

STATE OF NEW HAMPSHIRE
TICKBORNE DISEASE CURRICULUM KIT
GRADES K-1



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New Hampshire Department of Health and Human Services

Division of Public Health Services

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Introduction

Lyme disease and other tickborne diseases are an important cause of illness in New Hampshire (NH). Over the last decade reported cases of Lyme disease have increased significantly in NH. In 2013, the Centers for Disease Control and Prevention (CDC) reported that NH had the second highest incidence rate of Lyme disease in the United States. Data also show that the annual incidence of Lyme disease is highest among the 5-14 year age group, but is high for all primary and secondary aged children.

In response to this growing epidemic, the NH Department of Health and Human Services (DHHS), Division of Public Health Services (DPHS) released its first [State of New Hampshire Tickborne Disease Prevention Plan](#) in March of 2015. The plan outlines recommended prevention measures and actions to prevent tickborne disease, including educational outreach, which will be the main method that the NH DHHS will use to address tickborne disease in NH.

In an effort to reach NH's youngest populations, the NH DHHS has developed three Tickborne Disease Prevention Curriculum Kits (grades K-1, 2-3, and 4-5), each with a primary focus on personal protective measures. Efforts have been made to adapt lessons contained within the Curriculum Kits to fit within the Common Core State Standards, the Next Generation Science Standards performance expectations, and the NH Curriculum Frameworks for science and health. Each activity addresses one or more curriculum standards, and may include standards across multiple curriculum areas. These efforts will allow school districts and teachers to utilize the materials provided by the NH DHHS to educate NH children about tickborne disease prevention without requiring significant restructuring of the established curricula.

What You Will Find in Each TBD Curriculum Kit:

- ✓ Activities that have been piloted to the specified grade levels
- ✓ Reproducible activity sheets
- ✓ Teacher's guides containing background information with underlined keywords, additional resources, and a detailed lesson plan specific to each activity

Lesson Summaries

Lesson 1

My Book on Ticks

This lesson was developed to introduce students to ticks. The activity provides an introduction to a tick's physical appearance and habitat, and also includes messages on how to prevent tickborne diseases. Additionally, this lesson provides an opportunity for students to practice key reading and writing skills.

Lesson 2

Let's Go Shopping!

This lesson teaches students about tickborne disease prevention. Students will 'go shopping' only for clothing items that will help prevent tick bites.

Lesson 3

Tick Activity throughout the Year

This lesson was developed to teach students about the changes in appearance and behavior exhibited by a tick as the seasons change, while also teaching them about the chronological order of the seasons and months of the year.

Lesson 4

How Many Animals Do You See?

This lesson was developed to teach students about tick hosts that are common in New Hampshire. They will also build upon existing math skills and develop new ones by creating a graph of animal hosts and answering questions about the graph.

Lesson 1

My Book on Ticks

Background

Ticks are very small; they are similar to the size of a tiny seed, such as a poppy seed or a sesame seed, or a period at the end of a sentence. They are most closely related to spiders. Some ticks may be black or red and brown, and sometimes a tick may even look gray. Young ticks have six legs, and older ticks have eight legs.

Ticks live outdoors, in areas with tall grass or leaves. If you see a tick indoors, it is probably because the tick attached to you or your pet while outdoors and fell off indoors. Can you think of any areas in your backyard or schoolyard that have tall grass or a lot of leaves?

If a tick attaches to your body, it can bite you and may make you sick. One kind of tick is called a blacklegged tick. Some blacklegged ticks have bad germs. If a blacklegged tick bites you and passes on its germs to you, it could make you sick with a disease called Lyme disease.

When you go outdoors, it is important to take steps to prevent ticks from attaching to your body. You should ask an adult to help you put on insect repellent (some of you may have heard of it called bug spray) before you go outside. If you are going to play in areas where ticks live, make sure to wear a long sleeve shirt, long pants, sock and sneakers; you should also tuck your shirt into your pants and your pants into your socks. When you go indoors after being outside, ask your parent or guardian to check you for ticks and be sure to take a bath or shower to wash off any unattached ticks. If a tick is found, it is important to remove it right away!

Lesson Plan

Title: My Book on Ticks

Subject(s): Health, Science, English/Language Arts

Grade Level: K-1

Duration: 45-55 minutes

Materials Required: “My Book on Ticks” template, pencil, scissors, stapler, crayons or colored pencils

Key Vocabulary: germs, prevent, related, repellent, similar, tick, tiny, unattached

Description: This lesson was developed to introduce students to ticks. The activity provides an introduction to a tick’s physical appearance and habitat, and also includes messages on how to prevent tickborne diseases. Additionally, this lesson provides an opportunity for students to practice key reading and writing skills.

Objectives: Students will be able to describe what a tick is and steps that can be taken to prevent getting sick from the bite of a tick. Students will also be able to write the letters for short-vowel sounds.

Procedure:

- 1.) Introduce the lesson by talking to the students about ticks. Some suggestions are listed below. (5 minutes)
 - *Ask students if they have ever seen a tick*
 - *Show students a picture of a tick*
- 2.) Review vowels and vowel sounds with students. (5 minutes)
- 3.) Read the background information for this lesson to the students. (5 minutes)
- 4.) Hand out one “My Book on Ticks” template, as well as the additional required materials to each student.
- 5.) Read the instructions together as a class. (3 minutes)
- 6.) Instruct the students to read the booklet and complete the activity independently. (20-25 minutes)
- 7.) Read and review the booklet together as a class. (5-10 minutes)

Helpful Resources:

<http://www.dhhs.nh.gov/dphs/cdcs/lyme/documents/tbdpreventionplan.pdf>

<http://www.cdc.gov/ticks/index.html>

Standards Met:

New Hampshire Curriculum Framework – Health

Personal and Consumer Health

- 2.4 Strategies to prevent parasitic infections – Elementary

New Hampshire Curriculum Framework – Life Science

LS4– Humans are similar to other species in many ways, and yet are unique among Earth’s life forms.

