

At RPDP, we support educators through professional development. Professional development can occur in a variety of ways: Entire staff trainings, grade level meetings, one-on-one support, etc. We collaborate with administrators and teachers regarding the developing and strengthening math content knowledge, use of best practices in the classroom, we model lessons, and provide support for the use of quality instructional materials.

Providing educators with quality resources in regards to instructional materials is a continuous priority. We provide this support through math content overviews, the use of instructional materials, further practice/skill development materials, and through quality assessments/tasks. As we work to create these resources for educators, we may recommend other quality resources from time to time.

In recent years, some states have received funds to create quality instructional materials for ALL educators for ALL states to access. We have selected some of those materials that we believe support our vision of quality instructional materials that support teachers in providing a solid mathematical foundation for students. For more elementary math resources please visit Rpdp.net .





Composing and Decomposing the Tweens and Teens

Math- Grade K

Overview: In this unit, Kindergarteners will work with the numbers 11-19 to gain a foundation for place value. Students begin by matching a teen quantity (11-19) to its corresponding numeral. They will receive ongoing practice with subitizing as it promotes understanding of tens and ones. Students will have opportunities to explore the teen numbers 11-19 as a composition of ten “and some more.” They will represent teen numbers as tens and ones using two colored cubes, and then with ten frames. Next, they will have time to explore and practice the part-whole nature of the teen numbers through a decomposition game. Finally, students will build upon their understanding of ten to determine how many more will complete the targeted teen number. Ultimately, through using objects, drawings, and equations, students will know that the value of a teen number does not change when decomposed into a ten and some ones.

These Model Curriculum Units are designed to exemplify the expectations outlined in the MA Curriculum Frameworks for English Language Arts/Literacy and Mathematics incorporating the Common Core State Standards, as well as all other MA Curriculum Frameworks. These units include lesson plans, Curriculum Embedded Performance Assessments, and resources. In using these units, it is important to consider the variability of learners in your class and make adaptations as necessary.

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Stage 1 Desired Results

<p>ESTABLISHED GOALS</p> <p>G1. K.NBT.1- Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (e.g., $18 = 10 + 8$); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones SMP3. Construct viable arguments and critique the reasoning of others. SMP7. Look for and make use of structure. SMP8. Look for an express regularity in repeated reasoning SLK.5. Add drawings or other visual displays to descriptions when appropriate to clarify ideas and feelings clearly. SLK.6. Speak audibly and express thoughts, feelings, and ideas clearly</p>	Transfer	
	<p><i>Students will be able to independently use their learning to...</i></p> <p>Apply mathematical knowledge to analyze and model mathematical relationships in the context of a situation in order to make decisions, draw conclusions, and solve problems. T</p>	
	Meaning	
	<p>UNDERSTANDINGS U</p> <p><i>Students will understand that...</i></p> <p>U1. A numeral represents a specific quantity. U2. Our counting system is based on the number ten. U3. Ten is a single entity as well as ten separate units. U4. The position of digits in numbers determines whether the digit is representing ones or tens. U5. Numbers can be represented in different ways. U6. Decomposed numbers can be combined to represent a quantity</p>	<p>ESSENTIAL QUESTIONS Q</p> <p>Q1. How are numbers used? Q2. How can you represent any quantity using only the digits 0-9? Q3. How can ten be one thing and more than one thing at the same time?</p>
	Acquisition	
	<p><i>Students will know...</i> K</p> <p>K1. Numbers represent a quantity. K2. Ten ones is equal to one ten. K3. How to determine the position of digits in a number 11-19. K4. The numbers from 11-19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. K5-Academic vocabulary: tens, ones, digit, number sentence/ equation (use interchangeably), compose, decompose, and vertical 10 frame</p>	<p><i>Students will be skilled at...</i> S</p> <p>S1. Representing a quantity of objects with its corresponding numeral or picture up to 19. S2. Composing and decomposing numbers into different combinations of a ten and some ones without changing the value by using numerals, objects, drawings or equations S3. Articulating the difference between the tens and ones place. S4. Writing number sentences (equations) to represent a quantity</p>



Stage 2 - Evidence

Evaluative Criteria	Assessment Evidence
<p>Task 1: Can students decompose numbers into tens and ones?</p> <p>-Do students place counters in a group of ten and some extras? -Can students articulate that there are more than enough players? -Can students determine how many students are in Mrs. Smith's class? -Can students write a mathematical equation using tens and ones to illustrate the number of students in Mrs. Smith's class?</p>	<p>CURRICULUM EMBEDDED PERFORMANCE ASSESSMENT (PERFORMANCE TASKS) PT TRANSFER TASK(S): Performance Assessment Task 1: Kickball Team TT1. Mrs. Smith needs 10 students for her kickball team. She has ____ (provide teddy bear counters in a quantity from 11-19) students in her class.</p> <p>Guiding Interview Questions:</p> <ol style="list-style-type: none"> 1. Does she have enough students to play? How do you know? Show using counters, pictures etc... 2. Does she have too many? How many extra players does she have? How do you know? Show using counters, pictures etc... 3. How many students are in Mrs. Smith's class altogether? Write an equation showing the number of students in Mrs. Smith's class ($10 \text{ students} + 3 \text{ extra students} = 13 \text{ students}$) 4. <i>Optional</i> – Pretend a new student has come to class. Explain to him how to write how many students are in Mrs. Smith's class.
	<p>OTHER EVIDENCE: OE Exit Slips, Teacher Observation, Student Work Samples, Reflective Journals</p>

Stage 3 – Learning Plan

Summary of Key Learning Events and Instruction

Objective: Representing a quantity of objects with its corresponding numeral or picture up to 19.

1. Guess My Cup- Representing quantities in a bag or cup. Give students a quantity of objects. Students match a numeral card to the quantity.
2. Ten Frame Flash Cards: Throughout the unit during morning meeting, ten-frame flashcards. This is a fast paced activity and it is intended to only take a few minutes every day. Ten-frame cards use the anchors of 5 and 10. They help in moving the students away from counting by ones to seeing small groups (subitizing). Practice will be needed. Students will get better over time.
3. Match My Number: Representing quantities in a bag or cup. Give students a quantity of objects. Students match a numeral card to the quantity
4. Broken Numbers: Given a number, students will match the corresponding decomposed visual representation



5. Building Numbers: Build numbers 11-19 using 2 colors of Unifix cubes to delineate the tens and ones. Explicitly teach “not changing value”, (i.e., 14- build 14 ones or 1 ten 4 ones, the same value) (K-5 Math Teaching Resources)
6. Ten Frame Book: Students will build the numbers 11-19 on vertical double ten-frames. They will record in their Ten-Frame Book. (K-5 Math teaching resources.com)

Objectives: Compose and decompose numbers into different combinations of a ten and some ones without changing the value by using numerals, objects, drawings or equations. Articulate the meaning of the tens and ones place

Connection to Standard(s):

K.CC.5 – Count to answer “how many?” questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1-20, count out that many objects.

