KCS @ home

First Grade
Math

knoxschools.org/kcsathome

First Grade

Mystery Number

Find the missing number

I am > 7 + 2

I am not 20-2

I am not an even number!

I am two less than 15.

What number am I? _____

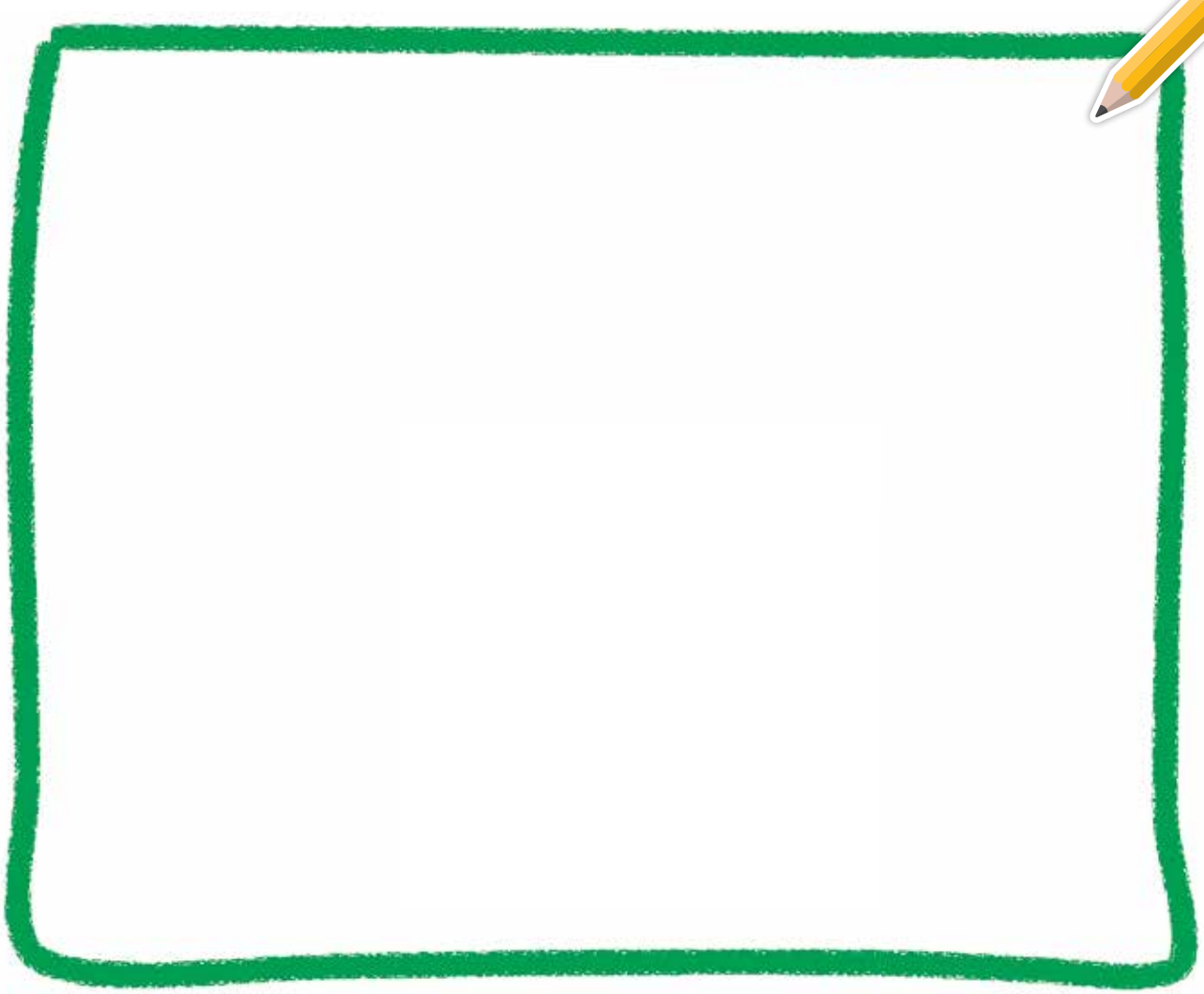
Mystery Number: 13

Use What You Know

Subtract to Compare in Word Problems

Try It

There are 5 children. There are only 3 hats.
How many children will not have a rain hat?



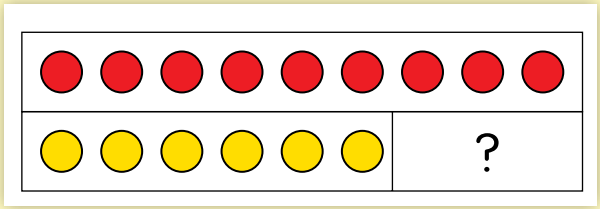
There are _____ more children than hats.

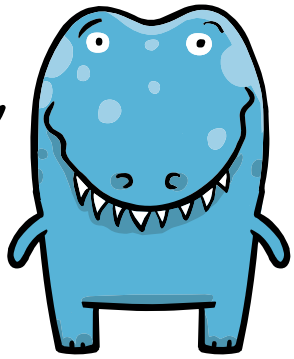
Practice Together

Subtract to Compare in Word Problems

Nan sees 6 birds. Cam sees 9 birds.
How many fewer birds does Nan see?

