



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

If you have questions or comments, please contact us.

Email: helpdesk@starfall.com **Phone:** 1-888-857-8990 or 303-417-6414 **Fax:** 1-800-943-6666 or 303-417-6434



Troublesome Teens

Starfall Education Foundation
P.O. Box 359, Boulder, CO 80306



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Troublesome Teens

Week 11

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Week 11 Summary

The children will continue their quest to conquer the “troublesome teens” as they are introduced to the numbers 13 through 16. The children will also:

- Create and extend patterns
- Review counting by fives
- Solve number problems using manipulatives
- Use ten-frames to represent teen numbers

Preparation

DAY 1

No additional preparation is needed.

DAY 2

No additional preparation is needed.

DAY 3

You will use 10 pennies and 3 nickels in today’s lesson.

DAY 4

You will need a “Race to 20” game board, a pair of dice, and two playing pieces to preview the “Race to 20” game the children will play in this week’s Learning Centers.

DAY 1

DAY 2

Daily Routines

- Calendar
- Weather
- Number Line
- Count coins to match the date
- Place Value
- Hundreds Chart

Magic Math Moment

Identify number represented in a ten-frame

Guess the pattern

Identify a number represented in a ten-frame

Create and guess patterns and their rules/extend patterns

Introduce

13

The Number 13

Introduce

14

The Number 14

Math Concepts

Create Number Combinations

Tens and ones

Before and after 13

Before and after 14

Representations of 13

Representations of 14

Discriminate 13

Discriminate 14

Write the numeral 13

Write the numeral 14

Formative / Summative Assessment

List times the number 13 might be seen or used

List times the number 14 might be seen or used

Workbook pages 29 and 30

Workbook pages 31 and 32

Workbooks & Media



DAY 3

DAY 4

DAY 5

- Calendar
- Weather
- Number Line
- Count coins to match the date
- Place Value
- Hundreds Chart

Count by fives

Writing numerals 10-14

Count by fives

Number exercises

One-to-one correspondence

Introduce

16

Introduce

15

The Number 15

The Number 16

Review the penny and the nickel, and their values

Before and after 16

Before and after 15

Representations of 16

Representations of 15

Discriminate 16

Discriminate 15

Write the numeral 16

Write the numeral 15

Preview "Race to 20"

List times the number 15 might be seen or used

List times the number 16 might be seen or used

"Penny, Penny" Rhyme

Workbook pages 35 and 36

"Nickel, Nickel" Rhyme

Workbook pages 33 and 34



Learning Centers

Starfall.com:

- Monthly Calendar
- Numbers "11-16"
- Addition & Subtraction: "Word Problems"
- Addition & Subtraction: "Addition Practice"

Use play dough to form numerals and count manipulatives to match

"Race to 20"

Teacher's Choice

Represent numbers by creating groups of tens and ones

Ten-Frame Flash Game

Flash the ten-frame Representation Card with 3 dots and allow the children 3 seconds to observe it.

Say: **Write the number that tells how many dots you saw on the ten-frame on your whiteboard. Hold up your whiteboard for me to see when you are finished.** The children do this.

Repeat with 5, 7, 9, and 10, observing to see if the children identify the number of dots correctly.



Materials

- Ten-frame Number Representation Cards: 3, 5, 7, 9, and 10
- Individual whiteboards, markers

Counting & Cardinality

A.3 - Write numbers from 0 to 20.

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

CC.1 - Identify numerals out of sequence.

Number & Operations In Base Ten

A.1 - Understand numbers 11-19 are ten ones plus more ones.

Introduce 13

1 Creating Number Combinations

Say: **Today we will learn about the number 13. But first, let's do a warm-up. Who can show us 8 fingers?**

A volunteer shows 8 fingers, then chooses a second volunteer who will show 9 fingers. Repeat with another volunteer who will show 10 fingers.

Ask: **Who can show us 11 fingers?** Volunteers respond.