K.CC.6 – Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g. by using matching and counting strategies.

7. Under a Rock: Students will use counters (bugs), container (rock), and 11-19 number cards to compose and decompose that number with the correct amount of ones and a group of 10 “under the rock”, (container) Students record those numbers by representing them on the Under the Rock recording sheet.
8. Help Your Family Solve the Problem: Students will solve the problem using stickers (food pictures), vertical ten frames and 11-19 numbered shopping bags to compose and decompose that number with the correct amount of ones and a group of 10. Students record those numbers by representing them on the ten frames and the equation recording sheet.
9. CEPA- Kickball Team

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Lesson 1 - Guess My Cup

Brief Overview: In this lesson, students will learn to represent a quantity of objects (11-19) with its corresponding numeral. They will learn that numbers represent a quantity. As you plan, consider the variability of learners in your class and make adaptations as necessary.

Prior Knowledge Required:

K.CC.1- Count to 100 by ones

K.CC.3- Write Numbers from 0-20, Represent a number of objects with a written numeral 0-20

K.CC.4 – Understand the relationship between numbers and quantities; connect counting to cardinality

K.OA.1- Write numbers from 0 to 20. Represent a number of objects with a written numeral 0–20 (with 0 representing a count of no objects).

K.OA.3- Decompose numbers less than or equal to 10 into pairs in more than one way

Estimated Time: 40-60 minutes

Materials Needed:

- Numeral Cards
- Dixie cups
- Small object (counters)

To prepare for activity:

- Have cups with 11-19 counters ready for students. Students sitting at each table should each have a different number from 11-19.
- Have assorted the numeral cards from 11-19 on each of the student tables.



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Content Area/Course: Math: Grade K

Unit: Composing and Decomposing the Tweens and Teens

Time (minutes): 40-60 minutes

Lesson #: 1- Guess My Cup

By the end of this unit, students will be skilled at: Representing a quantity of objects (11-19) with its corresponding numeral

Students will know: Numbers represent a quantity

Essential Question addressed in this lesson:

How are numbers used?

Standard(s)/Unit Goal(s) to be addressed in this lesson:

K.NBT.1 Compose and decompose numbers from 11-19 into tens ones and some further ones, e.g. , by using objects or drawings, and record each composition or decomposition by a drawing or equation; understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones

SMP3. Construct viable arguments and critique the reasoning of others.

Anticipated Student Preconceptions/Misconceptions

That numbers are like letters and don't represent a quantity

Lesson Sequence

Launch

Introduce the unit: *Boys and girls, today we are going to start to work with numbers greater than ten, specifically numbers 11 to 19. You may want to ask: Who knows a teen number?* Elicit student responses. After a brief discussion, display a quantity of objects on the board (overhead, etc...). *Quietly (to yourself) count the number of objects you see. Write the number down* on your paper white board. Choose a student to come up and match a corresponding numeral card to the objects. Repeat the process several more times as needed for the children to understand what they need to do.

Explore

Introduce the lesson: *Today we are going lots of counting and matching. You will work with numbers of objects more than ten. You will also choose a numeral card that matches the number of objects in your cup. I will give you a cup with some counters in it. I want you to count the*



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counters in your cup. I will also give you some numeral cards. After you count your counters, I want you to find the numeral card that matches your number of objects. At your seats you have a cup of counters. Model the counting of objects in a cup and choosing the appropriate numeral card. Now it's your turn to count the number of objects in your cup and the numeral card that matches your number of objects. When you are finished, please hold up your numeral card so I know you are ready for me to check your work.

Circulate the room checking students' work, providing guidance as needed. When a student's work has been checked, provide a new cup of counters for the students. After most students have successfully completed the activity, model working with a partner and telling a partner how you know the chosen numeral card is correct. Tell students: *Now it's your turn to work with your partner and share how you know the numeral card you picked is the correct one. Check your partners work.* Look for evidence of students who construct viable arguments and students who critique the reasoning of their partner (SMP3 *Construct an argument and critique the reasoning of others*).

Guiding Questions

- How many counters do you have in your cup?
- Which numeral card matches the number of objects in your cup?
- How do you know?
- Why does this work? Could you represent in a different way?

Summary

While students are still at their tables (or at rug), gather their attention to summarize the lesson. Choose 3 or 4 students with varying levels of proficiency in the lesson to discuss their reasoning. Scaffold the discussion starting with a student with beginning knowledge of the lesson to allow all students access to the discussion. Continue the discussion with the remaining students ending with a student with a firm grasp of the lesson. During the discussion use a variety of "talk moves" such as turn and talk, say and repeat etc, to promote viable arguments and critiquing of reasoning (SMP 7). Inform students that tomorrow we will work on decomposing (breaking apart) numbers into two groups.

Exit Ticket

Teacher draws 16 objects on the board. Students write their number on a piece of paper along with their name. Teacher uses this information to determine the focus of the following day's lesson.

Formative assessment: exit ticket

Preview outcomes for the next lesson: Students will decompose numbers into two groups



Lesson 2: Ten-Frame Flashcards Routine

Brief Overview: The focus of this unit is for students to gain an understanding that the numbers 11-19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. They will know that ten ones are equal to one ten. Ten frame cards use the anchors of 5 and 10. They help in moving the student away from counting by ones to seeing small groups of numbers (subitizing). As you plan, consider the variability of learners in your class and make adaptations as necessary.

Prior Knowledge Required:

K.CC.3 - Write numbers from 0 to 20. Represent a number of objects with a written numeral 0–20 (with 0 representing a count of no objects).

K.CC.4 - Understand the relationship between numbers and quantities; connect counting to cardinality.

- a. When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.
- b. Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.
- c. Understand that each successive number name refers to a quantity that is one larger.

K.OA.1 - Represent addition and subtraction with objects, fingers, mental images, drawings⁶, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.

K.OA.3 - Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., $5 = 2 + 3$ and $5 = 4 + 1$).