9 − 6 = 3



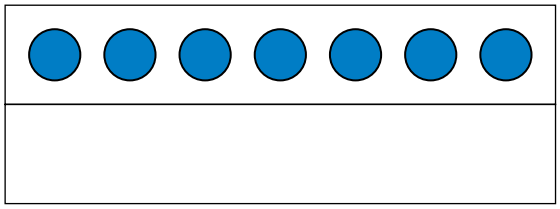


Nan sees 3 fewer birds.

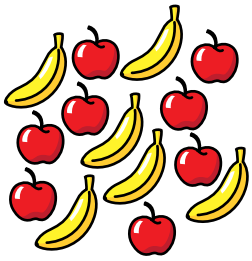
1 4 red markers and 7 blue markers.
How many more blue markers are there?

7 − 4 = ____

____ more blue markers



2 8 apples and 6 bananas.
How many more apples are there?

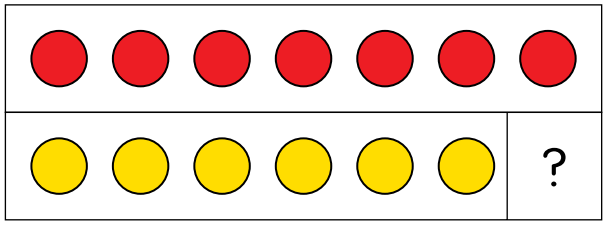


____ more apples

Practice by Myself

Subtract to Compare in Word Problems

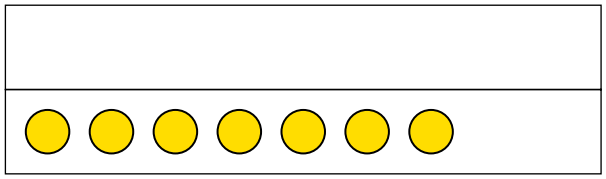
3 Jo has 7 fish. Pat has 6 fish.
How many more fish does Jo have?



7 − ____ = 6

Jo has ____ more fish.

4 7 big shells and 9 small shells.
How many more small shells are there?



9 − ____ = ____

____ more small shells

5 5 chairs and 6 desks.
How many fewer chairs are there?

6 − ____ = ____

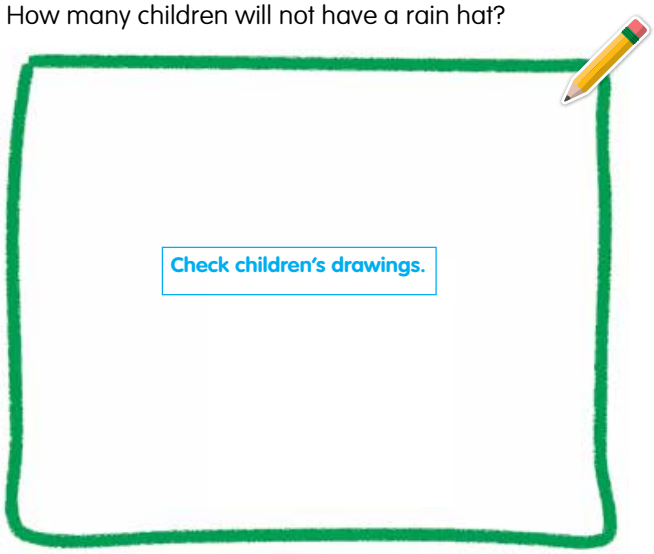
____ fewer chair(s)

Use What You Know

Subtract to Compare in Word Problems

Try It

There are 5 children. There are only 3 hats.
How many children will not have a rain hat?



There are 2 more children than hats.

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Step By Step

Try It

Repeat the problem.

- Read aloud the problem from the Student Book page: *There are 5 children. There are only 3 hats. How many children will not have a rain hat?*

Match the quantities.

- Have children draw a picture to represent the problem. Encourage them to use shapes such as triangles and circles to show the number of hats and the number of children.
- Remind children of the strategies they can use to compare the number of hats and the number of children
- Ask: *Are there more hats or children?* [more children]

Find the difference.

- Allow children to choose a strategy and work on their own to determine how many more children there are than hats. Have them write their answer on the Student Book page.

Lead the class in discussion.

- Ask them how this problem was alike and how it was different from the problem they acted out. Have children share their strategies.
- As children talk about and demonstrate solution strategies, you may find that some can simply add or subtract to find the solution. Allow others to count as necessary to solve the problem. Those children who have difficulty making the connection between comparing and one-to-one correspondence may need the support of concrete materials, such as two-color counters.

Guided Practice

Step By Step

- Read the example problem aloud. Explain that the problem tells us which child sees fewer birds [Nan] and asks us to find *how many* fewer. Ask how the number sentence represents the problem situation.
- Direct attention to the tape diagram. Discuss how this is like the previous visual models and how it is different. Ask the class which part shows the birds Nan sees, which shows the birds Cam sees, and how they can tell. Ask what the "?" represents. [How many fewer birds Nan sees.]
- Explain that in Problem 1, children need to complete the diagram. Allow children time to work, then have some children demonstrate how they completed the diagram and answered the question.
- Read Problem 2 aloud. Have children work in pairs to fill in the tape diagram. Then have them explain how they got their results.
- Discuss the fact that children must find how many more in both problems. Challenge children to tell how many fewer red markers and bananas there are. Guide them to understand that the "more number" and "fewer number" are the same.

