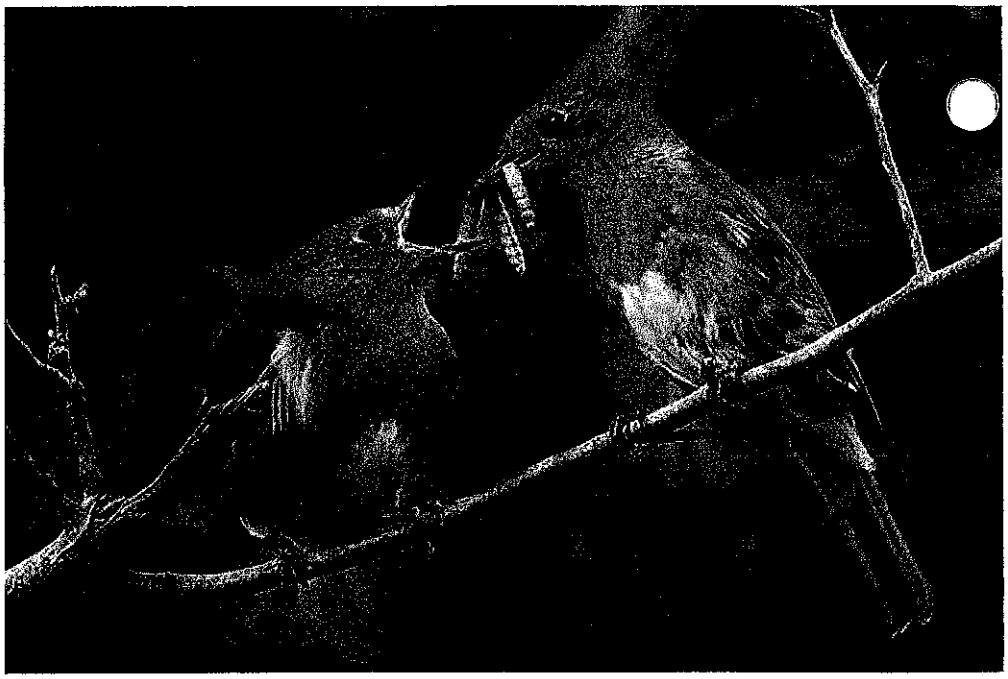
1. Read and annotate the "Courtship Behavior in Birds" article below.
2. Consider the data you collected for Day 21 NTI and this article and respond to the items below.
3. What claim can you make about the purpose of bright coloration and complex behaviors in different species of birds?

4. What are the reasons given for why birds have the following behaviors or characteristics listed below that help them reproduce. Use specific information from the article.

Behavior/Characteristic	**Reason from the article "Courtship Behavior in Birds"**
Being able to sing a wide variety (repertoire) songs.	
Dives, wing flaps and head nods.	
Bright coloration in their feathers	
Courtship feeding.	
Nest building.	

5. Which characteristic from the table above did you see the most examples of from the data you collected from NTI day 21? What might that mean about the birds that you watched?

Courtship Behaviour In Birds



Before they mate birds will engage in a number of different types of courtship behaviours in order to attract a mate. Courtship behaviours, such as songs, displays, and dances, are a way for birds to show off their strength, health, and ability to produce offspring. Female birds invest a great deal of energy in forming and laying eggs and incubating them so it is important that she chooses a mate who will give her healthy chicks.

Courtship behaviour can also help birds distinguish between different species or even sexes, and can reduce the aggression normally displayed when defending territory.