Estimated Time: 5 – 10 minutes a day as a *Daily Routine* for the duration of the unit

Materials Needed:

- Set of double ten-frame flashcards (see appendix)
- White boards for students to record the number when the cards are flashed
- Exit ticket (see Appendix A1)

⁶ Drawings need not show details, but should show the mathematics in the problem. (This applies wherever drawings are mentioned in the standards.)



Content Area/Course: Math: Grade K

Unit: Composing and Decomposing the Tweens and Teens

Lesson #2 – Ten Frames Flashcards Routine

Time (minutes): 5 – 10 minutes, a *Daily Routine*, for the duration of the unit.

By the end of this unit, student will be skilled at: Seeing the numbers from 11-19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.

Students will know: Numbers represent a quantity; ten ones equal one ten.

Essential Question addressed in this lesson:

How can you represent any quantity using only the digits 0-9?

Standard(s)/Unit Goal(s) to be addressed in this lesson:

K.NBT.1 Compose and decompose numbers from 11-19 into tens ones and some further ones, e.g. , by using objects or drawings, and record each composition or decomposition by a drawing or equation; understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.

SMP8. Look for an express regularity in repeated reasoning.

Ten Frames Flashcards Routine Sequence

Note: This is a fast paced activity that uses double ten-frame flashcards and is intended to only take a few minutes every day. Have white boards ready for students to use as they sit on the rug during the routine.

Instructional Tips:

- Double ten-frame cards are held *VERTICALLY* when shown to the class. The purpose of holding the cards vertically is so the students can easily see how 10 ones becomes “one 10”.
- The purpose of flashing the ten frames for only 3 seconds is to prevent the students from counting the dots. You can show the cards for a second time for 3 seconds and have them revise their number if necessary.
- Practice will be needed. Students will get better over time with this activity.



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- It is important to be explicit with all students. They can be asked to restate the thinking used by others in the class. They should have many opportunities to talk about the math they are doing.

Connect today's lesson to yesterday's lesson: *Who remembers what we learned yesterday? Yesterday you counted objects in a cup and showed a numeral cards that represented the quantity of counters. Today you are going to work with numbers greater than ten again. We will work with some new flashcards- double ten-frames! I will show you a double ten-frame "flashcards" for three seconds. I will count to three.* The children will need to figure out the number of dots represented on the double ten-frames you are showing them and write the number down on their white board For example, hold a card representing "10" and "4" in the double ten-frames. Together they represent the number 14. Model the process with students before having the class begin.

Flash the card one more time for 3 seconds for students to check their thinking. The student can then revise the number they wrote on the white board if they want to.

Have the students turn and talk to their partner about how they knew the quantity of the double ten-frame flashed. Students will look for and express regularity in repeated reasoning through shortcuts.

Suggested Guiding Questions

- How many dots did you see?
- How did you figure out the number of dots? How many spaces are blank?
- What is one more than the number I flashed? How do you know?
- What is one less than the number I flashed?

Next, students share with the whole group how they decided what number was represented on the double ten-frame. The conversation focuses on the guiding questions.

Formative assessment: exit ticket - *see appendix A1*

Have 1 picture of a teen number represented by a double ten-frame, and have the student write the number that is being represented. i.e.16.

Preview outcomes for the next lesson:

We will continue to explore numbers using ten frames and practice writing equations that represent the numbers.



Lesson 3 Match My Number

Brief Overview: The focus of this lesson is for students to continue develop their understanding of number as quantity while working with numbers 11-19. Students match a picture representation to a numeral. As you plan, consider the variability of learners in your class and make adaptations as necessary.

Prior Knowledge Required:

K.CC.1- Count to 100 by ones

K.CC.3- Write Numbers from 0-20, Represent a number of objects with a written numeral 0-20

K.CC.4 – Understand the relationship between numbers and quantities; connect counting to cardinality

K.OA.1- Represent addition and subtraction with objects etc...

K.OA.3- Decompose numbers less than or equal to 10 into pairs in more than one way

Estimated Time: 40-60 minutes

Materials Needed:

- Teddy bear counters
- Dixie cups
- Visual Representation of Numbers 11-19 (See sample in Appendix B)
- Recording Sheet (See Appendix C)



Content Area/Course: Math- Grade K

Unit: Composing and Decomposing the Tweens and Teens

Time (minutes): 40-60

Lesson #: 3- Match my Number

By the end of this unit, student will be skilled at: Representing a quantity of objects (11-19) with its corresponding visual representation.

Students will know: Numbers represent a quantity

Essential Question addressed in this lesson: How can you represent any quantity using only the digits 0-9?

Guiding question: Why is it important to know that numbers have value?

Standard(s)/Unit Goal(s) to be addressed in this lesson:

K.NBT.1 Compose and decompose numbers from 11-19 into tens ones and some further ones, e.g. , by using objects or drawings, and record each composition or decomposition by a drawing or equation; understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.

SMP7. Look for and make use of structure.

Anticipated Student Preconceptions/Misconceptions

That numbers are like letters and don't represent a quantity

Preparation for the lesson:

- Have cups with 11-19 teddy bears ready for students. Students sitting at each table should each have a different number from 11-19.
- Cut out visual representations of each number for students. Ensure there is visual representation for all numbers 11-19 at each table.
- Students will need glue sticks and the recording sheet

Lesson Sequence

Launch



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Explicitly connect today's lesson to the previous lesson: *Who remembers what we learned yesterday?* After eliciting responses, reiterate what was learned: *Yesterday you worked with numbers more than ten again on double ten-frames. Remember I showed you double ten-frame "flashcards" for three seconds and you had to tell me what you saw? You had to tell me how many dots you saw.* Explicitly communicate the mathematical focus of today's lesson: *Well today we are still going to work with teen numbers, but now we are going to represent a number in different ways. What does the number represent mean?* Teacher introduces a number such as 7. Teacher illustrates multiple representations of the number 7 (i.e. ten frame, 1 group of 7 objects, 4 objects and 3 objects). Teacher says, "Which one of these pictures shows us the number 7?" Students have to articulate that each one of the pictures illustrates the quantity 7. Students must explain how they know each model represents 7. Teacher then models the same process with the number 14.

Explore

Now we are going to play another matching game. Today you will get a cup of teddy bear counters. You are going to count how many teddy bears are in the cup and write the number of teddy bears you have on the recording sheet. Next, you are going to find a picture that represents your number and glue your picture next to your number. Circulate checking students' work. When a student's work has been checked, provide the student with another cup of counters. When students have successfully completed assignment, have students turn to their neighbor and explain how they found the correct picture.