▶ **Mathematical Discourse 1**

▶ **Hands-On Activity**

MP TIP Model with Mathematics
Help children understand that they can use a variety of models to show a single situation. Describe a comparison situation and assign different groups a type of model to make to represent the problem. Discuss what is the same and different about each model, and how the models relate to the subtraction sentence. *(MP 4)*

Ready Mathematics PRACTICE AND PROBLEM SOLVING

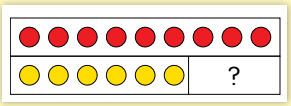
Assign *Practice and Problem Solving* **pages 39–40** after students have completed this section.

Practice Together

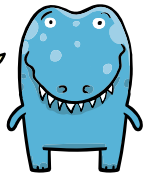
Subtract to Compare in Word Problems

Nan sees 6 birds. Cam sees 9 birds.
How many fewer birds does Nan see?

9 − 6 = 3



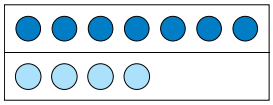
Nan sees 3 fewer birds.



1 4 red markers and 7 blue markers.
How many more blue markers are there?

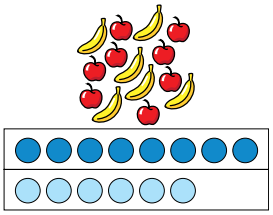
7 − 4 = 3

3 more blue markers



2 8 apples and 6 bananas.
How many more apples are there?

2 more apples



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▶ Mathematical Discourse

1 *How can you check your answer in a comparison problem?*

One way to check the answer is to add the lesser quantity and the result of the "how many less comparison" or "how many more comparison" and see if this is equal to the greater quantity. Another way would be to use the tape diagram or a visual matching model to see if the quantities match. Children should be able to explain their approach and justify their reasoning.

▶ Hands-On Activity

Use length to model comparison.

Materials For each child: 20 connecting cubes

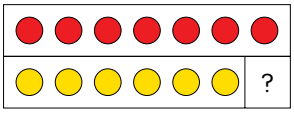
- Have children use connecting cubes to model a comparison problem, such as: *May has 4 books. Rick has 8 books. How many fewer books does May have?* Children model each quantity by making a train of connecting cubes.
- Then have them line up their models so that the left ends are aligned. Children can compare the lengths to see which quantity is greater or less and by how much.
- Discuss how this model relates to the tape diagrams shown on the page.

Practice by Myself

Subtract to Compare in Word Problems

3 Jo has 7 fish. Pat has 6 fish.
How many more fish does Jo have?

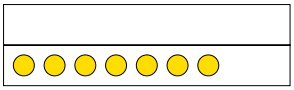
7 – 1 **= 6**



Jo has 1 more fish.

4 7 big shells and 9 small shells.
How many more small shells are there?
Possible number sentence:

9 – 7 = 2



2 more small shells

5 5 chairs and 6 desks.
How many fewer chairs are there?
Possible number sentence:

6 – 1 = 5

1 fewer chair(s)

▶ Visual Model

Make a tape diagram with numbers.

- On the board, draw the tape diagram from Problem 3. Copy the size and shape of the diagram, but leave the sections empty.
- Ask: *What's another way to represent the 7 fish that Jo has?* Guide children to recognize that the 7 circles can be replaced with "7." Do likewise with the 6 circles that represent Pat's fish.
- Have children discuss the differences between the two visual models and think of advantages for each one. Some children may be ready to use numbers in their tape diagrams.

▶ Mathematical Discourse

2 *How do you compare two quantities?*

When comparing two quantities, children must find a way to represent the *how many more* or *how many less* (the difference) conceptually and through representation. They need to understand that there are two parts to a comparison question:

1. Which quantity is more (or less)?
2. How much more (or less)?

Children should also be able to act out the problem, create a visual model, and write an appropriate subtraction sentence to answer both questions.

Step By Step

- Before children work on this page, review the models used in this lesson. Emphasize that children are free to use whatever way helps them solve the problems.
- Read each problem aloud, then have children work independently to solve.
- In Problem 3, challenge children to solve without counting. Ask them why this is easy to do with the numbers in the problem.

▶ Visual Model

- In Problem 4, help children distinguish between comparing size (small vs. big) and comparing number (more vs. fewer). Point out that a model is started. They can complete it to solve the problem. Children may write the number sentence $9 - 7 = 2$ or the number sentence $9 - 2 = 7$. You may want to take advantage of the opportunity to discuss how each number sentence represents the problem, and how they are similar and different.
- For those who struggle to start Problem 5, ask questions such as: *What do you know?* [how many chairs and desks there are; there are fewer chairs] *What do you need to find out?* [how many fewer chairs there are] Encourage children to draw a picture or use a model to solve the problem. You may want to take advantage of the opportunity to explore the idea that there are 2 subtraction sentences that children could write to represent this problem [$6 - 1 = 5$ and $6 - 5 = 1$]. Ask children which number sentence makes it easier to find the answer.
- Invite volunteers to share the models and solution strategies they used for the problems on this page. Use Mathematical Discourse question 2 to check children's understanding of comparing quantities.

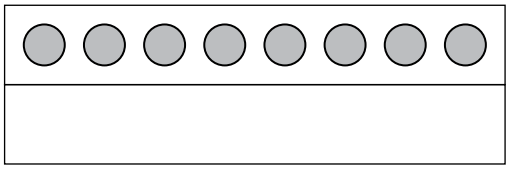
▶ Mathematical Discourse 2

Solve

3 6 pears and 8 oranges.

How many more oranges are there?