Singing

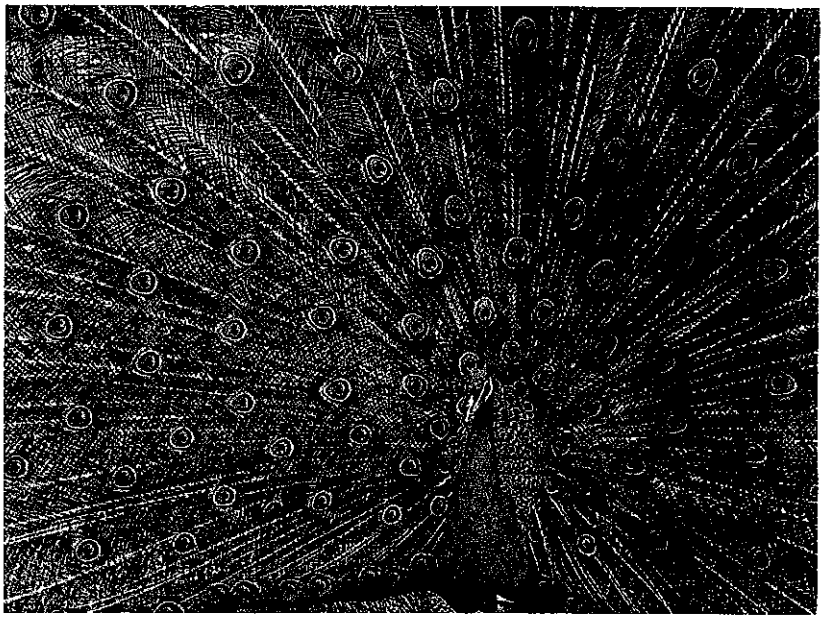
One of the most common ways birds attract a mate is by singing. Although in some avian species both sexes will sing during courtship as a way of bonding, it is usually only the male who sings. Females prefer males with varied and intricate song repertoires, and features such as song structure, amplitude, and frequency have evolved as result of sexual selection.

Studies have shown that a large song repertoire is directly linked to the size of the brain's song control nucleus or HVC, short for high vocal centre, and birds with large HVCs tend to be in better condition with better immune health. Strong mating calls, therefore, can give female birds an indication of whether a male will be able to prove high-quality parental care and good genes for their offspring.

Displays

Dives, wing flaps, head nods and intricate steps are used by birds to show off their experience and suitability as a mate. Generally males will dance for females while she watches but in some species birds will interact with each other during a courtship dance. Preening and close contact during a dance show each other they are not going to harm their partner as well as erasing territorial boundaries.

Plumage



Bright plumage and flamboyant displays of colourful feathers will show how strong and healthy a bird is. Peafowl are probably the best known example for displaying plumage as part of the mating ritual and again in most bird species it is generally the males who have the most elaborate display.

Courtship feeding

Some male birds will bring food to a female as part of courtship to show he can provide for any chicks she may produce. He may simply bring the food for her to eat or in some cases actually transfer it directly to her mouth just as he would to hungry nestlings. Courtship feeding can provide a valuable source of nutrients for females and robins are a great species to watch for observing this behaviour