Guiding Questions

- How many bears are in your cup?
- Which picture represents your number?
- How do you know?
- Can you think of another way to represent your number?

Extend

After students write their number and find the matching picture, some students may be able to determine another way to represent their number. For those students, they can draw another way to represent their number on the recording sheet. This is an opportunity to develop the practice of looking for structure within the number, and making use of that structure to show another way to represent the number.

Summary

While students are still at their tables (or at rug), gather their attention to summarize the lesson. Choose 3 or 4 students with varying levels of proficiency in the lesson to discuss their reasoning. Scaffold discussion starting with a student with beginning knowledge of the lesson to



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allow all students access to the discussion. Continue discussion with the remaining students ending with a student with a firm grasp of the lesson. During the discussion use variety of “talk moves” such as turn and talk, say and repeat etc, to promote student articulation and thinking.

Formative Assessment: Exit Ticket

Illustrate a visual representation of a number between 11-19 on the board. Have students write their number on a piece of paper along with their name. Use this information to determine the focus of the following day’s lesson. *SMP7-Look for evidence and make use of structure by practicing the model.*



Lesson 4 Broken Number

Brief Overview: The focus of this lesson is for students represent a quantity of objects (11-19) with its corresponding decomposed visual representation. An emphasis will be placed on the concept that numbers, even when decomposed, represent quantity. As you plan, consider the variability of learners in your class and make adaptations as necessary.

Prior Knowledge Required:

K.CC.1- Count to 100 by ones

K.CC.3- Write Numbers from 0-20, Represent a number of objects with a written numeral 0-20

K.CC.4 – Understand the relationship between numbers and quantities; connect counting to cardinality

K.OA.1- Represent addition and subtraction with objects etc...

K.OA.3- Decompose numbers less than or equal to 10 into pairs in more than one way

Estimated Time: 40-60 minutes

Materials Needed:

- Counters
- Dixie cups
- Recording Sheet (See Appendix D)
- Crayons (optional)



Content Area/Course: Math: Grade K

Unit: Composing and Decomposing the Tweens and Teens

Time (minutes): 40-60 minutes

Lesson #4: - Broken Numbers

By the end of this unit, student will be skilled at: Representing a quantity of objects (11-19) with its corresponding decomposed visual representation.

Students will know: Numbers, even when decomposed, represent a quantity

Essential Question addressed in this lesson:

Why is it important to know that numbers have value?

Standard(s)/Unit Goal(s) to be addressed in this lesson (type each standard/goal exactly as written in the framework):

K.NBT.1 Compose and decompose numbers from 11-19 into tens ones and some further ones, e.g. , by using objects or drawings, and record each composition or decomposition by a drawing or equation; understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones

SMP7. Look for and make use of structure.

Anticipated Student Preconceptions/Misconceptions

That numbers are like letters and don't represent a quantity

Preparation for the lesson

- Have cups with 11-19 counters ready for students. Students sitting at each table should each have a different number from 11-19.
- Cut out visual representation of decomposed numbers for students. Ensure there is a decomposed representation for all numbers 11-19 at each table.
- Students will need a recording sheet



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Lesson Sequence

Launch

Explicitly connect yesterday's lesson to today's lesson as outlined in previous the previous lesson. Explicitly communicate the focus of this lesson. Introduce a number such as 9. Ask students how they can represent the number 9 in different ways (ie, 2 apples and 7 oranges, 4 shirts and 5 pants, 9 dots on a 10-frame). Students need to articulate that each one of the pictures illustrates the quantity 9. Students must explain how they know each model represents 9. Model the same process with the number 17. Have students suggest multiple ways to illustrate the quantity 17 (8 bees, 9 flowers, 17 stars, 1 completed 10-frame and 7 dots on a second 10- frame).

Notes: This lesson teaches students how to decompose larger numbers. This sets the stage for place value and decomposing numbers into 10s and 1s. Notice students who look for and make use of structure to help them decompose numbers.

Explore

Teacher says, "Now we are going to play another matching game. Today you will get a cup of teddy bear counters. You are going to count how many counters are in the cup and write the number of counters you have on the recording sheet. Next, you are going to draw 3 different pictures that represent your number. Draw your pictures on the recording sheet. *Teacher walks around checking student work. Teacher collects finished products.*

Guiding Questions

- How many bears are in your cup?
- How did you choose to represent your number? Is there another way to represent this number?
- How can you check your pictures to be sure they accurately represent your number?

Extend

After students write their number and draw their pictures, some students may be able to determine another way to represent their number. For those students, they can draw another way to represent their number on the recording sheet.

Summary

While students are still at their tables (or at rug), gather their attention to summarize the lesson. Choose 3 or 4 students with varying levels of proficiency in the lesson to discuss their reasoning. Scaffold discussion starting with a student with beginning knowledge of the lesson to allow all students access to the discussion. Continue discussion with the remaining students ending with a student with a firm grasp of the



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lesson. During the discussion use variety of “talk moves” such as turn and talk, say and repeat etc., to promote student articulation and thinking.

Formative Assessment: Exit Ticket

Teacher illustrates a visual representation of a decomposed number between 11-19 on the board. Students write their number on a piece of paper along with their name. Teacher uses this information to determine the focus of the following day’s lesson.



Lesson 5 - Building Numbers

Brief Overview: This lesson focuses on the composition and decomposition of numbers into different combinations of a ten and some ones without changing the value. Children will work to determine the position of digits in a number 11-19, and articulate the difference between the tens and one place. As you plan, consider the variability of learners in your class and make adaptations as necessary.

Prior Knowledge Required:

K.CC.1- Count to 100 by ones

K.CC.3- Write Numbers from 0-20, Represent a number of objects with a written numeral 0-20

K.CC.4 – Understand the relationship between numbers and quantities; connect counting to cardinality

K.OA.1- Represent addition and subtraction with objects etc...

K.OA.3- Decompose numbers less than or equal to 10 into pairs in more than one way

Estimated Time: 40-60 minutes

Resources for Lesson: Number Cards 1-9, 10 green Unifix cubes 10 yellow Unifix cubes





Content Area/Course: Math: Grade K

Unit: Composing and Decomposing the Tweens and Teens

Time (minutes): 40-60 minutes

Lesson #5: Building Numbers

By the end of this lesson students will know and be able to:

- Compose and decompose numbers into different combinations of a ten and some ones without changing the value by using numeral cards and Unifix cubes.
- Articulate the difference between the tens and ones place.
- How to determine the position of digits in a number 11-19.