Continue: **That's right, no one can do that because we each only have 10 fingers! What could we do to show 11 fingers?** Volunteers respond. Lead to children to conclude that it would take two children to do this.

Choose two volunteers to come forward to show the class 11 fingers. Instruct one child to hold up 10 fingers and the other child to hold up 1 finger.

Repeat with new volunteers for 12 and 13. Lead the children to realize that they don't have to count the fingers of the child holding up 10 fingers. Instead they can just say ten and count on from there.

2 Before and After 13

Ask: **Who can write the number that comes before 13 on the board?**

A volunteer writes 12 on the board.

Ask: **Who can write the number that comes after 13?** A volunteer writes 14 on the board.

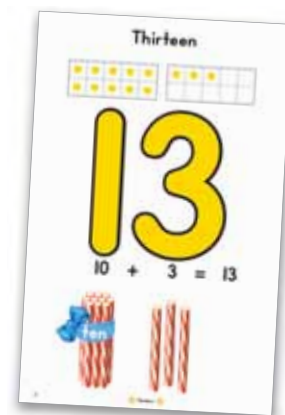
Materials

- Whiteboard, markers
- Backpack Bear's Math Big Book, page 30
- Backpack Bear's Math Workbook #1, page 29 and 30
- Crayons, pencils

3 Introduce 13

Select several volunteers to choose activities such as jumping jacks, touch toes, or hop, and the children perform each of the activities 13 times.

Indicate *Backpack Bear's Math Big Book*, page 30 and lead the children to discuss the representations of 13.



4 The Number 13

Distribute *Backpack Bear's Math Workbook #1* and instruct the children to turn to page 29.

If you have projection capabilities, project the workbook page to use as a guide.

Note: The following activity requires step-by-step teacher direction.

Say: **Put your finger on the number line at the top of the page.** (Check to see that the children do this.) **Now with your pencil, circle 13.** The children circle 13 on the number line.



Continue: **Now point to the word thirteen on your workbook page and circle the word thirteen.** The children do this.

- If you are able to project the workbook page, volunteers become number detectives and circle thirteens. They place an X on the boxes that do not contain a thirteen. The other children use the example as a guide to complete this section of the workbook page.
- If you are unable to project the workbook page, lead the children to determine which boxes contain the numeral 13.
- The children color the boxes that contain a 13 and place an X on the boxes that do not.
- They practice the numeral 13 by tracing over, and writing 13 in the spaces.
- Lead the children to complete the equation $10 + 3 = 13$.
- They trace the numerals that come before and after 13.
- The children color the ten-frames to indicate 13.



Formative Assessment

Number Boxes for 13

The children take turns sharing times they might see or use the number 13. Write their responses on the board. Instruct them to turn to page 30 and draw or copy the responses into their number boxes. (Examples: 13 years old, 13 cents, 13 miles, $13 + 0 = 13$, a dime and 3 pennies)



Guess the Pattern

Materials

 None

Choose a group of eight children to line up side-by-side. Whisper an action that will result in a pattern to each child. (Example: clap, clap, snap, snap) On your signal the children perform their actions in turn to create the pattern.

Say: **Raise your hand if you can identify the pattern.** Volunteers respond.

Ask: **What would come next if we wanted to continue this pattern?**

Add volunteers to extend the pattern. Ask:

- **What is the rule of this pattern?** (clap, clap, snap, snap)
- **The pattern is two activities being done two times. What kind of pattern is it?** (AABB)

Repeat with other groups and different kinds of patterns.

Ask: **Who would like to work together to form a pattern?** Select volunteers to create a new pattern, with your help if necessary. Ask:

- **What is the rule of this pattern?**
- **What kind of pattern did the group create?**

Repeat with other groups.

Counting & Cardinality

A.3 - Write numbers from 0 to 20.

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

CC.1 - Identify numerals out of sequence.

Operations & Algebraic Thinking

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

Number & Operations In Base Ten

A.1 - Understand numbers 11-19 are ten ones plus more ones.