- S:LS4:2:2.4 Recognize symptoms, such as fever, rashes, coughing and congestion for common illnesses – Grades K, 1 and 2

New Hampshire Curriculum Framework – Reading

R:ERS:1:1: Demonstrates phonemic awareness and applies phonological knowledge and skills by...

- R:ERS:1:1.3: Isolating phonemes in single syllable words – Grades 1 and 2

R:ERS:2: Demonstrates understanding of concepts of print during shared or individual reading by...

- R:ERS:K:2.2: Following text with finger-pointing (e.g., charts, simple books), demonstrating left-to right and top-to bottom directionality – Grade K
- R:ERS:K:2.3: Identifying the first and last parts of a word (beginning/end of the word) – Grade K
- R:ERS:K:2.4: Identifying key parts of a book: front and back, print, illustrations – Grade K

R:F&A: Reads grade-level appropriate material with...

- R:F&A:1:1.1: Accuracy: reading material appropriate for the end of grade 1 with at least 90- 94% accuracy – Grade 1
- R:F&A:1:1.3: Fluency: reading grade-appropriate text in a way that makes meaning clear, and demonstrates phrasing, expression, and attention to end punctuation – Grade 1

R:WID:1: Applies word identification and decoding strategies (leading to automaticity) by ...

- R:WID:1:1.1: Sounding out regularly spelled (decodable) one-syllable or two-syllable words using letter-sound correspondence knowledge – Grade 1
- R:WID:1:1.2: Reading regularly spelled one or two syllable words using knowledge of sounds and letter patterns (including common endings (s, ed, ly, ing) – Grade 1
- R:WID:1:1.3: Reading grade-level appropriate words (in connected text) – Grade 1

- R:WID:1:1.4: Reading grade- appropriate, high frequency words (that include irregularly spelled words – said; contractions – I’m) – Grade 1

R:V:1: Students identify the meaning of unfamiliar vocabulary by...

- R:V:1:1.1: Using strategies to unlock meaning (e.g., activating prior knowledge, using cues, using context clues, or asking questions during read-alouds or text reading) – Grade 1

R:LT:1:4: Generates a personal response to what is read aloud or read independently through a variety of means by...

- R:LT:1:4.1: Comparing stories or other texts to personal experience, prior knowledge or to other texts – Grades 1 and 2

R:IT:1:1: Demonstrate initial understanding of informational texts (expository and practical texts) by...

- R:IT:K:1.1: Obtaining information, using text features (e.g., title and illustrations) – Grade K and 1
- R:IT:1:1.2: Using explicitly stated information to answer questions – Grade 1
- R:IT:1:1.5: Distinguishing between literary and informational texts – Grade 1

R:IT:1:2: Analyze and interpret informational text read aloud or independently, citing evidence as appropriate by...

- R:IT:1:2.1: Telling what was learned – Grade 1
- R:IT:1:2.2: Identifying the topic of the text or explaining the title – Grade 1
- R:IT:1:2.4: Identifying facts presented in text – Grade 1

R:RS:K:1: Demonstrates ability to monitor comprehension and strategy use for different types of texts ...

- R:RS:K:1.2: Using pictures, syntax or repetitive language patterns to help predict upcoming words – Grade K

New Hampshire Curriculum Framework – Written and Oral Communication

W:C:1: In independent writing, students demonstrate command of appropriate English conventions by...

- W:C:1:1.5a: Using phonemic awareness and letter knowledge to spell independently (using phonetic or temporary spelling when needed) – Grades K and 1

W:OC:1: In oral communication, students demonstrate interactive listening by ...

- W:OC:K:1.1: Following simple verbal instructions and directions – Grade K

W:OC:2: In oral communication, students make oral presentations by...

- W:OC:K:2.1: Speaking clearly and distinctly, orally sharing information and experiences – Grade K

Common Core State Standards for English Language Arts and Literacy

Reading Standards for Information Text

- RI.2.1 Identify the main topic and retell key details of a text – Grade 1
- RI.4.K With prompting and support, ask and answer questions about unknown words in a text – Grade K
- RI.5.K Identify the front cover, back cover, and title page of a book – Grade K
- RI.7.1 Use the illustrations and details in a text to describe its key ideas – Grade 1
- RI.10.1 With prompting and support, read informational texts appropriately complex for grade 1 – Grade 1

Reading Standards: Foundational Skills

- RF.3.a.1 Know the spelling-sound correspondences for common consonant digraphs – Grade 1
- RF.3.b.1 Decode regularly spelled one-syllable words – Grade 1
- RF.3.b.K Associate the long and short sounds with common spellings (graphemes) for the five major vowels – Grade K
- RF.3.g.1 Recognize and read grade-appropriate irregularly spelled words – Grade 1
- RF.4.a.1 Read grade-level text with purpose and understanding – Grade 1
- RF.4.b.1 Read grade-level text orally with accuracy, appropriate rate, and expression on successive readings – Grade 1
- RF.4.c.1 Use context to confirm or self-correct word recognition and understanding, rereading as necessary – Grade 1

Speaking and Listening Standards

- SL.1.a.K Follow agreed-upon rules for discussions (e.g., listening to others and taking turns speaking about the topics and texts under discussion) – Grade K
- SL.1.b.K Continue a conversation through multiple exchanges – Grade K
- SL.3.K Ask and answer questions in order to seek help, get information, or clarify something that is not understood – Grade K
- SL.4.K Describe familiar people, places, things, and events and, with prompting and support, provide additional detail – Grade K

