Troublesome Teens

Starfall Kindergarten MATHEMATICS

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

UNIT 5

Troublesome Teens

Week 10

Week 10 Summary

In this unit the children will tackle the "troublesome teens," which is very often a difficult concept for kindergarten children. The ten-frame is an important tool that is used in this unit to introduce the teens. Its use helps make this concept more concrete.

The children will also:

- Be introduced to the money component of the Calendar Routine
- Explore the concept of before and after
- Practice identifying numerals out of sequence
- Solve number line riddles

Preparation

In Unit 5 the children will be introduced to the money component of the Calendar Routine, which will be used throughout the remainder of the school year. To prepare for this component you will need several pennies, nickels, and dimes, and a Money Graph on which the children will add the coins to keep track of the date. The Money Graph may be a small pocket chart or a cookie sheet. If you use a cookie sheet, be sure to prepare the coins by adding small magnets to the back of each.
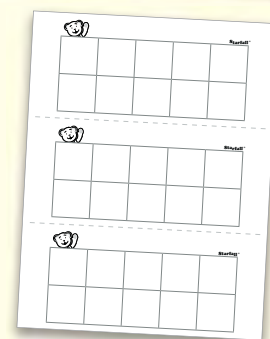
DAY 1

Create a set of Representation Cards for the number 7 by gathering the 7 Number, Dice, Domino, Tally Mark, and Ten-Frame Cards.

DAY 2

You will use 2 classroom ten-frames, 10 large blue paper circles or magnets, and 10 large red paper circles or magnets. If you use paper circles, you will also need reusable adhesive to attach them to the ten-frames.

Duplicate an individual ten-frame for each child. The children will add these to their math bags at the end of the lesson.

Individual Ten-Frames

DAY ③

No additional preparation is needed.

DAY ④

Create sets of Representation Cards for the numbers 9 through 11 by gathering the 9-11 Number, Dice, Domino, Tally Mark, and Ten-Frame Cards.

DAY ⑤

*Activity Center 1* — Navigate classroom computers to *Starfall.com*.

Activity Center 2 — Label each of 3 sheets of construction paper with a number 10, 11, and 12. Create two sets of Representation Cards for the numbers 10, 11, and 12 by gathering the Number, Dice, Domino, Tally Mark, and Ten-Frame Cards.

Activity Center 3 — You will need a "A Walk in the Park" game board, a playing piece for each child, and a blank game spinner labeled with the numbers 4 through 12.

Activity Center 4 — Prepare materials for this week's Teacher's Choice Activity.

Summative Assessment — Duplicate a copy of the "I Can Write My Numbers!" worksheet for each child.

Prepare a copy of the Summative Assessment Checklist for Unit 5 – Week 10.
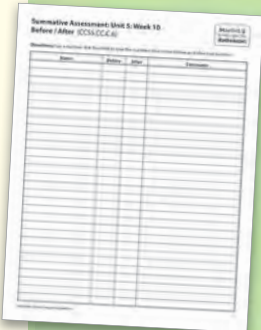
Summative Assessment
Unit 5 - Week 10

	DAY ①	DAY ②
Daily Routines	• Calendar • Place Value • Weather • Hundreds Chart • Number Line • **_Add_** ▶ Count coins to match the date	
Magic Math Moment	Identify the number that comes before another number	Identify the number that comes after another number
Math Concepts	The number that comes before Number representations 1–10	The number that comes after Place value and writing equations using a ten-frame Representing teens using a ten-frame
Formative / Summative Assessment	Number representations	Use connect cubes to represent numbers
Workbooks & Media	Workbook page 24	