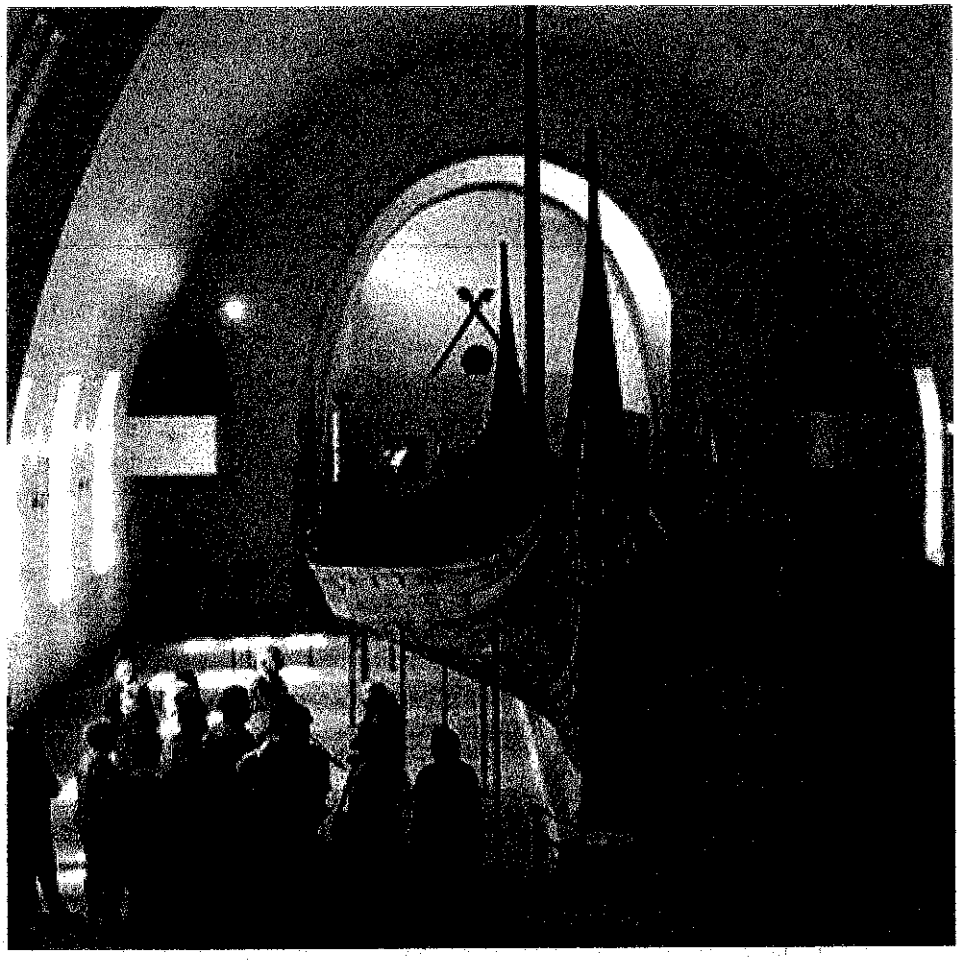
Nest building

Bowerbirds are famous for their complex courtship behaviour of building an elaborate structure known as a bower to attract mates. They will use a variety of objects such as shells, flowers, feathers, stones, berries and even discarded rubbish such as coins and pieces of glass. Many other birds will construct nests to claim territory and show suitable nesting areas they are able to defend. The female may then choose the nest she prefers or still build her own after choosing her mate.

7th Grade Social Studies
Clark/Bloomfield
NTI Day 22

The Secrets of Viking Ships

by ReadWorks



Today, the Vikings are mostly known as violent pirates and raiders. And it is true that Vikings did raid and destroy many towns and villages along coastlines, all the way from what is now northern Russia to Morocco. But the Vikings were also traders and merchants and didn't simply destroy things. They also built towns and markets of their own, including Hedeby, which in the 10th century had a population of 1,500, making it the largest trading town in northern Europe. At their height, the Vikings attacked, settled or traded on four continents. They were active all the way from Canada (they became the first Europeans to travel to the Americas) to present day Istanbul.

All of their travel, trade and warfare were made possible by Viking ships, which were far more advanced than anything else sailing around Europe at the time. The most famous, and most feared, was the *drekar*, or longship. At sea, these ships could move quickly thanks to their large sails. The hulls of the ships were shallow and fat, which made them ride high in the water. This meant they could be driven right onto beaches, where the soldiers would jump over the side to attack and plunder villages and cities. The ships were also light enough that they could be carried from one body of water to another over short sections of land called portages. This greatly extended their range. Several such

drekar ships were found off the coast of Roskilde, formerly the capital of Denmark, between 1957 and 1962. The longest *drekar* measured 119 feet long with a crew of 100 men and space for 72 oars. With its gigantic sail, shallow hull and so many oarsmen, the ship must have been incredibly fast and highly maneuverable.

But Viking ships weren't just built for warfare. Another type, called the *knarr* or ocean-going ship, had cargo holds built into the bow and stern. One such cargo ship discovered near Roskilde was capable of carrying 24 tons, or 48,000 pounds. The *knarrs* would have looked similar to the *drekars* except they were longer, fatter and taller, and the space dedicated to cargo left less room for oarsmen. These were the backbones of the Viking empire, which they used to carry everything from gold coins to timber, spices and fine fabrics.

Both the *drekar* and the *knarr* were built using the same method called the clinker method. Traditionally, oceangoing ships have used a keel, shaped like the fin of a fish. The keel sinks into the water below the hull. It helps the ship maintain a straight line through the water and counters the force of the wind against the sail, which otherwise might blow the ship over. Traditional ships are also built with ribs which function just like the ribs on a human being, starting at the spine and growing out in a curve to protect the space inside.