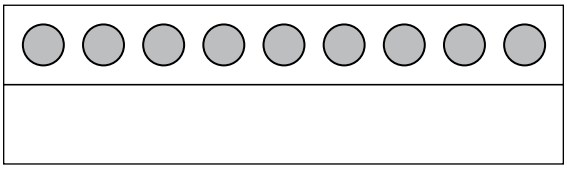
8 − 6 = ____



____ more oranges

4 9 balloon stickers and 4 star stickers.

How many more balloon stickers are there?



____ more balloon stickers

5 7 soccer balls and 2 footballs.

How many more soccer balls are there?

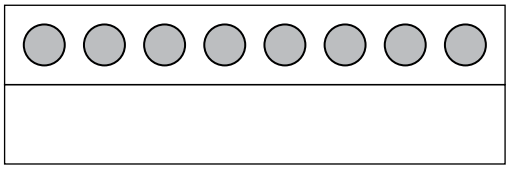
____ more soccer balls

Solve

3 6 pears and 8 oranges.

How many more oranges are there?

8 − 6 = ____

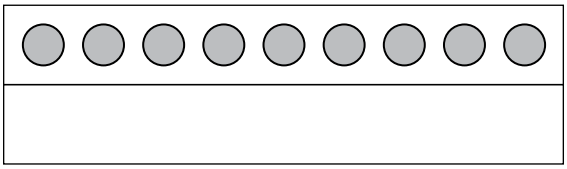


2 more oranges

---

4 9 balloon stickers and 4 star stickers.

How many more balloon stickers are there?



5 more balloon stickers

---

5 7 soccer balls and 2 footballs.

How many more soccer balls are there?

5 more soccer balls

First Grade
Social Studies

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1st Grade Social Studies

Topic: Geography

Lesson Goal:

Review land and water features that make up the Earth's surface. Practice using basic map skills, including the four cardinal directions.

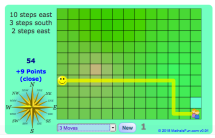
Activities:

- Read illustrated texts about:
  - land and water forms
  - maps and map key symbols
  - compass and cardinal directions

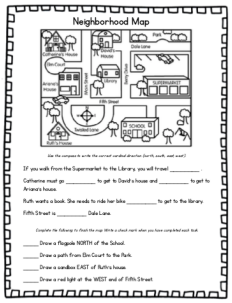
- Optional video and interactive online games:
  - "What are Landforms?" https://www.youtube.com/watch?v=uYUzvMFvnps

  - "Uncle Sam's Farm" - https://www.mapsl0l.com/static_items/games/uncle_sams_farm_cardinal2.php

  - "Follow the Direction" - https://www.mathsisfun.com/games/direction-nsew-.html

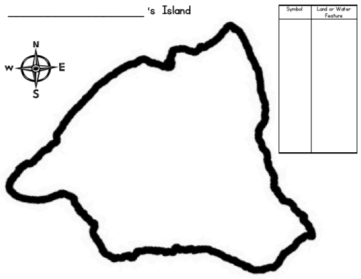


- Practice using a map and cardinal directions by completing the "Neighborhood Map" page.



Lesson Task:

- Use your knowledge about land and water features to design your own island. Make a map of your island, including a map key with symbols for your land and water forms.
  - Challenge:
    - Choose a theme for your island and give all of the land and water features coordinating names. (Example: Candy Island, with Lemon Drop Lake)
    - Write about your island's features, using the cardinal directions. (Example: The waterfall is east of the volcano.) You might even give clues to a hidden treasure!



Hands-On Activity:

- Create models of land and water features using Playdoh or modeling clay and water!

Landforms

The Earth is covered with many different types of landforms. Landforms impact where and how people live.

A **continent** is a very large piece of land. It is often surrounded by an ocean. There are seven continents on our planet, Earth.

A **mountain** is land that is higher than the land around it. The Great Smoky Mountains run through Tennessee.

A **hill** is an area of raised land. It is higher than the land around it, but it is not nearly as high as a mountain.

Landforms

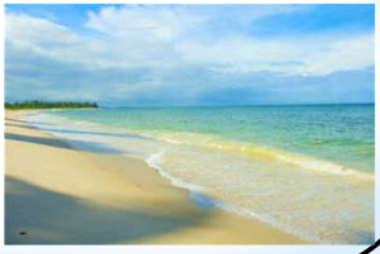
A **valley** is an area of low land that lies between two hills or mountains. In East Tennessee, we live in the area known as the "Tennessee Valley".

A **plain** is an area of mostly flat land. Some plains are used to grow crops like cotton.

Water Bodies

The Earth is covered with many different types of waterforms as well. As we have learned, people's lifestyles are impacted by living near water.

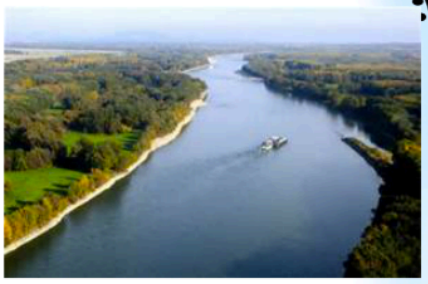
An **ocean** is a very large body of salty water. Our Earth has <u>4 oceans</u> - Atlantic, Pacific, Indian, and Arctic. Our country, the United States, touches the Atlantic and Pacific Oceans.