DAY 3

DAY 4

DAY 5

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

DAY 3	DAY 4	Learning Centers
Place Value – tens and ones/ bundling tens	Representations of numbers 9-11	*Starfall.com:* **1** • Monthly Calendar • Numbers "11-12" • Geometry and Measurement: "Button Sort" (medium or hard) • Addition & Subtraction: "Addition within 10"
Place value – tens and ones ***Introduce*** **11** The number 11 Representations of 11 Discriminate 11 Write the numeral 11 Before and after 11	Number Representations ***Introduce*** **12** The number 12 Representations of 12 Discriminate 12 Write the numeral 12 Before and after 12	Number Representations 10-12 **2**
List times the number 11 might be seen or used	List times the number 12 might be seen or used	"A Walk in the Park" Game **3** Teacher's Choice **4**
Workbook pages 25 and 26	Workbook pages 27 and 28	Summative Assessment: Identify the number that comes before and after **5** Writing Numbers

Daily ☉ Routines

📅 **Calendar**

- The children name the month and the days of the week.
- The calendar helper turns the next number.

Counting & Cardinality

A.2 - Count forward from a given number.

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

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

B.4b - The last number counted tells the total number of objects.

B.4c - Each successive number refers to one more.

NEW ▶ In this unit, you will add a money component to the Calendar Routine. This will continue throughout the remainder of the school year.

Explain to the children that each day from now on, they will also keep track of the date in another way. They will use coins and their values to represent each day's date.

Assist the calendar helper to place one penny on the Money Graph to match the number of today's date. Explain that there are other coins (nickels, dimes) available, and lead the children to exchange the appropriate number of pennies for these other coins.

Each day the calendar helper will add a penny (more for weekends and days off from school). When there are enough coins to be replaced with those of higher value, lead the children to suggest exchanges and the calendar helper makes them.

With the start of a new month, the children remove the coins and begin the procedure again.

🌤 **Weather**

- Review yesterday's weather.
- The meteorologist places a tally mark under his or her weather prediction.
- Add a tally mark next to today's weather on the Weather Graph.

Number Line

- Point to and count the days on the number line by ones, fives, or tens.
- Sing "How Many Days Have We Been In School?"
- Remove the sticky note to reveal the next number.

1|0|0 Place Value

- Review the number of bundles and sticks in the *Tens* and *Ones* containers.
- Add one stick to represent today, and place it in the *Ones* container.
- Write the number of days the children have been in school on the board.
- Every tenth day the children bundle the ten sticks that are in the *Ones* container and place the bundle in the *Tens* container.

Hundreds Chart

- The number helper turns the next number on the chart.
- Ask: **The hundreds chart shows we have been in school how many days?**