Using the clinker system, Viking ships had no deep keel. Instead they were built fat enough to carry lots of soldiers or pieces of cargo whose weight helped keep the ship planted in the water. The construction process started with a heavy piece of wood at the bottom. From there, oak tree trunks were split into long, thin planks. Two planks were fastened to the bottom piece, and then each plank was fastened to the one before it like overlapping shingles on the roof of a house. A massive beam was laid across the bottom to strengthen it and also to support the mast. Finally, crossbeams were laid inside to create a deck and benches for oarsmen to sit. The result was sturdy, fast and light.

Viking ships were so advanced for their time they often were the biggest, tallest and most striking ships many people had ever seen. The Vikings made them even more intimidating using bright colors and intricate designs. A monk at the St. Omer Monastery, in France, wrote this description of a royal Viking ship in 1013:

"On one side lions molded in gold were to be seen on the ships, on the other birds on the tops of the masts indicated by their movements the winds as they blew, or dragons of various kinds poured fire from their nostrils...."

The description makes clear that Vikings were not simple marauders. They built a wealthy empire through trade as well as plunder and used their wealth to continuously improve their ships.

Name: _____ **Date:** _____

1. What is a *drekar*?

A. a Viking town

B. a merchant ship

C. a longship

D. an ocean-going ship

2. The author tries to persuade the reader of what?

A. Vikings were only violent pirates and raiders.

B. There was no connection between the Vikings' success and their ships.

C. Viking ships were more advanced than ships today.

D. Vikings were not simply pirates and raiders.

3. The Vikings considered speed an important quality in a ship. What evidence from the passage supports this conclusion?

A. The hulls of the *drekar* were shallow and fat so the ships rode high in the water

B. The *drekar* had very large sails and space for many oarsmen.

C. The *drekar* were light enough to be carried from one body of water to another.

D. The *drekar* could be driven right onto beaches to allow soldiers to jump over the side.

4. Read the following description of the *knarr*: "The *knarrs* would have looked similar to the *drekars* except they were longer, fatter and taller, and the space dedicated to cargo left less room for oarsmen. These were the backbones of the Viking empire, which they used to carry everything from gold coins to timber, spices and fine fabrics."

What can you infer about the *knarrs*?

A. They were not designed for warfare.

B. They were faster than the *drekars*.

C. They were designed to carry soldiers.

D. They were used for the same purpose as *drekars*.

5. What is this passage mostly about?

A. why Vikings are known as violent pirates

B. the different kinds of Viking ships

C. how Vikings decorated their ships

D. the two methods used to build Viking ships

6. Read the following sentences: "Viking ships were so advanced for their time they often were the biggest, tallest and most **striking** ships many people had ever seen. The Vikings made them even more intimidating using bright colors and intricate designs."

What does "**striking**" mean in this sentence?

A. violent

B. dangerous

C. impressive

D. delightful

7. Choose the answer that best completes the sentence below.

Vikings designed and used their ships for multiple purposes, _____ warfare, trade, and travel.

A. finally

B. although

C. ultimately

D. including

8. Describe the *knarr*.

_____

_____

_____

9. Describe the differences between Viking ships and other ships at the time.

10. Explain whether Vikings should be known mostly as pirates and raiders. Support your argument using details from the passage.

NTI Day 22

COMMONLIT

Name: _____ Class: _____

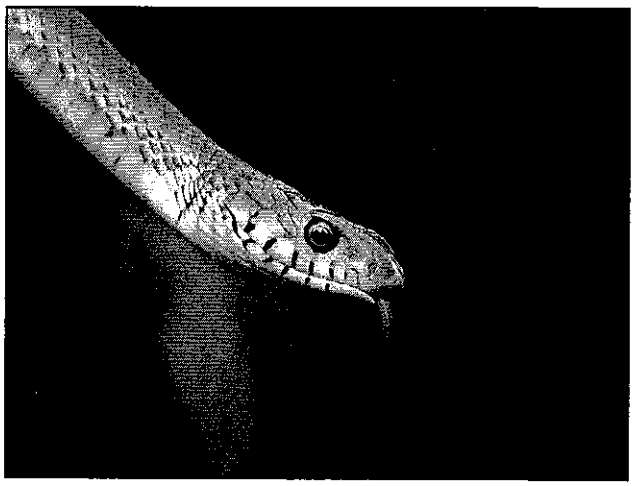
The Farmer and the Viper

By Aesop
620-560 BCE

Aesop was a storyteller who lived in ancient Greece between 620 and 560 BCE. This story is part of his collection of tales known as "Aesop's Fables," which did not survive in writing but were passed down by people retelling them. They have deeply influenced children's literature and modern storytelling culture. As you read, note the language used to describe the snake and the farmer.