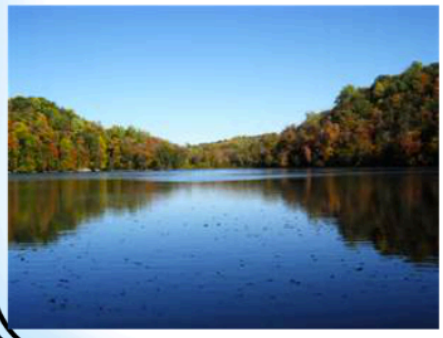


When you are at the beach, you are on the coast of the land that touches the ocean.

Water Bodies

A **river** is a large, moving stream of water. It connects to larger bodies of water. The Tennessee River and Mississippi River are two major rivers that run through our state.





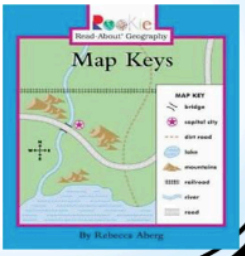
A **lake** is a body of water that is surrounded by land. Some lakes are natural, and some are man-made. Norris Lake is a popular place to visit in our area.

Maps

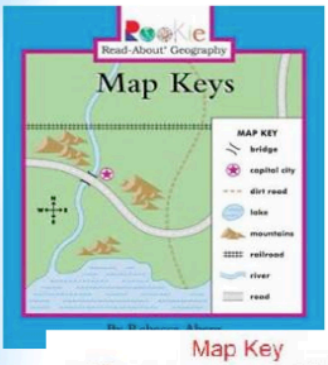
Maps are used to show where things are. There are many different kinds of maps, and they each show different things. Most maps are drawn as if you are looking down at the ground from above.

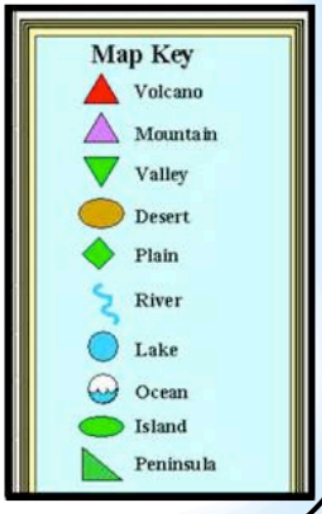
Maps use special pictures, or symbols, to show things on the map. For example, a city is often marked by a dot. There are also special symbols for land and water features like mountains and rivers. Cities and capitals are also marked with special symbols on maps.

Every map has a **map key** that tells what the symbols stand for. It is important to look at the map key to know what is being shown on the map.



Map Keys





Map Directions

A long time ago, map makers came up with four main, or "cardinal" directions to help to make giving directions easier. These four **cardinal directions** are NORTH, SOUTH, EAST, and WEST. They are often shown by using the letters N, S, E, and W.

A tool called a **compass** is used to tell what direction you are headed in. A compass is special because it has an arrow that always points NORTH.

Compass

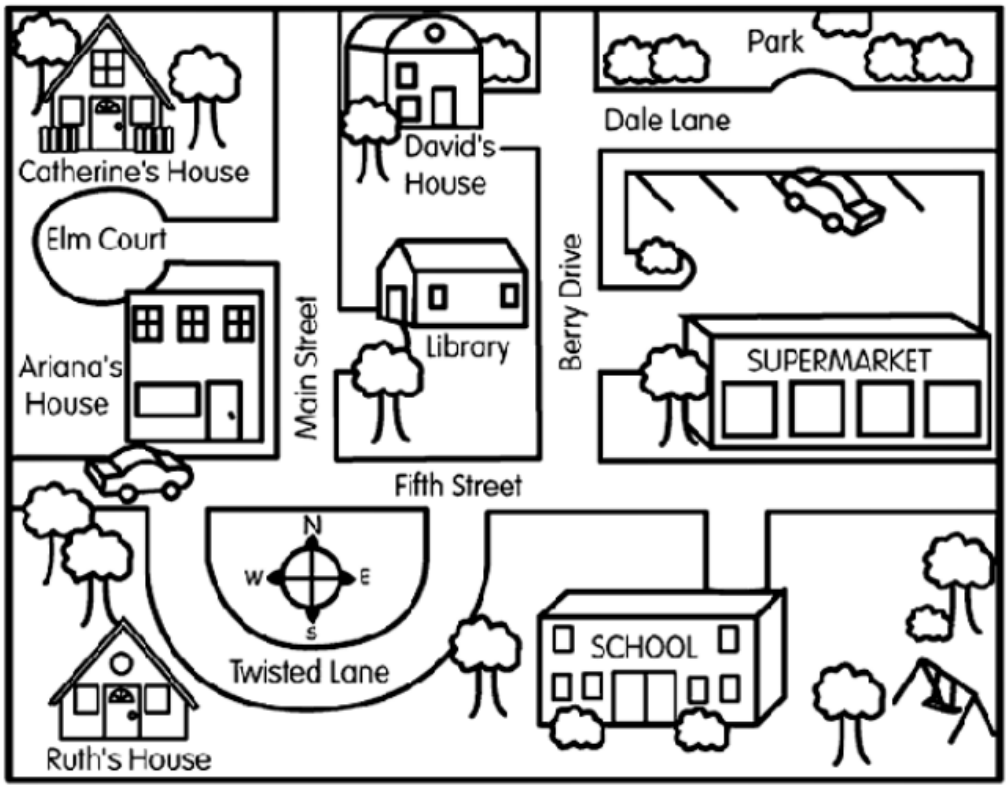
A trick to remember the order of the directions on a compass is to memorize these sayings...