Language Standards

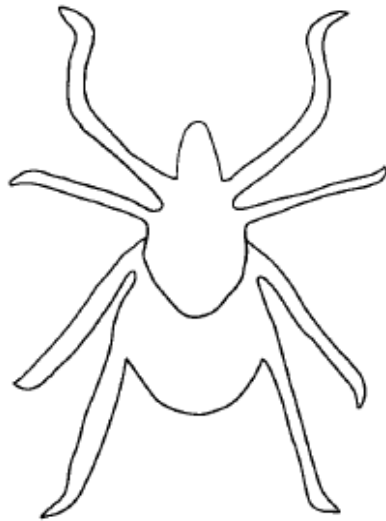
- L.1.a.1 Print all upper- and lowercase letters – Grade 1
- L.2.c.K Write a letter or letters for most consonant and short-vowel sounds (phonemes) – Grade K

My Book on Ticks

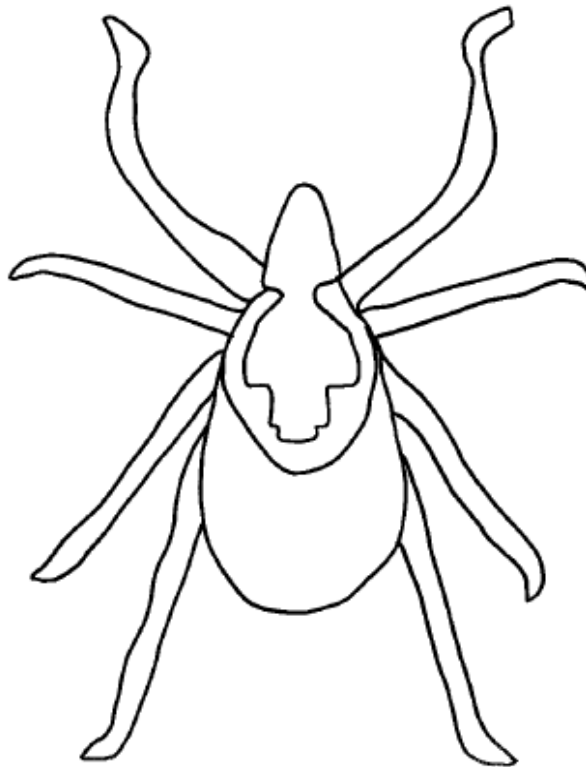


Name: _____

T___cks are very tiny.



Nymph

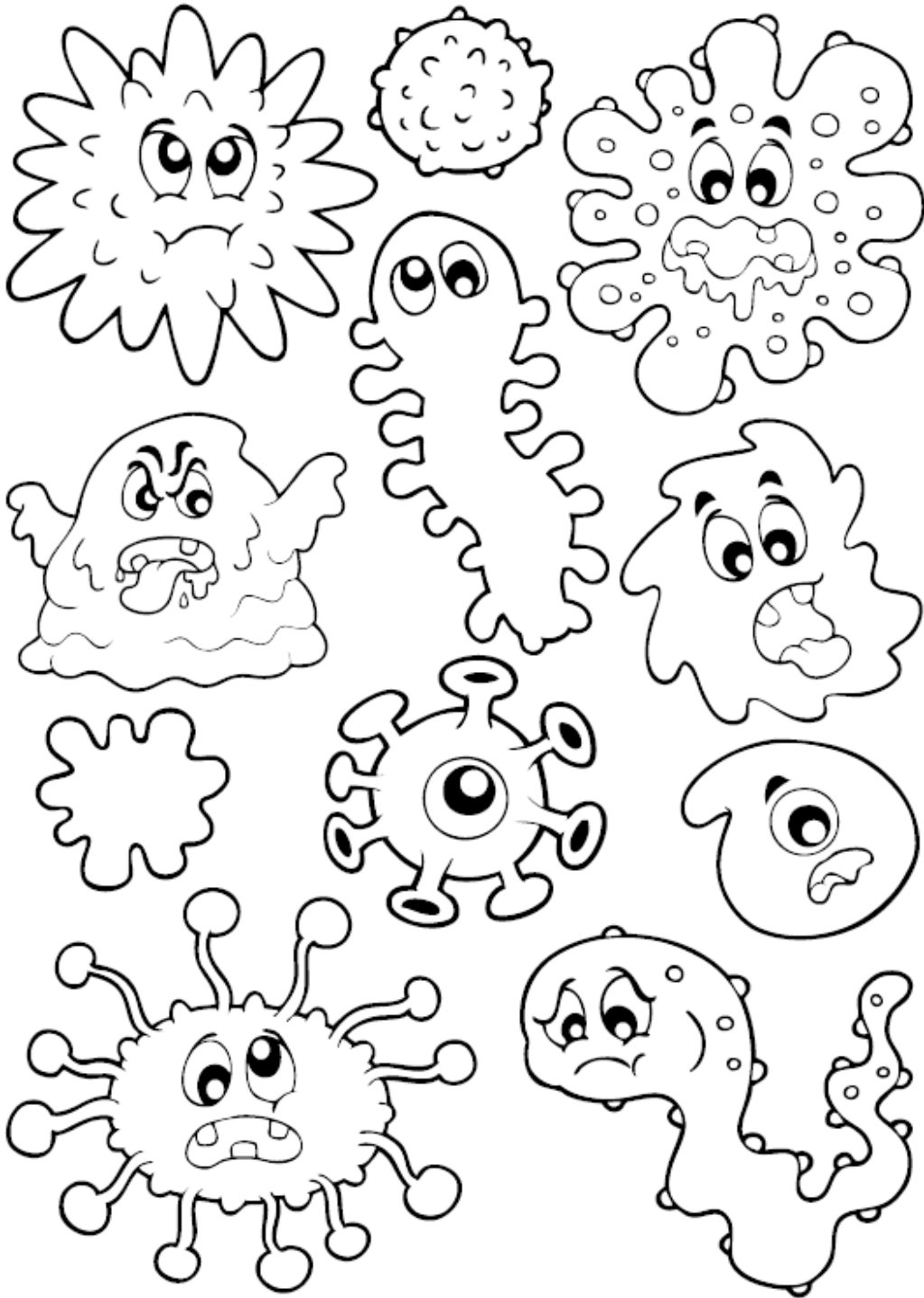


Adult

Tall gr___ss and leaves are
some places where ticks live.