Introduce 14

1 Tens and Ones

Ask: **Who can find the number 10 on the Number Line?** A volunteer uses a pointer to indicate the number 10.

Place the 1 through 13 Number Cards in a pocket chart.

Ask: **Who can point to the 10 Number Card?** A volunteer does this.

Ask: **What do you notice about the 10 Number Card?** (Volunteers respond.) **Right, it has a vertical stack of cubes. Remember, vertical means up and down.**

Choose ten volunteers to stand side-by-side in front of the class. The class counts the children as you tap each child on the head.

Say: **We have a set of 10 children. Let's bundle them!** The ten children form a circle holding hands.

Ask: **How many more children should we add to make 14? Right, 4 more.**

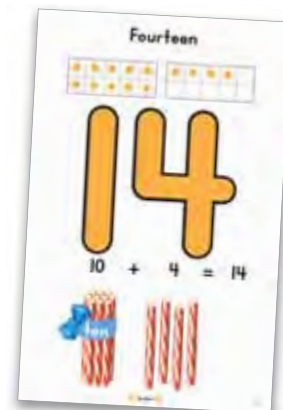
Materials

- Backpack Bear's Big Book, page 31
- Backpack Bear's Math Workbook #1, pages 31 and 32
- Number Cards 1 through 13
- Crayons, pencils
- Pocket chart

Choose 4 volunteers to come forward.

Say: **There are 10 children plus 4 more.** Write $10 + 4 = \underline{\quad}$ on the board and read the equation.

Ask: **How many children are there altogether? Right, 14. $10 + 4 = 14$.** Write 14 to finish the equation.



2 Introduce 14

Say: **Today we will learn about the number fourteen.**

Indicate *Backpack Bear's Math Big Book*, page 31 and lead the children to discuss the representations of 14 on this page.

3 The Number 14

Distribute *Backpack Bear's Math Workbook #1* and instruct the children to turn to page 31.

If you have projection capabilities, project the workbook page to use as a guide.

Note: The following activity requires step-by-step teacher direction.

Say: **Put your finger on the number line at the top of the page.** (Check to see that the children do this.) **Now with your pencil, circle 14.** The children circle 14 on the number line.

Continue: **Now point to the word fourteen on your workbook page and circle it.** The children do this.

- If you are able to project the workbook page, volunteers become number detectives and circle fourteens. They place an X on the boxes that do not contain a fourteen. The other children use the example as a guide to complete this section of the workbook page.
- If you are unable to project the workbook page, lead the children to determine which boxes contain the numeral 14.
- The children color the boxes that contain 14 and place an X on the boxes that do not.
- They practice the numeral 14 by tracing over, and writing 14 in the spaces.
- Lead the children to complete the equation $10 + 4 = 14$.
- They trace the numerals that come before and after 14.
- The children color the ten-frames to indicate 14.



Formative Assessment

Number Boxes for 14

The children take turns sharing times they might see or use the number 14. Write their responses on the board. Instruct them to turn to page 32 and draw or copy the responses into their number boxes (Examples: 14 years old, 14 cents, $10 + 4 = 14$, 1 dime and 4 pennies)

Count By Fives

Materials

 None

Divide the class into groups of four.

Say: **Today we will work in groups to practice counting by fives. You will begin counting at negative 5 and stop at 50. What strategy can you use to help us count? Right, you can use the Number Line.**

Continue: **When you hear the signal your group will begin. Clap once if you can hear me.** (The children do this.) **Clap twice if you can hear me.** (The children do this.) **Ready, set, begin.** Circulate and assist when necessary.

When the children have had ample time, signal them to stop counting. (Say: **Clap once... Clap twice ...**) Two groups at a time take turns counting by fives until all groups have a turn.

Counting & Cardinality

A.3 - Write numbers from 0 to 20.

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

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

Number & Operations In Base Ten

A.1 - Understand numbers 11-19 are ten ones plus more ones.