[1] One winter a Farmer found a Viper frozen and numb with cold, and out of pity picked it up and placed it in his bosom.[1] The Viper was no sooner revived[2] by the warmth than it turned upon its benefactor[3] and inflicted[4] a fatal bite upon him; and as the poor man lay dying, he cried, "I have only got what I deserved, for taking compassion[5] on so villainous a creature."

Kindness is thrown away upon the evil.



1. an old-fashioned word for chest
2. **Revive** *(verb):* to restore life, strength, or consciousness
3. someone who helps or supports another
4. **Inflict** *(verb):* to cause something unpleasant or painful to another person
5. **Compassion** *(noun):* concern or sympathy for someone else's suffering

Text-Dependent Questions

Directions: For the following questions, choose the best answer or respond in complete sentences.

1. Which of the following statements best describes the actions of the viper and the farmer?
   A. The man helps the viper out of fear.
   B. The viper bites the man out of fear.
   C. The viper bites the man out of instinct.
   D. The man helps the viper out of love for all God's creatures.

2. PART A: Which of the following statements best describes the central theme of this fable?
   A. Good deeds are rarely rewarded.
   B. People should not put themselves in danger to help the untrustworthy.
   C. We betray those who help us because we know they will forgive us.
   D. The needy are often dangerous and should not be helped.

3. PART B: Which phrase from the text best supports the answer to Part A?
   A. "out of pity picked it up and placed it in his bosom." (Paragraph 1)
   B. "The Viper was no sooner revived by the warmth" (Paragraph 1)
   C. "I have only got what I deserved" (Paragraph 1)
   D. "Kindness is thrown away upon the evil." (Paragraph 2)

4. What purpose does the following quote serve? "I have only got what I deserved, for taking compassion on so villainous a creature."
   A. It reveals the moral of the story.
   B. It makes the reader pity the man.
   C. It makes the story funny because it is unexpected.
   D. It makes the snake seem less evil.

5. How is the viper characterized in contrast to the farmer? Provide examples from the text in your answer.

_____

_____

_____

_____

_____

_____

_____

Discussion Questions

Directions: Brainstorm your answers to the following questions in the space provided. ~~Be prepared to share your original ideas in a class discussion.~~

1. What is the moral of the story?

2. Have you ever showed kindness upon someone only to feel betrayed in the end? Why do you think that person did not repay your kindness?

3. Do you believe that the man in the story deserves to be so hard on himself for doing a good deed? Why or why not?

Name _____ Date _____ Class 7th Grade Math NTI Day 22

LESSON 2-2

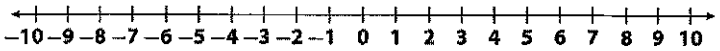
Dividing Integers

Reteach

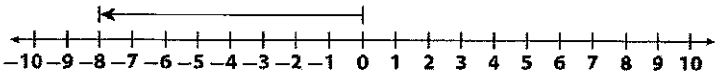
You can use a number line to divide a negative integer by a positive integer.

$-8 \div 4$

Step 1 Draw the number line.



Step 2 Draw an arrow to the left from 0 to the value of the dividend, –8.



Step 3 Divide the arrow into the same number of small parts as the divisor, 4.

Step 4 How long is each small arrow? When a negative is divided by a positive the quotient is negative, so the sign is negative.

← Each arrow is –2.

So, $-8 \div 4 = -2$.

On a number line, in which direction will an arrow that represents the dividend point? What is the sign of the divisor? Of the quotient?

1. $54 \div (-9)$

   Dividend: _____

   Sign of Divisor: _____

   Sign of Quotient: _____

2. $-4\overline{)-52}$

   Dividend: _____

   Sign of Divisor: _____

   Sign of Quotient: _____

3. $\frac{-39}{3}$

   Dividend: _____

   Sign of Divisor: _____

   Sign of Quotient: _____

Complete the table.

4.

Divisor	Dividend	Quotient
+	+	
	+	
	–	–
		+