What students need to know and are able to do coming into this lesson (including language needs):

K.CC.1- Count to (20) 100 by ones

K.CC.3- Write Numbers from 0-20, Represent a number of objects with a written numeral 0-20

K.CC.4 – Understand the relationship between numbers and quantities; connect counting to cardinality

K.OA.1- Represent addition and subtraction with objects etc...

K.OA.3- Decompose numbers less than or equal to 10 into pairs in more than one way

Essential Question addressed in this lesson:

How can ten be one thing and more than one thing at the same time?

Standard(s)/Unit Goal(s) to be addressed in this lesson:

K.NBT.1 Compose and decompose numbers from 11-19 into tens ones and some further ones, e.g. , by using objects or drawings, and record each composition or decomposition by a drawing or equation; understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones

SMP8. Look for and express regularity in repeated reasoning.

Instructional Resources/Tools

List of math partners (differentiated according to skill level)

Pre-assessment (see Appendix E)

Unifix cubes

Double ten-frame cards, Numeral cards 11-19

Anticipated Student Preconceptions/Misconception

Student may need to count out all 11-19 numbers instead of counting on.

Student may think that 11 is the same as 7 in place value.

Student does not understand that the one in the tens place represents 10 and is different from the 1 in the ones place which represents 1.

Instructional Tips/Strategies/Suggestions

During the explore part of the lesson, be sure to scaffold for those students who are not demonstrating an understanding of the decomposing of a teen number using a tower of ten and “some more”.

Watch how students make and create the numbers with the Unifix cubes.

- Are they able to count on from 10? Do they need to count starting at 1?
- Engage in a conversation with them asking them:
 - What is one way to show a number such as 14?
 - How do you know how many tens and ones?
 - Do you know how many if you only had ones?

Pre-Assessment



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Numeral identification of 11-19. Each student receives a recording sheet. Teacher calls out a number between 11 and 19 and the students must record it on the sheet. (See appendix)

Lesson Sequence

Explicitly connect yesterday's lesson to today's lesson as outlined in previous the previous lesson. Explicitly communicate the mathematical focus of this lesson.

Launch: *Students, today we are going to build 2 towers of Unifix cubes using numeral cards and Unifix cubes. I want you to think about how you could build the number 17 using 2 towers always starting with 10 and adding on. Turn and talk to your partner about how you could build this.*

While the students are discussing, listen to the conversations and ask key students to share their thoughts. A sample response to listen for: *If I turn over the numeral card 17 I would start with a tower of 10 green cubes and then build a tower of 7 yellow cubes. The tower of ten would be on the left and the tower of 7 would be on the right to represent tens and ones.*

Discuss their responses then show them before they go back to their seats.

Explore: Send students back with their partner and two colors of Unifix cubes and a stack of numeral cards that include the numbers 11-19. Each student will work with their partner. One will choose a number card, the other student will then build the number. This is an opportunity to look for evidence of students who recognize regularity in the concept of "ten and some more (SMP 8- *Look for and express regularity in repeated reasoning*)."

Students should use what they know to solve new problems.

Scaffold those that are having trouble taking turns flipping card over. Have towers of ten made up for these children.

Ask on-level and advanced students to start with a different color to make the number 17 to see if they can make a ten tower with 7 ones in another tower.

Summary: Choose one set of partners from each table to model what they did and explain their reasoning.



Review that if you turn a card over i.e., 14 and you want to decompose the number into ten ones and more you must make a tower of ten cubes and stand on the left side and make a tower of 4 cubes and stand on the right side. You could even lay the towers on the table with the 14 card underneath.

Lesson 6 - Ten-Frame Booklets

Brief Overview: The focus of this lesson is for students create a ten-frame booklet that represents all of the numbers from 11-19 on double ten-frames to demonstrate how the numbers are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. They will complete an equation expressing the number of tens and ones represented. As you plan, consider the variability of learners in your class and make adaptations as necessary.

Prior Knowledge Required:

K.CC.3 - Write numbers from 0 to 20. Represent a number of objects with a written numeral 0–20 (with 0 representing a count of no objects).

K.CC.4 - Understand the relationship between numbers and quantities; connect counting to cardinality.

- When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.
- Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.
- Understand that each successive number name refers to a quantity that is one larger.

K.OA.1 - Represent addition and subtraction with objects, fingers, mental images, drawings², sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.

K.OA.3 - Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., $5 = 2 + 3$ and $5 = 4 + 1$).

⁶ Drawings need not show details, but should show the mathematics in the problem. (This applies wherever drawings are mentioned in the standards.)



Estimated Time: 40-60 minutes

Materials Needed:

- Numeral Cards, 11 – 19 (see Appendix F)
- Crayons or stamps
- *Teens on the Ten Frame* booklet (see Appendix G)



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Content Area/Course: Math: Grade K

Unit: Composing and Decomposing the Tweens and Teens

Time minutes): 40-60 minutes

Lesson 6 – Ten-Frame Booklets

By the end of this unit, student will be skilled at:

See the numbers from 11-19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.
Know that ten ones are equal to one ten.

Students will know: Numbers represent a quantity.

Essential Question addressed in this lesson:

How can you represent any quantity using only the digits 0-9?

Standard(s)/Unit Goal(s) to be addressed in this lesson (type each standard/goal exactly as written in the framework):

K.NBT.1 Compose and decompose numbers from 11-19 into tens ones and some further ones, e.g. , by using objects or drawings, and record each composition or decomposition by a drawing or equation; understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones

SMP8. Look for and express regularity in repeated reasoning.

Anticipated Student Preconceptions/Misconceptions

Children may try to count the dots to understand the quantity.

Lesson preparation

- Have a set of numeral cards for every pair of students.
- Copy the cover of *Teens on the Ten-Frame* and Duplicate the template for each number to be represented in the book representing each number 11 – 19.

Teacher notes



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- Ten-frame cards use the anchors of 5 and 10. They help in moving the student away from counting by ones to recognizing a group (subitizing).
- Double ten-frame cards, one representing the number 10 and another card (representing a number 1-9) are held *VERTICALLY* side by side. The purpose of holding the cards vertically is so the students can easily see how 10 ones becomes “one 10” and it mirrors how the teen numbers are written.
- It is important to be explicit with all learners. They can be asked to restate the thinking used by others in the class. They should have many opportunities to talk about the math they are doing.