Introduce 15

Materials

- Backpack Bear's Math Big Book, pages 13, 14, and 32
- Backpack Bear's Math Workbook #1, pages 33 and 34
- Crayons, pencils
- Ten pennies
- Three nickels

1 Review the Penny, Nickel, and Their Values

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

Review the "Penny, Penny" and "Nickel, Nickel" rhymes.

Choose ten volunteers to move to the front of the classroom, and give each child one penny.

Ask: **If there are ten children and each child has a penny, how many pennies are there altogether?** (Volunteers respond.) **Let's count to be sure.** Do this.

Ask: **Did we count by ones or fives? Right, we counted by ones because each penny is worth one cent.**

The ten volunteers return to their seats.

Choose two new volunteers to come forward and give each child a nickel. Ask:

- **How much is a nickel worth?** (Volunteers respond.) **Right, a nickel is worth 5 cents.**
- **There are 2 children and each child has a nickel. How many nickels are there altogether?** (Volunteers respond.) **Right, two.**
- **How can we tell how much 2 nickels are worth?** (Volunteers respond.) **Right, if each nickel is worth 5 cents, we can count by fives 5, 10.**
- **How many more nickels would we need to make 15 cents?**

Choose a volunteer to come forward and give him or her a nickel. Say: **Let's count how much money these children have now, 5, 10, 15. They have 15 cents. Today let's learn about the number 15.**



2 Introduce 15

Indicate *Backpack Bear's Math Big Book*, page 32 and lead the children to discuss the representations of 15 on this page.

3 The Number 15

Distribute *Backpack Bear's Math Workbook #1* and instruct the children to turn to page 33.

If you have projection capabilities, project the workbook page to use as a guide.

Note: The following activity requires step-by-step teacher direction.

Say: **Put your finger on the number line at the top of the page.** (Check to see that the children do this.) **Now with your pencil, circle 15.** The children circle 15 on the number line.

Continue: **Now point to the word fifteen on your workbook page and circle it.** The children do this.

- If you are able to project the workbook page, volunteers become number detectives and circle fifteens. They place an X on the boxes that do not contain a fifteen. The other children use the example as a guide to complete this section of the workbook page.
- If you are unable to project the workbook page, lead the children to determine which boxes contain the numeral 15.
- The children color the boxes that contain 15 and place an X on the boxes that do not.
- They practice the numeral 15 by tracing over, and writing 15 in the spaces.
- Lead the children to complete the equation $10 + 5 = 15$.
- They trace the numerals that come before and after 15.
- The children color the ten-frames to indicate 15.



Formative Assessment

Number Boxes for 15

The children take turns sharing times they might see or use the number 15. Write their responses on the board. Instruct them to turn to page 34 and draw or copy the responses into their number boxes. (Examples: 15 years old, 15 cents, 15 inches)



Writing Numerals

Distribute math mats, individual whiteboards, and markers. Instruct the children to place the whiteboards on top of their math mats.

Materials

- Whiteboards, markers
- Math mats

Say: **Today we will write different numbers on our whiteboards. We can use lots of strategies to help us remember how to write the numbers. Who can think of one strategy we can use?** (Volunteers respond.)
Right, we can look at the Number Line, the hundreds chart, our math mats, and the Number Cards.

Say: **I will say a number and you write that number on your whiteboard. Ready?** Say a number and the children write it.

Continue: **Now hold your whiteboard up for all of us to see.** The children do this then erase the numbers before the next number is given. Use several numbers including 11, 14, 12, 10, and 13.

Counting & Cardinality

A.3 - Write numbers from 0 to 20.

B.4a - Say number names in order, pairing each object with one number.

CC.1 - Identify numerals out of sequence.

Number & Operations In Base Ten

A.1 - Understand numbers 11-19 are ten ones plus more ones.

Introduce 16

1 "Listen and Count"

Say: **Today let's do number exercises! Listen for a number and an exercise then see if you can do the exercise the correct number of times. Let's practice. The first number is 9 and the exercise is tap the top of your head. Who can repeat the exercise? How many times should we tap our heads?** (Volunteers respond.)