Some ticks have b d germs.



If a tick bites you it may
g___ve you its germs and
make y___u sick.




Ask an adult to help you
p___t on insect repellent
before you go outside.



And don't forget to do a
tick check every d___y!



THE
END!



Lesson 2

Let's Go Shopping!

Background

The best way to avoid getting sick with diseases that are caused by tick bites is by keeping ticks off your body. One important thing to know is where ticks live, or their habitat; so before you go outdoors and enter into a tick habitat, you can take certain steps to keep ticks off your body.

Just like humans, ticks have homes too. However, ticks live outdoors rather than indoors. Common outdoor areas where ticks are most likely to be living include tall grass or weeds, shrubs, and leaves that you may see in woods, yards, or parks.

There are many steps or actions you can take prevent tick bites. One that many of you may have heard of is putting on insect repellent (which is just another term for bug spray) before going outdoors. Using insect repellent is a good way to keep ticks off you, but do not forget to always ask a parent, guardian, or teacher to help you put it on. Did you know there is even a type of insect repellent that is made especially for clothes? It is called permethrin.

Speaking of clothes, if you know you are going to be spending time outdoors in or near places where ticks may be living, it is a good idea to wear certain types of clothing that will prevent ticks from getting to your skin. These include long pants, a long sleeved shirt, socks, and shoes that cover your feet. An extra step that should be taken after you get dressed is tucking your pant legs into your socks, and your shirt into your pants.

Lesson Plan

Title: Let's Go Shopping!

Subject(s): Health, Social Studies, English/Language Arts

Grade Level: K-1

Duration: 40-50 minutes

Materials Required: "Let's Go Shopping!" worksheet packet, scissors, glue, and crayons or colored pencils (optional)

Key Vocabulary: habitat, prevent, repellent, tick

Description: This lesson teaches students about tickborne disease prevention. Students will 'go shopping' only for clothing items that will help prevent tick bites.

Objectives: Students will be able to identify the various clothing items that should be worn to prevent ticks from attaching to their body.

Procedure:

- 1.) Introduce the lesson with a discussion about preventing tick bites. Engage students by asking questions about tick bite prevention. Some suggestions are listed below (5 – 10 minutes):
 - *"How do you think you can prevent getting bitten by a tick?"*
 - *"What types of clothing do you think are appropriate if you are going to be outside in areas where ticks live?"*
 - *"Is there anything that you or your parents already do to prevent tick bites?"*
- 2.) Read the background information for this lesson to the students. (5 minutes)
- 3.) Pass out one "Let's Go Shopping!" worksheet packet to each student as well as the required materials.
- 4.) Read the instructions together as a class. (2 minutes)
- 5.) Instruct students to complete the lesson either independently or with a partner. (15 – 20 minutes)
- 6.) Once students have completed the worksheet, review the answers as a class, reminding students why some clothing items provide more protection from tick bites compared to other clothing items. (10 minutes)

Helpful Resources:

<http://www.dhhs.nh.gov/dphs/cdcs/lyme/documents/tbdpreventionplan.pdf>

http://www.cdc.gov/lyme/prev/on_people.html

Standards Met:

New Hampshire Curriculum Framework - Health

Physical Activity

- 1.6 Strategies for protection – Elementary

Personal and Consumer Health

- 2.4 Strategies to prevent parasitic infections – Elementary
- 2.6 Benefits of wearing protective clothing – Elementary

New Hampshire Curriculum Framework – Social Studies

Geography - SS:GE:5: Environment and Society

- SS:GE:2:5.1: Recognize the role of natural resources in daily life, e.g., food, clothing, or shelter – Grades K, 1 and 2

New Hampshire Curriculum Framework - Written and Oral Communication

W:OC:1: In oral communication, students demonstrate interactive listening by ...

- W:OC:K:1.1: Following simple verbal instructions and directions – Grade K
- W:OC:K:1.5b: Attending to speaker and waiting for appropriate turn to speak – Grade K

W:OC:2: In oral communication, students make oral presentations by...

- W:OC:K:2.1: Speaking clearly and distinctly, orally sharing information and experiences – Grade K

Common Core State Standards for English Language Arts and Literacy

Speaking and Listening Standards

- SL.1.a.1 Follow agreed-upon rules for discussions (e.g., listening to others with care, speaking one at a time about the topics and texts under discussion) – Grade 1
- SL.1.b.1 Build on others' talk in conversations by responding to the comments of others through multiple exchanges – Grade 1
- SL.1.c.1 Ask questions to clear up any confusion about the topics and texts under discussion – Grade 1
- SL.3.K Ask and answer questions in order to seek help, get information, or clarify something that is not understood – Kindergarten

- SL.3.1 Ask and answer questions about what a speaker says in order to gather additional information or clarify something that is not understood – Grade 1