5 6

4

3

2

1

0
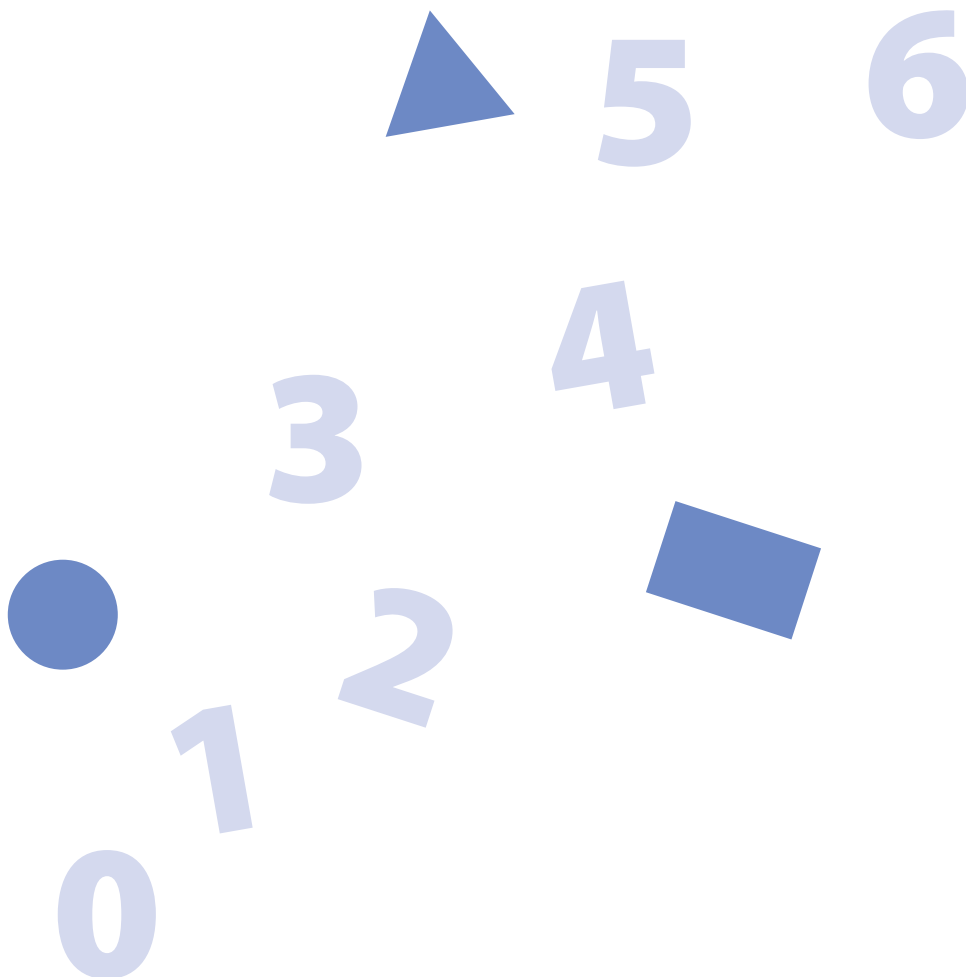
Magic Math Moment

Before

Write 10 on a whiteboard. Ask: **What number comes right before 10?** (Volunteers respond.) **Yes, 9 is the number that comes right before 10.**

Continue: **If 9 comes before 10, where should we write it?** A volunteer writes 9 to the left of the 10. The class confirms or corrects its placement.

Repeat with other numbers.

Counting & Cardinality

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

CC.2 - Supply missing number in a sequence.

Number Representations 1-10

Materials

☐ Representation Cards 1 through 7
☐ *Backpack Bear's Math Workbook #1*, page 24
☐ Pocket chart
☐ Pencils

1 **Review Representations for Numbers 1-6**

Say: **Today we will review number representations. Number representations are different ways to show a specific number. What number does this represent?**

Indicate one representation card and a volunteer responds. Continue: **There are many ways to represent each number.**

Show a variety of types of cards representing different numbers and volunteers tell which numbers the cards represent.

2 **Representations for the Number 7**

Display all of the representations for 7 in a pocket chart. Ask: **What do you notice about all of these representation cards?** (Volunteers respond.) **Right, they are all different ways to show or represent 7.** Discuss.

Say: **Today let's be Number Detectives!**
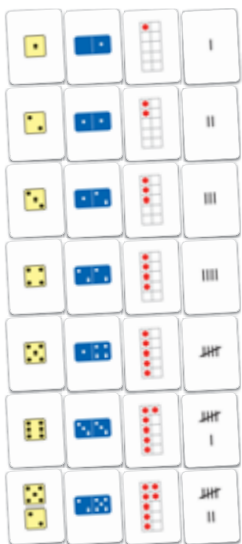
Formative Assessment

Backpack Bear's Math Workbook, Page 24

Distribute *Backpack Bear's Math Workbook #1* and instruct the children to turn to page 24. If you have projection capabilities, project the page as a guide.

Note: If you project on a Smartboard or Mimeo, use the "shade" function so only one row is revealed at a time.

Partner the children. They will work as a group as you provide the directions for each row, then partners will compare their answers.

Ask: **What is the number at the beginning of the first row? Right, it is a 2. Trace over the number 2.** The children do this.

Continue: **Now find all the representations for the number 2 in the same row and circle the answers.** The children do this and partners compare their answers.

If you project the workbook page, choose a volunteer to circle the representations on the whiteboard and the children check their answers.

Repeat for each row.

Magic Math Moment
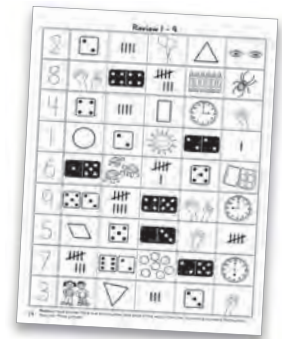
After

Materials

☐ None

Write 8, 9, ____ on the board. Read the sequence of numbers saying "blank" for the missing number.

