

This is a one-week excerpt from the Starfall Kindergarten Mathematics Teacher's Guide.

If you have questions or comments, please contact us.

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Shapes & Coins

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Shapes & Coins

Week 8

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Week 8 Summary

The children will be introduced to money and learn interesting facts about the penny, nickel, and dime. They will become familiar with the value of each of the coins, and learn rhymes that will help distinguish each of them. The children will also:

- Use a Venn diagram to compare and contrast coins
- Sort coins by attributes
- Graph results of penny tosses (heads/tails)



Preparation

This week the children will examine the values and attributes of coins. They will sort coins by attributes, and compare and contrast them using a Venn diagram. Plan to use real coins this week since real coins vary and plastic ones do not.

Prepare a resealable bag for each child. The children will add coins to their bags throughout the lessons and store them in their math bags.

Backpack Bear will help the children learn about money through the use of his own bank. Since he is a bear, his bank is a honey jar. Plan to have some sort of plastic or other unbreakable jar to use as Backpack Bear's "honey jar" bank for **Day 2**.

Invite the children to bring teddy bears or other stuffed animals for "Ten Bears in a Bed" on **Day 3**.

DAY 1

Prior to today's lesson, place a penny in Backpack Bear's backpack.

You will need one real penny per child.

Prepare a chart paper "toss chart" similar to the one pictured to keep track of penny tosses.

Toss	Heads	Tails

Optional: Have several magnifying glasses available for the children to use to closely examine pennies.

DAY 2

You will introduce Backpack Bear's "honey jar" bank today. Place five pennies in the bank and place the bank in your desk prior to today's lesson.

Also, prior to today's lesson place a nickel in Backpack Bear's backpack. You will also need a real nickel for each child.

DAY 1

DAY 2

Daily Routines

- Calendar
- Weather
- Number Line
- Place Value
- Hundreds Chart

Magic Math Moment

Human tally marks (how to use tally marks)

Count by fives

Math Concepts

Introduce

The penny

Introduce

The nickel

Examine pennies

Heads and tails

Graph coin (penny) tosses and probability

Backpack Bear's Honey Jar Bank

Examine nickels and their value (equal to five pennies)

Formative / Summative Assessment

Compare coin tosses to determine if there are more heads or more tails

Venn diagram comparing pennies and nickels

Workbooks & Media

"Penny, Penny" Rhyme

"Nickel, Nickel" Rhyme

DAY 3

DAY 4

DAY 5

- Calendar
- Weather
- Number Line
- Place Value
- Hundreds Chart

Learning Centers

Dramatize "Ten Bears in a Bed" (counting backward)

Count by ones, fives, and tens

Starfall.com:

- Monthly Calendar
- Numbers: "0-10"
- Numbers: "Cookies"
- Geometry and Measurement: "Patterns"

1

Backpack Bear's Honey Jar Bank

Review Penny, Nickel, Dime

"Coin Town"

2

Introduce

Introduce

The dime

"Coin Town" Game

Examine dimes

Distinguish pennies, nickels, dimes, and their attributes

Identify pennies, nickels, and dimes

Coin Concentration

3

Teacher's Choice

4

Math Melodies CD Track 23, "Ten Bears in the Bed"

Workbook page 21



"Dime, Dime" Rhyme

Summative Assessment: "Banker, Customer" Game (counting money)

5

Human Tally Marks

Materials

- Yardstick

Say: **Let's review the Weather Chart.** The children count the number of tally marks under each weather picture, and determine which Weather Cards have the most and least numbers.

Gather the children in a circle and choose four volunteers to stand in front of them. Say: **Let's make human tally marks!**

Instruct the four volunteers to lie down side-by-side. Say: **Let's count how many children there are.** Do this.

Say: **Let's add one more.** Place a yardstick diagonally across the four children. Count the children again.

Explain: **When you see the diagonal line on a set of tally marks you automatically know there are five. You don't even have to count them! Tally marks are a fast way of counting.**

Repeat with other volunteers as time allows.

Counting & Cardinality

B.4 - Understand the relationship between numbers and quantities.

Measurement & Data

B.3 - Classify, count, and sort objects.

MD.2 - Use and interpret graphs.

Money

M.1 - Identify the value of coins.

Introduce Money

Essential Question: How can knowing the name and value of coins help us in the real world?

Essential Question: How can we use graphs to understand information and answer questions?