Never Eat Soggy Waffles!

or

Never Eat Sour Wattermelon!

Neighborhood Map



Use the compass to write the correct cardinal direction (north, south, east, west).

If you walk from the Supermarket to the Library, you will travel _____ .

Catherine must go _____ to get to David's house and _____ to get to Ariana's house.

Ruth wants a book. She needs to ride her bike _____ to get to the library.

Fifth Street is _____ Dale Lane.

Complete the following to finish the map Write a check mark when you have completed each task.

_____ Draw a flagpole NORTH of the School.

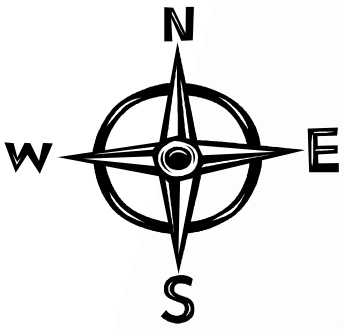
_____ Draw a path from Elm Court to the Park.

_____ Draw a sandbox EAST of Ruth's house.

_____ Draw a red light at the WEST end of Fifth Street.

_____'s Island

Symbol	Land or Water Feature



First Grade
ELA

knoxschools.org/kcsathome

1.ELA.Week 1

There will be a short video lesson of a Knox County 1st Grade Teacher to accompany this text available on the KCS YouTube Channel and KCS TV.

Tennessee's English Language Arts (ELA) standards ask students to read, talk, and write about a variety of texts. In this activity packet, your child will have the chance to do just that as they work to solve a mystery.

First, your child will encounter a letter introducing them to the idea of becoming a "Super Sleuthhound." You can discuss the picture clues – camera, keys, flashlight, compass. Think about how these things might be tools for a detective or sleuth.

In this week's text, your child will be looking for specific clues about:

TOPIC: Treasures

ESSENTIAL QUESTION: How can a surprise be a treasure?

Remind your child that a treasure is something you value or is special. It doesn't have to be an object. It can be a celebration, a surprise, a personal memory, or even a friendship. Ask your child what they treasure. Tell them as they read, they'll be looking for clues to explain how a surprise can be a treasure.

You may choose to take turns reading the text with your child, read the text at the same time, or have your child read independently.

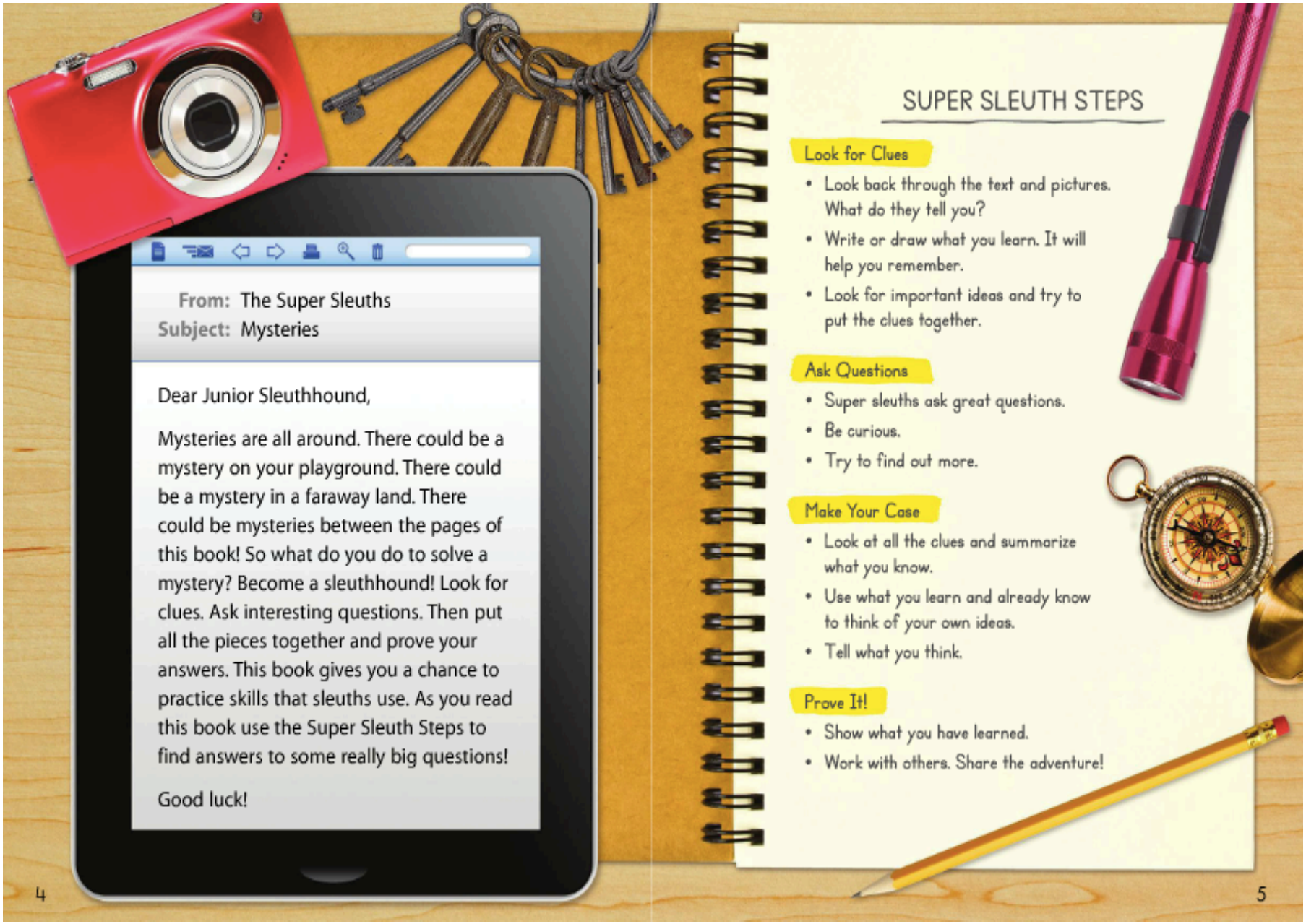
At the end of the text, there is a "Be a Sleuth" section containing questions to discuss and write about the text.