Lesson Sequence

Launch

Explicitly connect yesterday’s lesson to today’s lesson by asking what the children remember, and reiterating what was learned. Communicate the mathematical focus of today’s lesson to the children. Start the lesson with the ten-frame flashcard routine. *You will all have an opportunity to create your own ten-frame booklet.* Model how to create a page by choosing a numeral card and using a stamp to represent that number.

Explore

Have students work as partners in lining up the numeral cards in order from 11-19. Each student should complete their own “Teens on the Ten-Frame” booklet.

Each student uses crayons or stamps to represent each number from 11 – 19 in double ten-frames in the “Teens on the Ten Frame” booklet.

Suggested Guiding Questions for teachers to ask the students as you check in on students working during the lesson:

- What number is on card?
- How did you figure out how many dots belong on each ten-frame?
- Point to the completed double ten-frame. Ask “How many?” “How many more than 10?” As students become familiar with the ‘teen’ patterns introduce further questions to develop number relationships.

Take note of students who notice and make use of regularity of groups of numbers such as 5 and 10. These students are developing an understanding of ten and some more.

Summary



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Students gather on rug and share with the whole group how they decided to represent the numbers on the double ten-frames. The conversation focuses on the guiding questions.

Ask, “I heard Caroline say the best way she figured out how to represent a number from the card in the ten frames was to first fill up squares in the first ten frame. Do you agree or disagree? Why? What would you do next?”

During the discussion use variety of “talk moves” such as turn and talk, say and repeat etc, to promote student articulation and thinking.

Exit Ticket

Practice page (see Appendix G1)



Lesson 7 Under the Rock

Brief Overview: Students will use counters (bugs), container (rock), and 11-19 number cards to compose and decompose that number with the correct amount of ones and a group of 10 “under the rock”, (container) Students record those numbers by representing them on a recording sheet. As you plan, consider the variability of learners in your class and make adaptations as necessary.

Prior Knowledge Required:

K.CC.1- Count to 100 by ones

K.CC.3- Write Numbers from 0-20, Represent a number of objects with a written numeral 0-20

K.CC.4 – Understand the relationship between numbers and quantities; connect counting to cardinality

K.OA.1- Represent addition and subtraction with objects etc...

K.OA.3- Decompose numbers less than or equal to 10 into pairs in more than one way

Estimated Time: 40-60 minutes

Materials Needed:

- Set of number cards 11-19
- Sets of counters (bugs) 1-19
- Container or non transparent cup (rock)
- Pre-made Under the Rock recording sheets with double vertical ten frame (see Appendix H)



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Content Area/Course: Math: Grade K

Unit: Composing and Decomposing the Tweens and Teens

Time (minutes): 40-60 minutes

Lesson # 7: Under the Rock

By the end of this unit, student will be skilled at: Representing a quantity of objects with its corresponding composed numeral or picture 11 - 19, and its corresponding decomposed visual representation.

Students will know: Numbers represent a quantity. The numbers from 11-19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.

Essential Question addressed in this lesson:

How are numbers used?

How can you represent any quantity using only the digits 0-9?

Standard(s)/Unit Goal(s) to be addressed in this lesson (type each standard/goal exactly as written in the framework):

K.NBT.1 Compose and decompose numbers from 11-19 into tens ones and some further ones, e.g. , by using objects or drawings, and record each composition or decomposition by a drawing or equation; understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones

SMP7. Look for and make use of structure.

Anticipated Student Preconceptions/Misconceptions

- That numbers are like letters and don't represent a quantity.
- Students may not transfer the concept that ten is a single entity as well as ten separate units.
- Students may find it hard to understand that a group of ten should be written as 1 in the tens p

Lesson Sequence:

Launch

Today we are going to continue working on our teen numbers, and how we put numbers together and take them apart (SMP 7 Look for and



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make use of structure). Remember yesterday we worked on *Match my Number*. We have a new activity called, *Under the Rock*. You are going to work with your partner and play a game with this rock and these bugs, (*show container and counters*). In this activity, the child chooses the number card and counts out the counters of that whole composed number. Next the student counts the group of 10 bugs that can't hide under the rock. The teacher or partner puts the rest under the rock. The student has to determine how many bugs are under the rock. Students will work with a partner. Each pair of students needs counters, (bugs) and a plastic cup (rock) (can't be transparent.) Student will choose or is given a target teen number. They count out that many counters (bugs) and the number is recorded as the whole. Both students count out a group of 10 bugs that can't hide under the rock and place them on the recording sheet. Player 1 covers his/her eyes, while player 2 puts the leftovers under the rock. Player 1 opens his/her eyes and tries to determine how many counters (bugs) are under the rock. The cup is lifted to check Player 1's answer and the two parts are recorded on the Under the Rock recording sheet as an equation and on the vertical ten frames. The partners repeat the process with another targeted teen number.

Explore:

Model the rock and bugs at table in front of the whole group. Call on a student to join you to help model the activity. Show a targeted teen number. Have the student count out that many counters, and record the whole # on recording sheet. Tell students: *All of these bugs want to hide under the rock, but 10 of the bugs have to wait their turn outside*. Count out a group of ten and put them on recording sheet outside of the rock. Ask student to close his/her eyes and as you put the leftovers under the rock. Ask student to open his/her eyes and see if she/he can determine how many bugs are under the rock. Lift the cup and check to see if the answer is correct. Model how to record it on the under the rock sheet. Switch roles and repeat the process. This is an opportunity to check for evidence of students who look for and make use of structure (SMP7). Students discover and use shortcuts. Teacher walks around room listening for academic talk and asking the following guided questions:

Guided Questions:

- Do we have enough to make a group of ten that have to wait outside the rock?
- Do we have some left over?
- How did you determine how many bugs were under the rock even with your eyes shut?
- Do we have enough to make another 10?
 - How can you check your answer?

Instructional Tips:

- Students will use algebraic thinking to determine the missing number that is under the rock.
- Student may have difficulty determining the ones (bugs) under the rock.
- Students may have to continue to lift the rock to count the ones under the rock.



- Have student continue to practice the procedure.
- Continue to model the procedure, if student continues to have difficulty.

Summary:

While students are still at their tables (or at rug), gather their attention to summarize the lesson. Choose 3 or 4 students with varying levels of understanding in the lesson to discuss their reasoning, and to move the class forward. Scaffold discussion starting with a student with beginning knowledge of the lesson to allow all students access to the discussion. Continue discussion with the remaining students ending with a student with a firm grasp of the lesson. During the discussion use variety of “talk moves” such as turn and talk, what worked and what didn’t work, etc, to promote student articulation and thinking. Check all students for academic talk between partners. Check for understanding of math vocabulary such as, whole number, tens and leftovers...