Speaking and Listening Standards

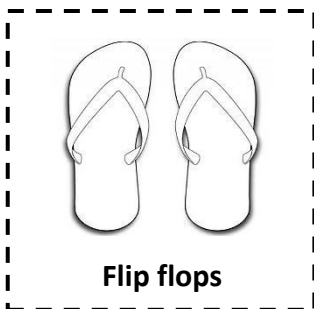
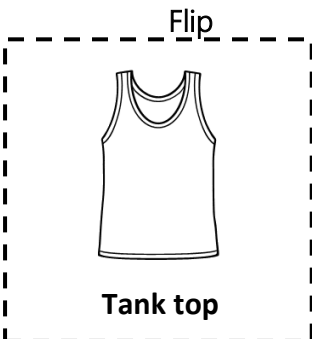
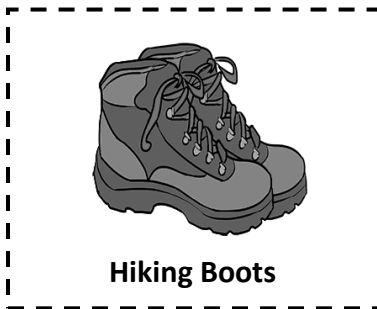
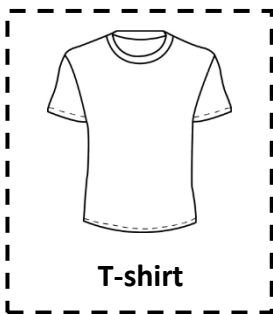
- SL.4.K Describe familiar people, places, things, and events and, with prompting and support, provide additional detail – Grade K

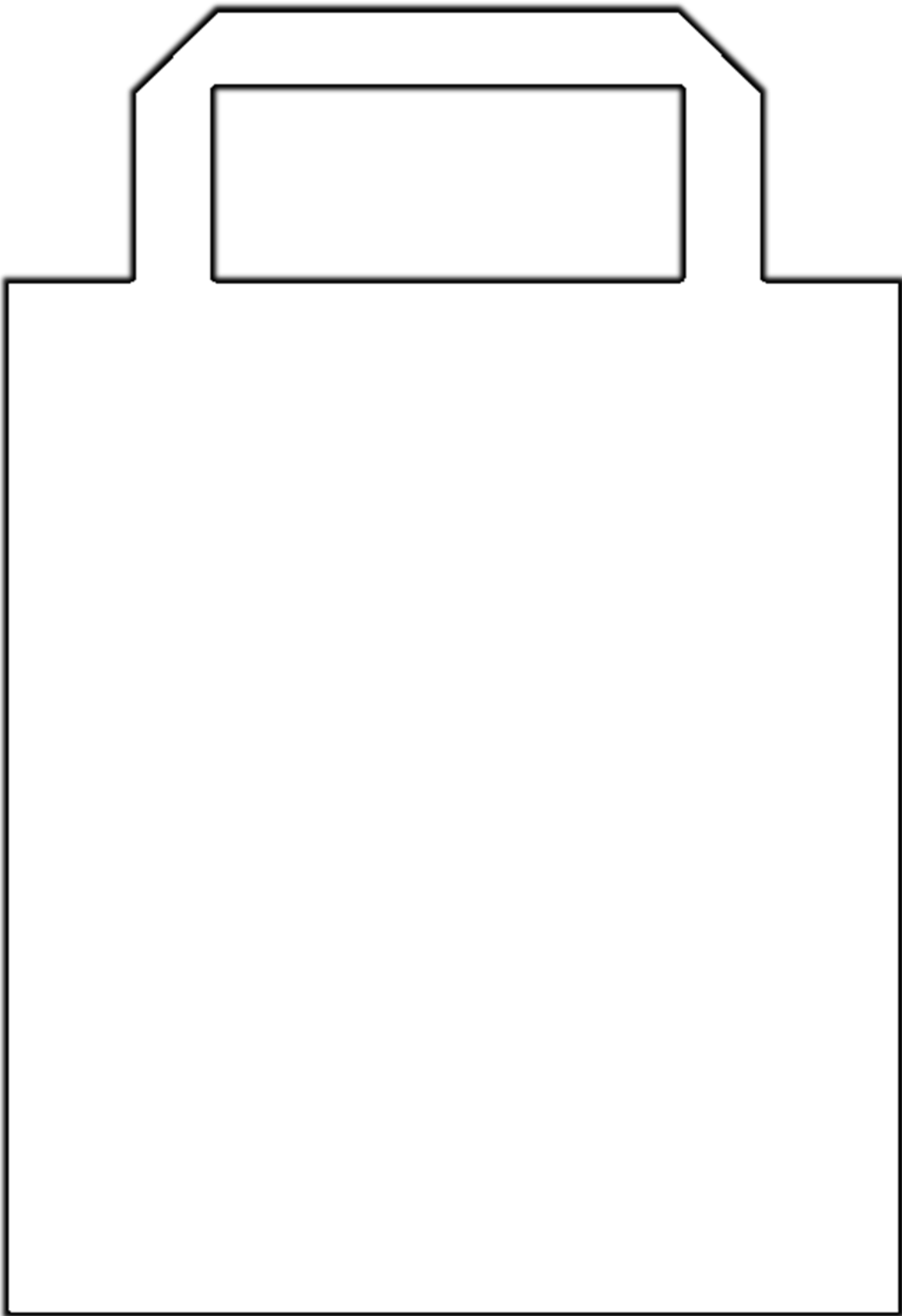
Name: _____

Let's Go Shopping!

Your family hiking trip is coming up and you need to go shopping for new hiking clothes. Keep in mind that it is tick season, so you should buy clothes that will help prevent tick bites.

Instructions: Select clothing items that will help prevent getting tick bites. Once you have selected your items, place them in the shopping bag (cut and glue).





Lesson 3

Tick Activity throughout the Year

Background

Ticks are born by hatching from an egg. Ticks are very small when they first hatch. Think of a newly hatched tick as a baby. When a tick hatches, it has a special name, larva. Tick larvae have six legs. Every time a tick eats a meal, it grows. Tick larvae will usually eat their first meal during the summer months. The meal that tick larvae eat is the blood from a very small animal such as a mouse or chipmunk (this is what is happening when a tick bites). Once a tick larva has finished eating its meal, it will un-attach or drop off of the animal. Tick larvae will then go to sleep for many months and will eventually wake up in the spring as nymph ticks. Nymph ticks have one additional pair of legs, or eight legs in total. During the late spring to early summer months, the nymph tick will become hungry again and will start to look for another meal. Nymph ticks prefer, or like to feed on small animals and possibly humans. Once the nymph tick becomes full and has finished eating its blood meal, it will drop off the animal or human that it was feeding on and grow into an adult tick. The adult tick will start searching for a larger animal or human during the late spring to early fall months, where it will mate and eat another meal. Once the adult tick has finished its meal and completed mating, it will drop off of the large animal or human. If the adult tick is a female, it will then lay thousands of eggs. The eggs will then hatch into larvae the following spring.