Ask: **What number is missing?** (Volunteers respond.) **Right, 10 comes after 9. If 10 comes after 9, where should we write it?**

A volunteer writes 10 in the blank.

Create several additional examples to provide practice.

Remind the children of the strategies they might use to find the answers such as the Classroom Number Line, calendar, and hundreds chart.

Introduce Teens Using a Ten-Frame

Essential Question: *How can we use a numeral to show how many objects there are?*

Materials

☐ Two classroom ten-frames

☐ Ten large blue magnets or paper circles

☐ Ten large red magnets or paper circles

☐ Ten-frame for each child

☐ Math bags

1 Counting On From 10 to 20

Say: **Today let's play with some higher numbers. Look at the Classroom Number Line. Let's start counting from 10. We will stop at 20. Ready?**

Begin at 10 and indicate each number as you and the children count together to 20.

2 Classroom Ten-Frame Demonstration

Display one classroom ten-frame vertically on the whiteboard.

Say: **Let's put a circle in each section of the ten-frame.** A volunteer places a large blue magnet or circle in each section of the ten-frame.

Ask:

- **How many magnets are in the ten-frame?**
- **Since this is a ten-frame, do we need to count every circle to know there are 10? Why not?**

4 Creating Numbers Using Ten-Frames

Distribute a math bag and a ten-frame to each child.

Say: **Remove your connect cubes and place the ten-frames beside each other vertically, just like the ten-frames on the board.**

After the children have done this, say: **Let's see if we can create the number 12. Who knows what we should do first?** (Volunteers respond.) **Right, place 10 red connect cubes, one in each section, in the first ten-frame.** The children do this.

Ask: **To show 12, how many connect cubes should we add to the second ten-frame?** (Volunteers respond.) **Right, we should add 2 more.** A volunteer does this.

Instruct the children to add 2 cubes of a different color to their second ten-frames.

Ask:

- **How many cubes are in your first ten-frame? Right, 10.** Write 10 on the board.
- **How many cubes are there in your second ten-frame?** Write + 2 next to the 10.
- **What is 10 plus 2 more?** (Volunteers respond.) **Right, 10 + 2 = 12.**

The children remove the connect cubes from their ten-frames.

Formative Assessment

Complete Ten-Frames

Say a number between 10 and 20 and the children use connect cubes to complete their ten-frames to represent the number. Observe the children as they work to check for understanding. Repeat with other numbers as time allows.

Magic Math Moment

Tens and Ones

Materials

☐ None

Essential Question: *How can we group numbers by tens and ones to see how many of each we have?*

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

Say: **This is a set of 10 children. Let's bundle them!**

Instruct the ten children to form a circle and hold hands. Select one additional volunteer to stand to the left (when facing the class) of the 10 children.

Say: **Now there are 10 children plus one more.**

Write 10 + 1= on the board and read the equation. Ask: **How many children are there altogether? Right, 11; 10 + 1= 11.** Write 11 to finish the equation.

Repeat using a different set of 10 children to create a "bundle" and 2-4 children to create the "ones."

Counting & Cardinality

A.3 - Write numbers from 0 to 20.

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

Number & Operations In Base Ten

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

Introduce 11

Materials

☐ *Backpack Bear's Math Big Book,* page 28

☐ *Backpack Bear's Math Workbook #1,* pages 25 and 26

☐ Pencils, crayons

1 Representations of 11

Say: **Today we'll learn about the number 11.**

Indicate *Backpack Bear's Math Big Book,* page 28.

Lead the children to discuss what they see on this page, encouraging them to notice the different representations of the number 11.

2 The Number 11

Distribute *Backpack Bear's Math Workbook #1.* Instruct the children to turn to page 25.