Materials

- A penny in Backpack Bear's backpack
- A real penny for each child
- Prepared coin toss graph
- Magnifying glass (optional)
- Backpack Bear's Math Big Book, page 13
- Optional:** Magnifying glasses

1 Introduce the Penny

Say: **Backpack Bear has something in his backpack to share with you!**

Remove the penny from Backpack Bear's backpack. Ask: **Who knows what Backpack Bear brought in his backpack?** (Volunteers respond.) **Yes, Backpack Bear would like us to learn about money so he brought a penny. A penny is a coin that is worth one cent.**

2 Introduce the Penny Rhyme

Indicate *Backpack Bear's Math Big Book*, page 13.

Say: **Backpack Bear has a rhyme to help us learn about a penny. Look at the "Penny, Penny" page. It has a picture of a penny and Backpack's rhyme.**

Read "Penny, Penny." Repeat the rhyme and encourage the children to join you.

Distribute a penny to each child. Say: **Look closely at your penny. How would you describe a penny to someone who has never seen one?** Volunteers describe the penny naming its color, size, heads, tails, numbers, shape, words, etc.

Optional: Distribute a magnifying glass to each table to allow the children to examine the penny more closely.

After the children have had a chance to examine the penny, discuss the following:

- A penny is worth one cent
- Each item on the penny represents something important

Say: **Turn the penny to the side where you see a person's head. The head on a coin is usually a famous United States president. The penny shows Abraham Lincoln. Abraham Lincoln was our sixteenth president and the first president to have a beard!**



3 Heads and Tails

Say: **Stand and put your hand on your head.** (The children do this.) **Now, put your hand on your tail!** (The children do this.) **A coin has two sides. We call one side "heads" and the other side "tails." Which side do you think we call "heads?"**

Continue: **Have a seat and turn your penny over to the tails side. This side of a coin always pictures something special related to the president or to our country.** Explain that older pennies picture the Lincoln Memorial, while newer ones picture the Union Shield. Assist the children to identify which of these is pictured on each of their pennies.

Gather the children on a rug or the floor. Say: **Let's play "Heads and Tails." When I give the signal, gently toss your coin in the air and let it fall to the floor.** Demonstrate and signal the children to toss their pennies.

Say: **Some of the pennies landed "heads up" and some of the pennies landed "tails up." Look closely at your penny to see if it landed on heads or tails.** (The children do this.) **Stand if your penny landed "heads up." Let's count how many pennies landed on heads.** Do this, and repeat for tails.

4 Toss the Coin

Indicate the coin toss graph and say: **Let's play "Toss the Coin." Each time we toss the coin we will observe whether it lands on "heads" or "tails." We will keep track on this coin toss graph. Then we will compare the numbers.**

To play "Toss the Coin":

- Write the numeral 1 in the toss column.
- The children toss their pennies.
- They stand if their pennies landed heads up.
- Count the children standing and record the number in the heads column. The children sit.
- Children stand if their pennies landed tails up.
- Count these children and record the number in the tails column. The children sit.
- Review the heads and tails numbers.
- Ask: **Which has the greater number, heads or tails?**



Formative Assessment

Probability: Heads and Tails

Repeat "Toss the Coin" several times. Vary your questions by sometimes asking which has the number that is less than the other.

After each toss, review the graph. Say: **Look at the numbers. Were there more tosses that landed heads or tails?**

Continue: **I wonder what the probability, or chance, is that on the next toss more pennies will land on heads. Do you think next time there will be more heads or more tails? Why?**

Review "Penny, Penny."

Instruct the children to place the pennies in their math bags for future use.

Count by Fives

Direct the children to look at the Classroom Number Line. Lead them to count by fives, as you indicate each number beginning at negative five.

Materials

- None

Introduce the Nickel

1 Introduce Backpack Bear's Bank

Say: **Backpack Bear brought something with him to school today. He can't wait for you to see it! Backpack Bear would like you to guess what he brought. It has something to do with money.**

Volunteers guess.

Backpack Bear whispers that his surprise is in your desk. Go to your desk, locate Backpack Bear's "honey jar" bank, and show it to the children.

Say: **Look! Backpack Bear brought his bank to school today. Because he is a bear and he loves honey, his bank is a honey jar. Raise your hand if you have a bank at home.** (The children do this.)

Ask: **Why do we use banks?** Discuss.

Continue: **Backpack Bear has been doing chores at home to earn money. He doesn't have much yet, but he is trying very hard. Let's see what coins Backpack Bear has so far.**

Count out the 5 pennies. Ask: **How much money does Backpack Bear have in his bank so far?**

2 Introduce the Nickel

Backpack Bear whispers for you to look in his backpack. Do this and remove the nickel.

Say: **Backpack Bear says he has a coin that is worth the same amount as 5 pennies. It's a nickel. Say, nickel.** (The children repeat, nickel.)