Lesson Plan

Title: Tick Activity throughout the Year

Subject(s): Science, Mathematics, English/Language Arts

Grade Level: K-1

Duration: 50-65 minutes

Materials Required: “Tick Activity throughout the Year” worksheet, writing implement

Key Vocabulary: hatch, larva, month, nymph, pair, prefer, season

Description: This lesson was developed to teach students about the changes in appearance and behavior exhibited by a tick as the seasons change, while also teaching them about the chronological order of the seasons and months of the year.

Objectives: Students will be able to name the four seasons and twelve months. Additionally, students will be able to describe the changes that occur in a tick’s physical appearance and behavior as the seasons change.

Procedure:

- 1.) Introduce the lesson by talking to students about ticks and growth. Some suggestions are listed below. (5-10 minutes)
 - *Ask students if they have ever seen a tick*
 - *Show students a picture of a tick*
 - *Ask students to describe changes that occur when humans grow*
- 2.) Review the four seasons of the year and the twelve months of the year. It may be helpful to show a picture of a calendar as well as pictures of each season. (5 minutes)
- 3.) Read the background information for this lesson to the students. (5 minutes)
- 4.) Explain the four life stages of a tick to students (it may be helpful to use images). (10 minutes)
- 5.) Pass out one “Tick Activity throughout the Year” worksheet to each student.
- 6.) Read the instructions together as a class. (2 minutes)
- 7.) Instruct the students to complete the worksheet. (15-20 minutes)
- 8.) Review the answers together as a class. (5-10 minutes)

Helpful Resources:

http://www.cdc.gov/ticks/life_cycle_and_hosts.html

Standards Met:

New Hampshire Curriculum Framework - Life Science

LS1 - All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, & species).

- S:LS1:2:3.2 Recognize that living things have a life cycle, during which they are born, grow, and die – Grades K, 1 and 2

LS2– Energy flows and matter recycles through an ecosystem.

- S:LS2:2:1.3 Recognize that some plants and animals go through changes in appearance when the seasons change – Grades K, 1 and 2

New Hampshire Curriculum Framework – Mathematics

Geometry and Measurement

- M:G&M:1:8 Determines elapsed and accrued time as it relates to calendar patterns (days of the week, months of the year), the sequence of events in a day; and recognizes an hour and “on the ½ hour” – Grade 1

New Hampshire Curriculum Framework - Written and Oral Communication

W:OC:1: In oral communication, students demonstrate interactive listening by ...

- W:OC:K:1.1: Following simple verbal instructions and directions – Grade K

Common Core State Standards for English Language Arts and Literacy

Speaking and Listening Standards

- SL.1.a.K Follow agreed-upon rules for discussions (e.g., listening to others and taking turns speaking about the topics and texts under discussion) – Grade K