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

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

Ask: **Who can point to the number line?** The children point to the number line on their workbook pages.
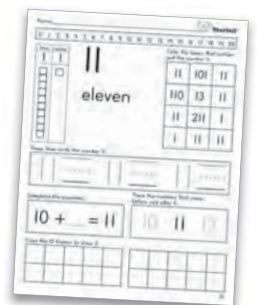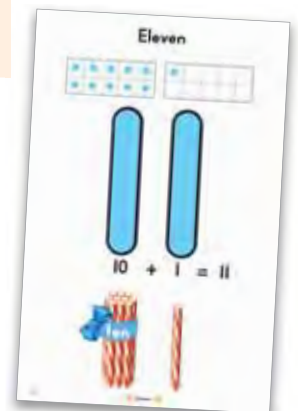
Say: **Now with your pencil, circle 11.** The children circle 11 on their number lines.

Check to see that the children circle eleven. Continue: **Now point to the word eleven on your workbook page.**

- If you are able to project the workbook page, volunteers become number detectives. They circle elevens and place an X on the boxes that do not contain an eleven. The other children use the example as a guide to complete the section of the workbook page.
- If you are unable to project the workbook page, lead the children to determine which boxes contain the numeral 11.
- The children color the boxes that contain an 11 and place an X on the boxes that do not.
- They practice the numeral 11 by tracing over, and writing 11 in the spaces.
- Lead the children to complete the equation $10 + 1 = 11$.
- They trace the numerals that come before and after 11.
- The children color the ten-frames to indicate 11.

Formative Assessment

Number Boxes for 11

Instruct the children to turn to page 26 in their workbooks.

Ask: **Where might we see or use the number 11?**

The children take turns sharing times they might see or use the number 11. Write several of their responses on the board and the children draw and/or copy them into their number boxes. (Examples: 11:00, 11 pennies or cents, 11 years old, 10+1=11)

Magic Math Moment
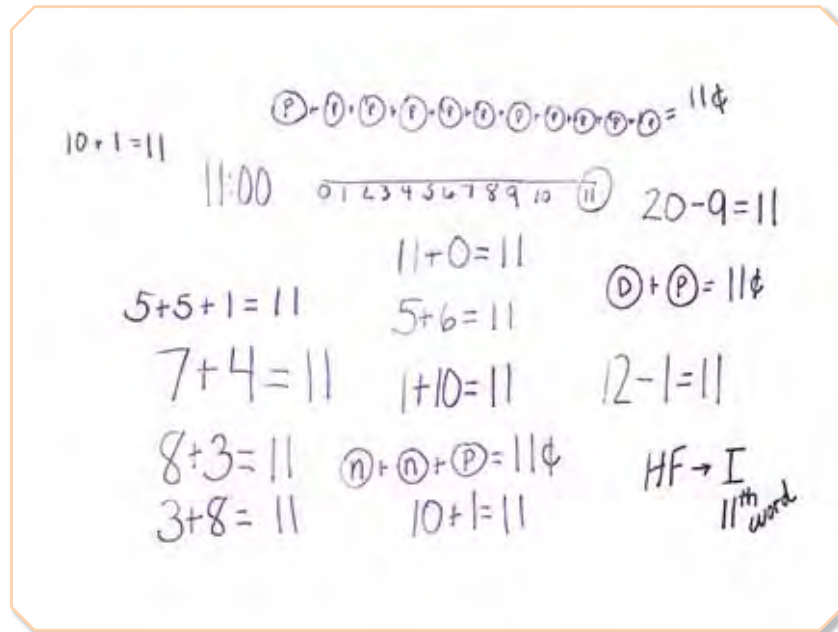
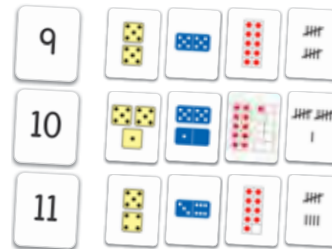## Representations for Numbers 9-11

Gather the children around a pocket chart. Place the Number Cards 9-11 in the top row as column headings.

Distribute the number, dice, domino, tally marks, and ten-frame cards 9 to 11 to individual children. Say: **Today we will sort the cards by numbers. Let's read the numbers in the pocket chart, 9, 10, 11.**

Choose a volunteer to bring his or her card to the pocket chart and place it under the correct number. Ask: **How did you know that card belongs with that number?** Repeat until all the number representation cards have been sorted.