Indicate *Backpack Bear's Math Big Book*, page 14.

Say: **Look at this "Nickel, Nickel" page. It has a picture of a nickel. Backpack Bear has a rhyme to help us learn about a nickel.** Read "Nickel, Nickel."

Repeat the rhyme and encourage the children to chime in.

Materials

- "Honey jar" bank for Backpack Bear with 5 pennies inside, hidden in your desk
- Backpack Bear with 1 nickel in his backpack
- A penny and a nickel for each child
- Backpack Bear's Math Big Book*, page 14
- Penny/Nickel Venn diagram
- Math bags
- Optional:** Magnifying glasses

Counting & Cardinality

CC.3 - Count backward from a given number.

Money

M.1 - Identify the value of coins.

Note: If you do not have a honey jar to use in this lesson, use a different container of your choice, and modify the lesson accordingly.



3 Examine the Nickel

Distribute a nickel to each child. Say: **Look closely at the nickel. How would you describe a nickel to someone who has never seen one?** Volunteers describe the nickel, naming its color, size, heads, tails, words, numbers, etc.

Optional: Distribute a magnifying glass to each table to allow the children to examine the nickel more closely.

After the children have had a chance to examine the nickel, discuss the following:

- A nickel is worth five cents
- Each item on a nickel represents something important

Say: **Turn your nickel to the side that shows a person's head. Remember, the head on a coin is usually a famous United States president. The nickel pictures Thomas Jefferson. Thomas Jefferson was our third president. He loved to read and he loved vanilla ice cream!**

Ask: **Who remembers what we call this side of a coin?** Volunteers respond.
Right, it is called "heads" because it pictures a president's head.

Continue: **Turn your nickel over. This side of a coin always pictures something special related to the person on the front, or to our country.** Explain that older nickels picture Monticello (Thomas Jefferson's home) while the newer ones picture buffaloes. Assist the children to identify which of these is pictured on their nickels.

Say: **Stand if your nickel has a buffalo on it.** The children do this and then they sit.

Continue: **Stand if your nickel has a picture of Thomas Jefferson's home, Monticello, on it.** The children do this and then they sit.

Explain: **Both coins are nickels even though they may have different pictures on one side. What is the same about both of these coins?** (They both have Thomas Jefferson pictured on the front.)



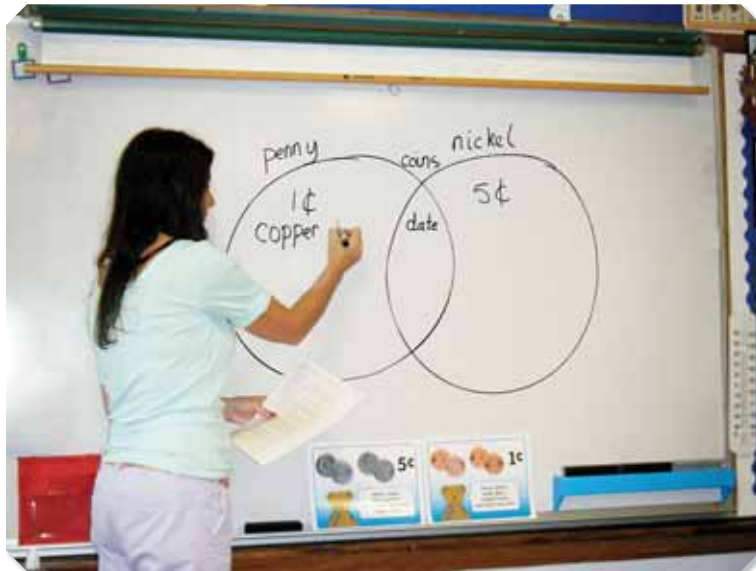
Compare Nickel and Penny

Indicate the Venn diagram. Say: **This is a Venn diagram. It is used to compare how things are the same and how they are different.** Explain the sections.

Ask: **How are a penny and a nickel the same?** (Volunteers respond. Example: They are both coins.) **Right, they are both coins. I will write coins in the center section of the Venn diagram because that section shows how both things are similar or alike. Are these coins alike in any other ways?** Continue to record correct responses in the center section of the Venn diagram.

Continue: **Now let's see if we can identify ways the penny and the nickel are different.** The children examine the penny. Write observations that are unique to the penny in the "penny" section of the Venn diagram. The children examine the nickel and you record ways a nickel is unique in the "nickel" section of the Venn diagram.

Review "Nickel, Nickel." The children place the nickels (and pennies) in their math bags for future use.