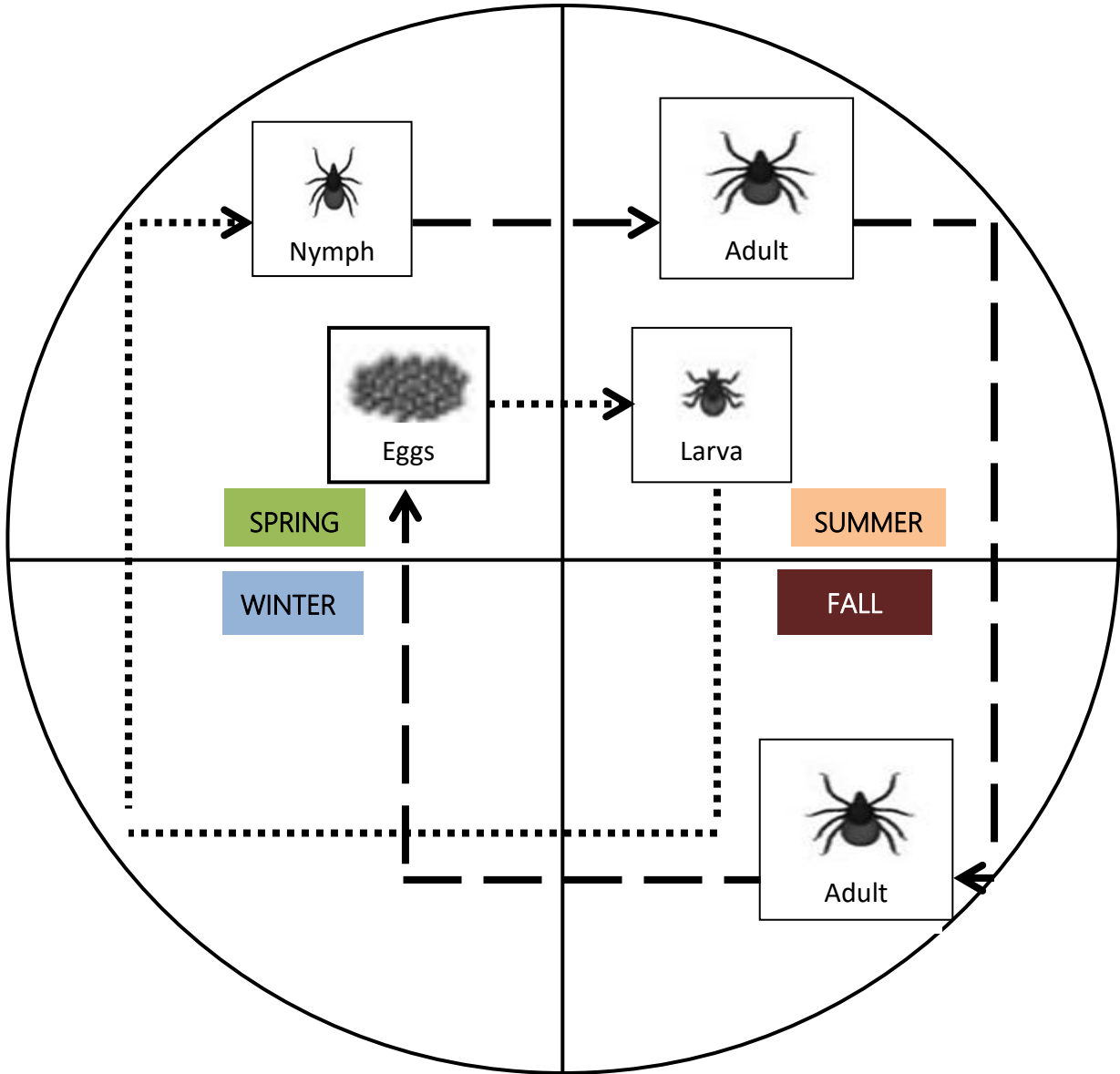
Next Generation Science Standards

From Molecules to Organisms: Structures and Processes

- K-LS1-1 Use observations to describe patterns of what plants and animals (including humans) need to survive – Grade K

Name: _____

Tick Activity throughout the Year



Winter:
December
January
February

Spring:
March
April
May

Summer:
June
July
August

Fall:
September
October
November

Instructions: Read each question and circle the correct months. If there are months that are not listed, write them on the blank lines. Use the above picture and season/month guide to help you answer the questions.

1.) During which months will the adult ticks be crawling around looking for a meal?

April October September June January

2.) During which months are you likely to find a nymph tick on your body?

May February June April July September

3.) During which months does an adult tick produce her eggs?

October August March February November

4.) During which months are larvae looking for a meal?

July August March December September June

Lesson 4

How Many Animals Do You See?

Background

Ticks get their meals from animals and sometimes humans. The types of meals that ticks eat are called blood meals. The animal (such as a mouse, chipmunk, bird, rabbit, and squirrel) or human are called hosts. A host is a living animal or plant on which another living thing feeds; in this case, the tick feeds on the host.

If the host that a tick feeds on has the germs that cause Lyme disease or another disease spread by ticks, the tick may pick up those germs when it feeds on the host. It is important to know that even if a tick picks up the bad germs from one host and then bites another host such as another animal or human, the second host may not get sick.

It is also important to know that ticks have four life stages, egg, larva, nymph and adult. Tick larvae are very small, and therefore only feed on small animals such as mice and chipmunks. Ticks then grow into nymphs and adults, at which point they may choose to feed on larger animals including deer, dogs and humans.

Lesson Plan

Title: How Many Animals Do You See?

Subject(s): Mathematics and Science

Grade Level: K-1

Duration: 65 – 80 minutes

Materials Required: “How Many Animals Do You See?” worksheet, pencil, scissors, glue, crayons or colored pencils (optional)

Key Vocabulary: germs, graph, host, larva, less, more, nymph, tick

Description: This lesson was developed to teach students about tick hosts that are common in New Hampshire. They will also build upon existing math skills and develop new ones by creating a graph of animal hosts and answering questions about the graph.

Objectives: Students will be able to sort, graph and identify various tick hosts. Students will also be able to analyze and interpret data from the graph.

Procedure:

- 1.) Introduce the lesson by talking to the students about ticks. Some suggestions are listed below. (10 – 15 minutes)
 - *Show students a picture of a tick*
 - *Ask students if they have ever seen a tick*
 - *Let students know that ticks also need to eat, but they get their food from animals (and sometimes humans)*
 - *Provide examples of different tick hosts (the teacher may decide to show images or even have small stuffed animals on display)*
- 2.) Read the background information for this lesson to the students. (5 minutes)
- 3.) Explain to the students what a graph is. (3 minutes)
- 4.) Using a projector, show an example of a picture bar graph to students. When showing an example of a graph, it may be helpful to ask questions to the class about the graph. (10 minutes)
- 5.) Hand out one “How Many Animals Do You See?” worksheet, as well as the additional required materials to each student and review the various kinds of animals (hosts) that are shown on the worksheet. (5 minutes)
- 6.) Read the instructions together as a class. (3 minutes)

- 7.) Instruct students to make their graph and answer the questions independently. (25-30 minutes)
- 8.) Review the answers together as a class. (5-10 minutes)

Helpful Resources:

http://www.cdc.gov/ticks/life_cycle_and_hosts.html#find

Standards Met:

New Hampshire Curriculum Framework - Life Science

LS1– All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, & species)

- S:LS1:2:1.1 Differentiate between living and nonliving things; and categorize objects in each group using the significant observable characteristics they share, such as color, shape and size – Grades K, 1 and 2

LS2– Energy flows and matter recycles through an ecosystem

- S:LS2:2:2.1 Identify the resources plants and animals need for growth and energy, and describe how their habitat provides these basic needs – Grades K, 1, and 2

New Hampshire Curriculum Framework - Mathematics

Number and Operations

- M:N&O:K:1 Demonstrates conceptual understanding of rational numbers with respect to: whole numbers from 0 to 12 through investigations that apply the concepts of equivalency in composing or decomposing numbers using models, explanations, or other representations; and positive fractional numbers ($1/2$) as “fair share” (i.e., equal sized parts or sets) using models, explanations, or other representations – Grade K
- M:N&O:K:2 Demonstrates understanding of the relative magnitude of numbers from 0 to 20 through investigations that demonstrate one-to-one correspondence; that compare whole numbers to each other or to benchmark whole numbers (5, 10); that demonstrate an understanding of the relation of inequality when comparing whole numbers by using “1 more” or “1 less”; that connect numbers orally and written as numerals to the quantities that they represent using models, representations, or number lines – Grade K
- M:N&O:K:3 Demonstrates conceptual understanding of mathematical operations through investigations involving addition and subtraction of whole numbers (from 0 to 10) by solving problems involving joining actions, separating actions, part-part whole relationships, and comparison situations; and addition of multiple one-digit whole numbers – Grade K