Counting & Cardinality

A.3 - *Write numbers from 0 to 20.*

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

Introduce 12

1 Representations of 12

Say: **Today we will learn about the number 12.**

Indicate *Backpack Bear's Math Big Book*, page 29 and lead the children to discuss the representations of 12 on this page.

2 The Number 12

Distribute *Backpack Bear's Math Workbook #1* and instruct the children to turn to page 27. If you have projection capabilities, project the workbook page to use as a guide.

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 12.** The children circle 12.

Continue: **Now point to the word twelve on your workbook page.** The children circle the word twelve.

- If you are able to project the workbook page, volunteers become number detectives. They circle twelves and place an X on the boxes that do not contain twelve. The other children use the example as a guide to complete the section of the workbook page.

- If you are unable to project the workbook page, lead the children to determine which boxes contain the numeral 12.

- The children color the boxes that contain a 12 and place an X on the boxes that do not.

- They practice the numeral 12 by tracing over, and writing 12 in the spaces.

- Lead the children to complete the equation $10 + 2 = 12$.

- They trace the numerals that come before and after 12.

- The children color the ten-frames to indicate 12.
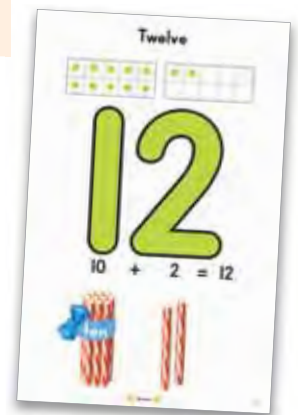
Formative Assessment

Number Boxes for 12

Instruct the children to turn to workbook page 28.

The children take turns sharing times they might see or use the number 12. Write their responses on the board and children draw and/or copy them into their number boxes. (Examples: 12:00, dozen eggs, 1 dime and 2 pennies, 12 years old, 10+2=12)

Learning Centers

1 Computer

The children explore:

- Monthly calendar
- Numbers: "11-12"
- Geometry & Measurement: "Button Sort" (medium or hard)
- Add & Subtract: "Addition within 10"

Materials

☐ Computers navigated to *Starfall.com*

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2 Number Representations 10-12

Place the three prepared sheets of construction paper side-by-side. Shuffle the Representation Cards and stack them in a deck.

The children take turns revealing cards then placing them on the construction paper indicating the corresponding numbers. Play continues until all of the Representation Cards have been sorted.

Materials

☐ 3 sheets of construction paper labeled 10, 11 and 12

☐ Two sets of Number Representation Cards: 10, 11, 12

Counting & Cardinality

A.3 - Write numbers from 0 to 20.

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

CC.2 - Supply missing number in a sequence.

Operations & Algebraic Thinking

A.1 - Represent addition and subtraction in a variety of ways.

Measurement & Data

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

MD.1 - Identify and use time measurement tools.

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3 "A Walk in the Park" Game

The children place their playing pieces on start. They take turns to spin then move their playing pieces the corresponding number of spaces.

If a player lands on a +2 or +1, he or she moves forward that number of additional spaces.

If a player lands on -3, the player moves back 3 spaces. The first player to reach the end wins (or the children may play until all players reach the end).

Materials

☐ "A Walk in the Park" game board

☐ Game spinner labeled 4-12

☐ Playing piece for each child

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4 Teacher's Choice

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

5 **Summative Assessment: Writing Numbers**

Distribute "I Can Write My Numbers!" worksheets and pencils. The children practice printing the numerals 0 through 9. When they finish, they turn their papers over and write a numeral. They incorporate the numeral into a drawing.

To perform this week's assessment, one child at a time determines the number that comes before or after a given number. Say:

- **Listen to this number, 9. What number comes before 9?**
- **Listen to this number, 12. What number comes after 12?**

Repeat for several other numbers. Record mastery on the Summative Assessment Checklist for Unit 5, Week 10.