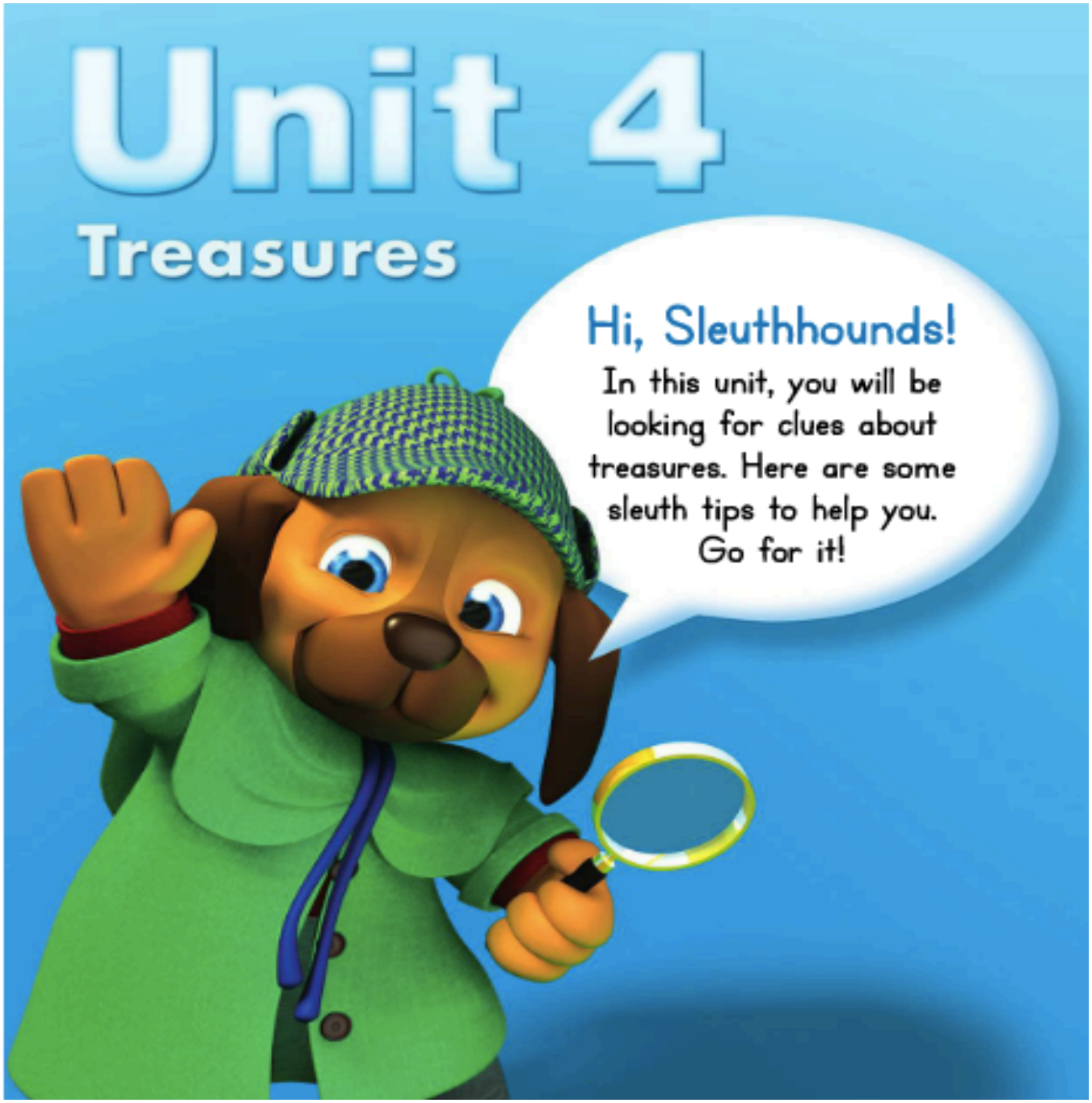
- Look for Clues – You may ask your child to underline evidence for this question or you can discuss why Amy and her classmates thought Amy's mom's idea was so good. Be sure that students refer back to the details in the text. Also, refer back to the essential question – How can a surprise be a treasure?

- Ask Questions – This question is always a good question to discuss. As your child generates a question, you may choose to add a question you have as well. If your child struggles to ask a question, you may make a question as a model and then create one together.

- Make Your Case – This question is a written task. Your child should be able to write 3-4 sentences introducing their topic, supplying a reason or evidence, and providing some sense of closure. They can also create an illustration of their writing.

CHALLENGE: You may choose to select a favorite recipe or create one with you child.