Repeat with the following numbers and exercises, or create your own:

- 12 — Pretend to jump rope.
- 14 — Touch your toes.
- 13 — Hop up and down.

Materials

- Backpack Bear's Math Big Book, page 33
- Backpack Bear's Math Workbook #1, pages 35 and 36
- Two "Race to 20" game boards, playing pieces, dice
- Crayons, pencils

2 Introduce 16

Indicate *Backpack Bear's Math Big Book*, page 33 and lead the children to discuss the representations of 16.



3 The Number 16

Distribute *Backpack Bear's Math Workbook #1* and instruct the children to turn to page 35.

If you have projection capabilities, project the workbook page to use as a guide.

Note: This activity requires step-by-step teacher direction.

Complete page 35 together with the children as with previous workbook pages.



Formative Assessment

Number Boxes for 16

The children take turns sharing times they might see or use the number 16. Write several of their responses on the board. Instruct them to turn to page 36 and draw or copy the responses into their number boxes. (Examples: 16 days, 16 cents, 16 miles, $10+6=16$)

Preview "Race to 20"

Gather the children in a semi-circle. Indicate a "Race to 20" game board, playing pieces, and dice. Choose two volunteers to demonstrate the game.

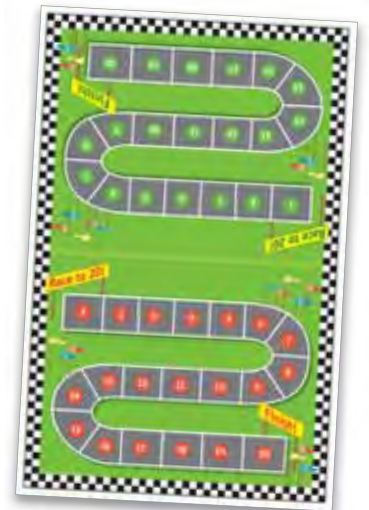
Note: After each turn, choose two different children to play.

The first player rolls the dice and moves his or her playing piece the corresponding number of spaces on the "Race to 20" game board.

The second player rolls the dice and moves his or her playing piece the corresponding number of spaces.

Play continues until a player reaches 20. A player must roll the exact number to land on 20 in order to win the game.

The children will play this game again during this week's Learning Centers.



1 Computer

The children explore:

- Monthly calendar
- Numbers: "11-16"
- Add & Subtract: "Word Problems"
- Add & Subtract: "Addition Practice"

Materials

- Computers navigated to *Starfall.com*

Counting & Cardinality

A.3 - Write numbers from 0 to 20.

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

B.4a - Say number names in order, pairing each object with one number.

Number & Operations In Base Ten

A.1 - Understand numbers 11-19 are ten ones plus more ones.

Measurement & Data

A.1 - Describe measurable attributes of objects.

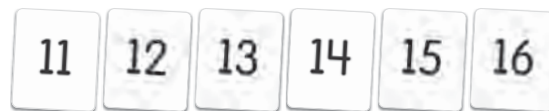
2 Number Cards

The children place the Number Cards face down in a stack.

- ONE child draws a card for the group.
- Each child forms the numeral with play dough.
- Each child counts out the corresponding number of manipulatives and places them on his or her math mat ten-frame.
- The children compare their answers.
- They replace the play dough, shuffle the Number Cards, and the next child draws a card.
- The children repeat the activity as time permits.

Materials

- Math mat for each child
- Container of cubes or counters
- One set of Number Cards 11-16
- Play dough



3 "Race to 20"

The first player rolls the dice and moves his or her playing piece the corresponding number of spaces on the "Race to 20" game board.

The second player rolls the dice and moves his or her playing piece the corresponding number of spaces.

Play continues until a player reaches 20. A player must roll the exact number to land on 20 in order to win the game.

The children repeat the game as time permits.

Materials

- 1 or 2 "Race to 20" game boards
- Playing pieces
- Pair of dice