Exit Ticket

Have students share their models with the class and explain their findings.

As students share, focus the discussion on the idea of tens and the algebraic thinking of the leftovers.

Formative assessment:

The teacher will observe as students work, asking the same type questions asked during the whole group part of the lesson. The teacher will observe students and assess students about their correct modeling of numbers on the recording sheet and the algebraic thinking to determine the missing part.

Preview outcomes for the next lesson:

Students will problem solve with composing and decomposing numbers with an unknown equation.

Summative Assessment :

You can give students another number to model and collect their work as a type of summative assessment



Lesson 8 - Help your Family Solve the Problem

Brief Overview: The focus of this lesson is representing a quantity of objects with its corresponding numeral or picture up to 19. A continued emphasis will be placed on the concept that numbers represent quantities. Children will deepen their understanding of numbers from 11-19 as composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. As you plan, consider the variability of learners in your class and make adaptations as necessary.

Prior Knowledge Required:

K.CC.1- Count to 100 by ones

K.CC.3- Write Numbers from 0-20, Represent a number of objects with a written numeral 0-20

K.CC.4 – Understand the relationship between numbers and quantities; connect counting to cardinality

K.OA.1- Represent addition and subtraction with objects etc...

K.OA.3- Decompose numbers less than or equal to 10 into pairs in more than one way

Estimated Time: 40-60 minutes

Materials Needed:

- Pictures of food stickers, (or counters)
- shopping bags numbered 11-19,
- double vertical ten frames with pre-made equation recording sheet (see Appendix I)



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Content Area/Course: Math: Grade K

Unit: Composing and Decomposing the Tweens and Teens

Time (minutes): 40-60 minutes

Lesson 8: Help Your Family Solve the Problem

By the end of this unit, student will be skilled at: Representing a quantity of objects with its corresponding numeral or picture up to 19.

Students will know: Numbers represent a quantity. The numbers from 11-19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.

Essential Question addressed in this lesson:

How are numbers used?

How can you represent any quantity using only the digits 0-9?

Standard(s)/Unit Goal(s) to be addressed in this lesson:

K.NBT.1 Compose and decompose numbers from 11-19 into tens ones and some further ones, e.g. , by using objects or drawings, and record each composition or decomposition by a drawing or equation; understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones

SMP3. Construct viable arguments and critique the reasoning of others.

Anticipated Student Preconceptions/Misconceptions

- That numbers are like letters and don't represent a quantity.
- Students may not transfer the concept that ten is a single entity as well as ten separate units.
- Students may find it hard to understand that a group of ten should be written as 1 in the tens place.



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Lesson Sequence:

Connect today's lesson to the previous lesson as done in other lessons.

Launch

Today we are going to continue to work on our teen numbers, and how we put that number together (compose) and take it apart (decompose). Remember yesterday we played Under the Rock. We have a new activity called, "Help Your Family Solve the Problem." Teacher shows the shopping bags and the food pictures. Each bag is labeled with the numbers 11-19. Hold up the number 16 bag, Teacher says: This shopping bag can hold 16 items. There are 10 items in the bag now, how many more can fit in? Students need to explain how many more should be put in the bag. Teacher then models the process with this number and continues with another number and shows how to write it on the vertical ten frame recording sheet and pre-made equation sheet.

i.e. There are 10 items in the bag now, How many more can fit in?

$$16 = 10 + \underline{\quad}$$

more items can fit in the shopping bag

Explore:

Continue to model the different numbered bags with the stickers at table in front of the whole group. Call on a student to join you to help model the activity. Show the targeted teen number on the bag. Remind students that there are already 10 in the bag and that she/he has to help the family count out the rest of the stickers to make the target number. Have the student count out the amount of stickers needed to add to the 10 that are already in the bag to make the targeted teen number. Model how to record the ten and ones on the vertical ten frame recording sheet and the equation recording sheet. Call on a few students and repeat the process. Ask students to explain how they know the quantity needed to complete the targeted teen number. This is an opportunity for students to develop the practice of constructing arguments and critiquing the reasoning of others. Teacher walks around the classroom, listens for academic talk and asks the following guided questions:

Guided Questions:

- How did you determine how many more stickers should go in the bag?



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- How did you know what numbers to put on the recording sheet?
- How can you check your answer?
- How can you explain your thinking?

Instructional Tips:

- Some children may need to take the 10 out of the bag and recount to get the total.
- Check all students understanding of vocabulary used, such as ten and leftovers.
- Check all students for academic talk between partners.

Summary:

While students are still at their tables (or at rug), gather their attention to summarize the lesson. Choose 3 or 4 students with varying levels of understanding in the lesson to discuss their reasoning, and to move the class forward. Scaffold discussion starting with a student with beginning knowledge of the lesson to allow all students access to the discussion. Continue discussion with the remaining students ending with a student with a firm grasp of the lesson. During the discussion use variety of “talk moves” such as turn and talk, what worked and what didn’t work, etc, to promote student articulation and thinking. Check all students for academic talk between partners. Check for understanding of math vocabulary.

Exit Ticket:

As students share, focus the discussion on the idea of tens and the algebraic thinking of the leftovers. Teacher illustrates a visual representation of a decomposed number between 11-19 on the board. Students write their number on a piece of paper along with their name. Teacher uses this information to determine the focus of the following day’s lesson.

Formative assessment:

Observe students as they work, asking the same type of questions asked during the whole group part of the lesson. Observe students and assess students about their correct modeling of numbers on the recording sheet and the algebraic thinking to determine the missing part.

Preview outcomes for the next lesson:

Students will problem solve with composing and decomposing numbers with an unknown equation.

Summative Assessment: You can give students another number to model and collect their work as a type of summative assessment.



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Curriculum Embedded Performance Assessments (CEPA)

for Composing and Decomposing the Tweens and Teens:

Grade Level: Kindergarten
Content Area: Math

K.NBT.1- Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (e.g., $18 = 10 + 8$); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones

SMP3 Construct viable arguments and critique the reasoning of others

SMP7. Look for and make use of structure.

SMP8. Look for an express regularity in repeated reasoning

SLK.5. Add drawings or other visual displays to descriptions when appropriate to clarify ideas and feelings clearly.