From: The Super Sleuths
Subject: Mysteries
Dear Junior Sleuthhound,
Mysteries are all around. There could be a mystery on your playground. There could be a mystery in a faraway land. There could be mysteries between the pages of this book! So what do you do to solve a mystery? Become a sleuthhound! Look for clues. Ask interesting questions. Then put all the pieces together and prove your answers. This book gives you a chance to practice skills that sleuths use. As you read this book use the Super Sleuth Steps to find answers to some really big questions!
Good luck!
SUPER SLEUTH STEPS
Look for Clues
• Look back through the text and pictures. What do they tell you?
• Write or draw what you learn. It will help you remember.
• Look for important ideas and try to put the clues together.
Ask Questions
• Super sleuths ask great questions.
• Be curious.
• Try to find out more.
Make Your Case
• Look at all the clues and summarize what you know.
• Use what you learn and already know to think of your own ideas.
• Tell what you think.
Prove It!
• Show what you have learned.
• Work with others. Share the adventure!


Unit 4
Treasures
Hi, Sleuthhounds!
In this unit, you will be looking for clues about treasures. Here are some sleuth tips to help you. Go for it!

Cook Up a Surprise

"Mom," said Amy. "Next week is Ms. Carter's birthday. She likes flowers and dogs and cooking. What surprise can our class make?"

Mom had the best idea. The next day, Amy told everyone. "That's a great idea!" they said.

The next Tuesday was Ms. Carter's birthday. After lunch, Amy raised her hand. Then the whole class said, "Happy birthday, Ms. Carter!"

Luis handed Ms. Carter a big book. On the front was a drawing by Jane. It showed a colorful fruit salad. The title of the book was "Our Best Recipes."

Ms. Carter opened the book. She saw a recipe on each page. There were recipes for many things. The children had gotten recipes from their parents. The recipes were for their favorite foods. They had put them in the book and drawn pictures.

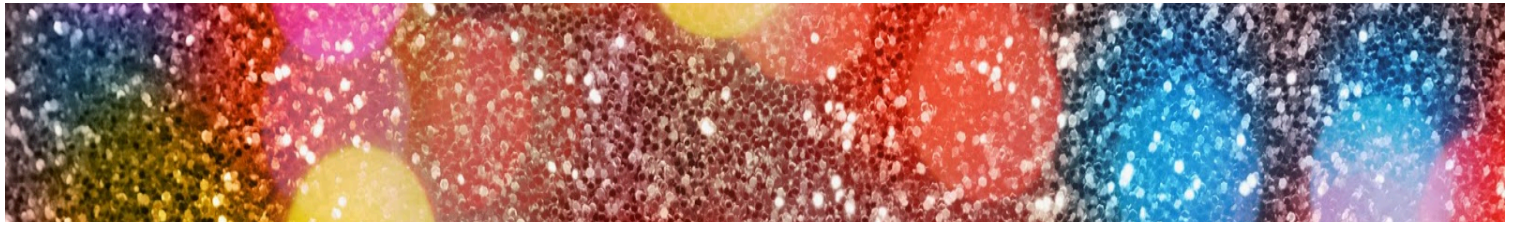
"This is a wonderful surprise," said Ms. Carter. "I'll treasure it forever."

Be a Sleuth

Look for Clues Why did Amy and her classmates think Amy's mom's idea was so good?

Ask Questions What would you ask the students about how they created the book?

Make Your Case If you wanted the class to give Ms. Carter a different gift, what would it be, and how would you convince your classmates to agree with you?



Challenge!

- What would be your best recipe? Can you write it down and share with your class later?
- Remember:
  - A recipe has a list of ingredients.
  - A recipe needs specific directions and amounts for your ingredients.
  - A recipe needs directions for any temperatures and times.

  - With the help of an adult, can you follow your recipe and create a dish at home? Have fun and enjoy!

First Grade
Science

knoxschools.org/kcsathome

Science
Engineering Design Challenge: Kindergarten- 2nd grades

Can You Build a Better Nest Than a Bird?

Directions: Read the passage below with an adult and then follow the directions.

It is spring time in Tennessee and you may have noticed a lot of birds chirping and singing outside. Those birds are busy building their nests. Birds build their nests in the spring because it is warm and birds can find the food and nest building materials they need. Bird nests are made of many different materials. Some birds weave together grass and twigs. Other birds use mud and water to hold the nest together. In this design challenge you will build a bird nest using only natural materials that you find outside.

Your Challenge: Build a bird nest that can safely hold one egg. You can only use natural materials that you find outside.

Step 1: Make a plan. What materials do you think would make a good nest? What can you collect outside that will keep an egg warm are safe? Draw your idea in the box below. Label important parts of your nest.

Step 2: Go outside to collect materials for your nest. Can you spot things birds need to have in their habitat? Check the box of the things you find. **Adult supervision required.**

Things to eat:

- ☐ Worm
- ☐ Nuts or seeds
- ☐ Insects like a beetle or caterpillar

A place to live (a shelter):

- ☐ Nest

Nest Materials:

- ☐ Thin sticks or twigs
- ☐ Grass, straw, leaves
- ☐ Water or mud

- ☐ Find something the size of an egg like a pinecone or small rock.

Step 3: Build a nest that can safely hold one egg.

Step 4: Test your nest. Gently blow on your nest like the wind.

	Circle one	
Did the egg fall out?	YES	NO
Did your nest fall apart?	YES	NO

Step 5: How could you make your nest better? Draw your idea for a better nest.

You can share your nest with us by tweeting a picture to @KCSScience