Dramatize “Ten Bears in the Bed”

Materials

- Math Melodies CD, Track 23

Say: **Listen to this song about what happened when ten bears tried to sleep in one bed.**

Play *Math Melodies* CD Track 23, “Ten Bears in the Bed.” Select 10 children to come forward with their teddy bears and lay them on a blanket or a table and dramatize the song. Repeat if time allows so other children have a turn.

“Ten Bears in the Bed”

<i>Ten bears in the bed</i>	<i>Nine bears in the bed...</i>	<i>Five bears in the bed...</i>	<i>One bear in the bed</i>
<i>And the little one said</i>	<i>Eight bears in the bed...</i>	<i>Four bears in the bed...</i>	<i>And the little one said</i>
<i>“I’m crowded, roll over”</i>	<i>Seven bears in the bed...</i>	<i>Three bears in the bed...</i>	<i>“Good night!”</i>
<i>So they all rolled over</i>	<i>Six bears in the bed...</i>		
<i>And one fell out</i>			

Counting & Cardinality

CC.3 - Count backward from a given number.

Money

M.1 - Identify the value of coins.



Introduce the Dime

1 Backpack Bear’s Honey Jar Bank

Say: **Backpack Bear brought his honey jar bank to school again today. Let’s ask him if he earned more money last night.** The children do this.

Pretend Backpack Bear whispers to you. Explain: **Backpack Bear says he worked very hard last night and earned more money to put into his bank. He thinks you will be very surprised to see what’s in his bank today. What do you think his surprise is?** (Volunteers respond.) **Let’s find out!**

Empty the contents of Backpack Bear’s bank onto a table. Lead the children to discover that a different coin, a dime, has been added.

Indicate *Backpack Bear’s Math Big Book*, pages 13 and 14.

- Page 13 – Read the rhyme to review the name and value of a penny.
- Page 14 – Read the rhyme to review the name and value of a nickel.

2 Introduce a Dime

Indicate *Backpack Bear’s Math Big Book*, page 15.

Say: **Let’s look at this page. It has a picture of a dime. Listen as I read the rhyme.** Read “Dime, Dime.”

Repeat the rhyme and encourage the children to chime in.

Materials

- “Honey jar” bank for Backpack Bear with 5 pennies, 1 nickel, and 1 dime
- Math bags containing a penny and a nickel
- A dime for each child
- Backpack Bear’s Math Big Book*, pages 13, 14, and 15
- Prepared sentence strip: *I know this is a _____ because _____.*
- Picture Cards: *penny, nickel, dime*
- Optional:** Magnifying glasses

3 Examine the Dime

Distribute a dime to each child. Say: **Look closely at the dime. How would you describe a dime to someone who has never seen one?** Volunteers describe the dime, naming color, size, heads, tails, numbers, etc.

Optional: Distribute a magnifying glass to each table to allow the children to examine the dime more closely.

After the children have had a chance to examine the dime, discuss the following:

- A dime is worth ten cents
- Each item on a dime represents something important

Say:

- **Remember, the head on a coin is usually a famous United States president. The dime pictures Franklin D. Roosevelt. Franklin D. Roosevelt was our 32nd president.**
- **He was the only president to be elected by the people four times in a row!**

Continue: **Turn your coin over. This side of a coin always pictures something special related to the person on the front, or to our country. This picture is very small. See if you can find the torch, the oak leaves, and an olive branch.**

Note: Recent dimes have only one representation on the tail side.

The children add their dimes to their math bags.



Formative Assessment

Partner Share

Indicate the prepared sentence strip. Say: **Let's read this sentence together. I know this is a (blank) because (blank). We'll work together to complete the sentence.**

The children take their math bags and partner, using the Stand Up, Hand Up, Partner Up procedure. Say: **Clap once if you can hear me.** (The children do this.) **Clap three times if you can hear me.** (The children do this.)

Place the dime Picture Card in the first blank and read: **I know this is a dime because (blank).**

Say: **Partners, hold up your dimes. Talk with your partners about how you know this is a dime. When you hear the signal, you will share your ideas with the class. Ready? Begin sharing.**

After an appropriate amount of time signal the children to stop. They take turns sharing their responses to complete the sentence.

Repeat this procedure with the nickel and the penny.

Gather the children together.

Review the Penny, Nickel, and Dime Rhymes.

The children place the coins in their math bags for future use.



Magic Math Moment

DAY

4

Count by Ones, Fives, and Tens

Direct the children to look at the Classroom Number Line. Say: **Let's count by ones. We will start at 5 and count to 30. Ready?** Indicate the numbers on the Number Line as the children do this.