- M:N&O:1:6 Mentally adds and subtracts whole numbers by naming the number that is one or two more or less than the original number; and adds and subtracts whole number facts through ten (addends whose sum is at most 10 and related subtraction facts) – Grade 1

Data, Statistics, and Probability

- M:DSP:1:1 Interprets a given representation created by the class (models, tally charts, pictographs with one-to-one correspondence, and tables) to answer questions related to the data, or to analyze the data to formulate conclusions using words, diagrams, or verbal/scribed responses to express answers – Grade 1
- M:DSP:1:2 Analyzes patterns, trends, or distributions in data in a variety of contexts by determining or using more, less, or equal – Grades K, 1 and 2

New Hampshire Curriculum Framework – Science Process Skills

SPS1– Scientific Inquiry and Critical Thinking Skills (INQ)

- S:SPS1:2:1.5 Sort and classify object materials and events based on one or more attributes; and explain the methods used for sorting – Grades K, 1 and 2
- S:SPS1:2:4.1 Represent and interpret information and observations in many ways (such as in tally, pictographs, bar graphs, tables) – Grades K, 1 and 2

SPS4– Science Skills for Information, Communication and Media Literacy

- S:SPS4:2:3.3 Make a graph to represent data – Grades K, 1 and 2
- S:SPS4:2:4.2 Compile observations (one to one relationship) by making or using simple pictographs, tally charts or simple graphs – Grades K, 1 and 2

Common Core State Standards for Mathematics

Counting and Cardinality

- K.CC.1 Count to 100 by ones and by tens – Grade K
- K.CC.2 Count forward beginning from a given number within the known sequence (instead of having to begin at 1) – Grade K
- K.CC.4.a Understand the relationship between numbers and quantities; connect counting to cardinality. When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object – Grade K
- K.CC.4.b Understand the relationship between numbers and quantities; connect counting to cardinality. Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted – Grade K

- K.CC.4.c Understand the relationship between numbers and quantities; connect counting to cardinality. Understand that each successive number name refers to a quantity that is one larger – Grade K
- K.CC.5 Count to answer “how many?” questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects – Grade K
- K.CC.6 Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies – Grade K

Operations and Algebraic Thinking

- K.OA.1 Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations – Grade K
- K.OA.2 Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem – Grade K

Measurement and Data

- K.MD.3 Classify objects into given categories; count the numbers of objects in each category and sort the categories by count – Grade K
- 1.MD.4 Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another – Grade 1

Next Generation Science Standards





From Molecules to Organisms: Structures and Processes

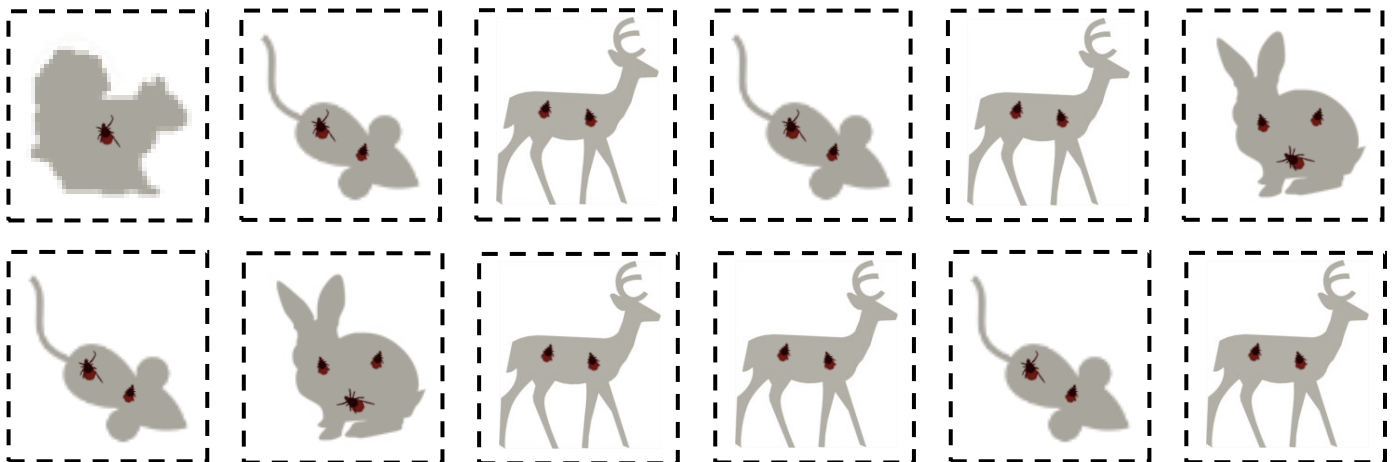
- K-LS1-1 Use observations to describe patterns of what plants and animals (including humans) need to survive – Grade K

Name: _____

How Many Animals Do You See?


Instructions: Cut out each image at the bottom of the page and glue it to its matching row. Answer the questions about the graph.



Questions



Instructions: Circle the correct answer.

1.) How many  (deer) do you see?

4

6


8

2.) How many  (rabbits)  and (mice) do you see?

10

11


8

3.) How many total  (ticks) are there on all of squirrels?

2

1

4

4.) How many total  (ticks) are there on all of rabbits?

12

9

6

5.) Do you see more



(deer) or



(mice)?

6.) Which animal do you see less of?