Say: **Now, let's count by fives. We will start at negative 5 and count to 30.** Indicate the numbers on the Number Line as the children do this.

Say: **This time let's count by tens. We will start at 10 and count to 30.**

Materials

 None

Review Penny, Nickel, Dime

1 Introduce "Coin Town"

Say: **Backpack Bear is taking his honey jar bank to the big bank. He needs your help to get there!**

Indicate the "Coin Town" game board. Ask: **What do you see on the game board?** Discuss.

Choose several children to demonstrate the game, which will be played during Learning Centers on Day 5. They do not need to complete the game.

Explain: **Players, place your playing pieces on the start.** (The children do this.) **You will take turns to spin then move your playing piece to the next coin equal to the amount shown on the spinner.**

For example, if a player spins "1 cent" he or she moves to the first penny. If the player spins "5 cents," he or she moves to the first nickel. If a player lands on a spin-again star, he or she takes another turn. The first player to get to the bank wins, or play may continue until both players reach the bank.

Materials

- "Coin Town" game board
- Playing pieces
- Coin spinner
- Backpack Bear's Math Workbook #1*, page 21
- Scissors, glue sticks, pencils, crayons
- Optional:** Math bags

Counting & Cardinality

A.1 - Count to 100 by ones and by tens.

CC.4 - Count to 100 by twos and by fives.

Money

M.1 - Identify the value of coins.





Formative Assessment

Color Pennies, Nickels, and Dimes

Distribute *Backpack Bear's Math Workbook #1*. Instruct the children to turn to page 21.

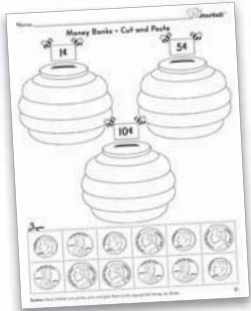
Note: The children may use their math bags containing a penny, nickel, and dime for reference.

Prior to beginning, the children:

- Identify all the pennies and color them brown
- Identify all the nickels and color them gray
- Identify all the dimes, but do not color them (unless silver crayons are available)

The children cut apart the coins at the bottom of the page and glue them into the correct honey banks.

If time allows, the children count by ones, fives, and tens to determine how many cents there are in each honey bank.



Learning Centers

DAY

5

1 Computer

The children explore:

- Monthly calendar
- Numbers: "0-10"
- Numbers: "Cookies"
- Geometry and Measurement: "Patterns"

Materials

- Computers navigated to *Starfall.com*

2 "Coin Town" Game

The children play "Coin Town," which was introduced on **Day 4**.

Players place their playing pieces on start. They take turns spinning the spinner and moving their playing pieces to the next coin that equals the amount shown.

If a player lands on a spin-again star, he or she takes another turn. The first player to get to the bank wins, or play may continue until all players reach the bank.

Materials

- 1 or 2 "Coin Town" game boards
- Playing pieces
- 1 or 2 coin spinners

3 Coin Concentration

The children play "Coin Concentration" by taking turns reaching into a small paper bag and drawing two coins.

The first player places his or her coins on a table and checks to see if they match. If the coins match, he or she places them one on top of the other and play continues with the next child. If the coins do not match, the child places them back into the bag and play continues. The children may also turn the matched coins so that one shows heads and the other tails.

Materials

- Several pairs of pennies, nickels, and dimes in a small paper bag

4 Teacher's Choice

Prepare an activity that will provide the children with an opportunity to practice a skill from this unit.

Counting & Cardinality

A.2 - Count forward from a given number.

Operations & Algebraic Thinking

OA.1 - Identify, describe, or extend simple patterns.

Money

M.1 - Identify the value of coins.

5 Summative Assessment: "Banker, Customer"

Appoint one child to be the "banker." The banker is in charge of the container of coins.

The other children are customers. The first child rolls his or her die on a math mat and counts the dots. He or she asks the "banker" for that number of cents. The banker gives the child the money from the container. At any time a child may exchange 5 pennies for a nickel or 2 nickels for a dime with the banker.

Note: If a child rolls a 5 or 6, he or she may ask for a combination of coins. (Example: 1 nickel and 1 penny)

As the children play the game, assess each child individually.

To perform this assessment, show individual children a coin and ask them to name it and tell you how much it is worth. Repeat for each coin. Record the children's mastery on the Unit 4 – Week 8 Summative Assessment Checklist.

Materials

- Several pairs of pennies, nickels, and dimes in a small paper bag or black tube sock
- One die per child
- Container of pennies, nickels, and dimes
- Summative Assessment Checklist Unit 4 – Week 8
- Math mats