SLK.6. Speak audibly and express thoughts, feelings, and ideas clearly

Students will be able to independently use their learning to...

Apply mathematical knowledge to analyze and model mathematical relationships in the context of a situation in order to make decisions, draw conclusions, and solve problems.



CEPA Teacher Instructions:

Set-up: This CEPA is to be administered at the teacher table in a 1 on 1 setting.

Time: Please allow 10 minutes per student to complete the CEPA.

Materials: teddy bear counters, recording sheet

Performance Assessment Task 1: Kickball Team

Mrs. Smith needs 10 students for her kickball team. She has ____ (provide teddy bear counters in a quantity from 11-19) students in her class.

Guiding Interview Questions:

1. Does she have enough students to play? How do you know? Show using counters, pictures etc...
2. Does she have too many? How many extra players does she have? How do you know? Show using counters, pictures etc...
3. How many students are in Mrs. Smith's class altogether? Write an equation showing the number of students in Mrs. Smith's class (10 students + 3 extra students = 13 students)
4. *Optional* – Pretend a new student has come to class. Explain to him how to write how many students are in Mrs. Smith's class.



CEPA Rubric:

Advanced	Proficient	Developing	Beginning
<ul style="list-style-type: none"> • Students accurately place counters in groups of 10 and express the extras as ones • Students accurately articulate they have enough players for one team, can articulate the extra counters as players and can articulate how many more counters they would need to create a new team • Students can accurately determine the total # of students in Mrs. Smith’s class by counting on. • Students can represent the addition number sentence without support of a template 	<ul style="list-style-type: none"> • Students accurately place counters in a group of 10 with some extras • Students accurately articulate they have enough players for one team and in addition can articulate the extra counters are additional players • Students can accurately determine the total # of students in Mrs. Smith’s class by counting on. • Students can complete the provided template to accurately represent the addition number sentence. 	<ul style="list-style-type: none"> • Students attempt to group but do not group successfully into groups of 10’s and 1’s • Students can articulate they have enough players but cannot articulate what the extra counters represent. • Students can accurately determine # of students in Mrs. Smith’s class but count by ones • Students can partially complete the provided template to accurately represent the addition number sentence. 	<ul style="list-style-type: none"> • Students are unable to decompose the numbers in the group • Students are unable to determine if they have enough players for the team • Students are unable to determine the number of students in Mrs. Smith’s class • Students are unable to complete the number sentence template



Kindergarten CEPA Recording Sheet
“Kickball Team”

Teacher: “Mrs. Smith needs 10 students for her kickball team. She has ‘this many’ (place 16, or a number from 11-19, teddy bear counters on the desk) students in her class.”

1. Does she have enough students to play? How do you know? Show using counters, pictures etc...

Student may draw *here* or show with counters.

2. Does she have too many? How many extra players does she have? How do you know? Show using counters, pictures etc...

Student may draw *here* or show with counters.

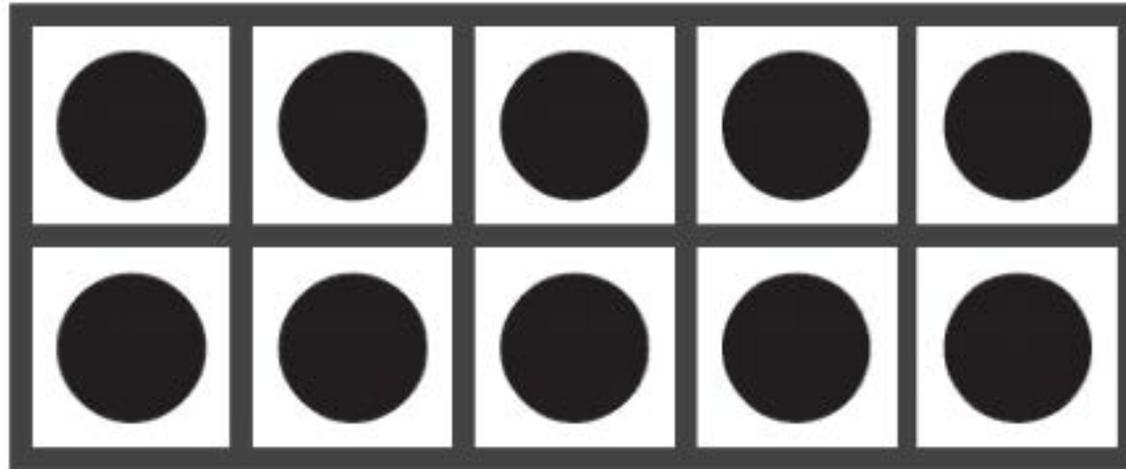
3. How many students are in Mrs. Smith’s class altogether? Write an equation showing the number of students in Mrs. Smith’s class (10 students + 3 extra students = 13 students)



$$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

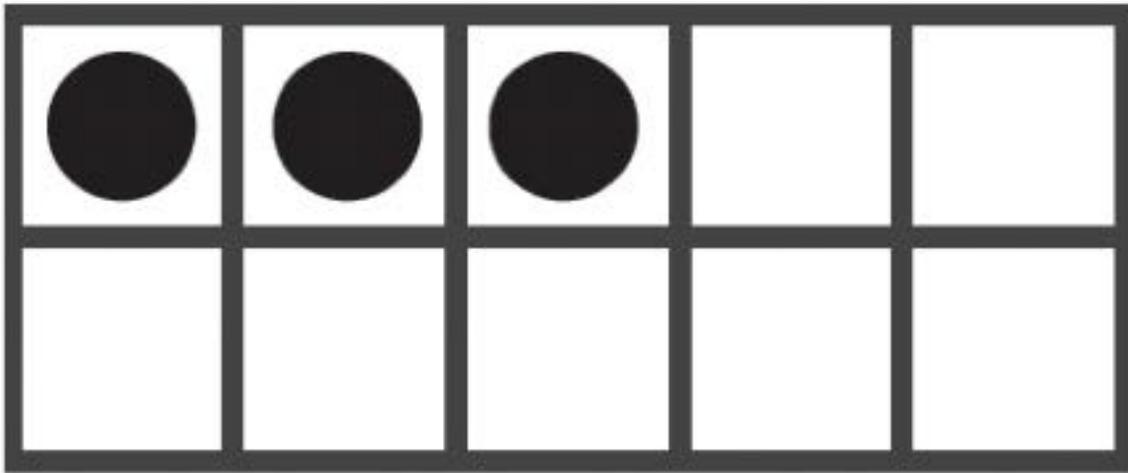
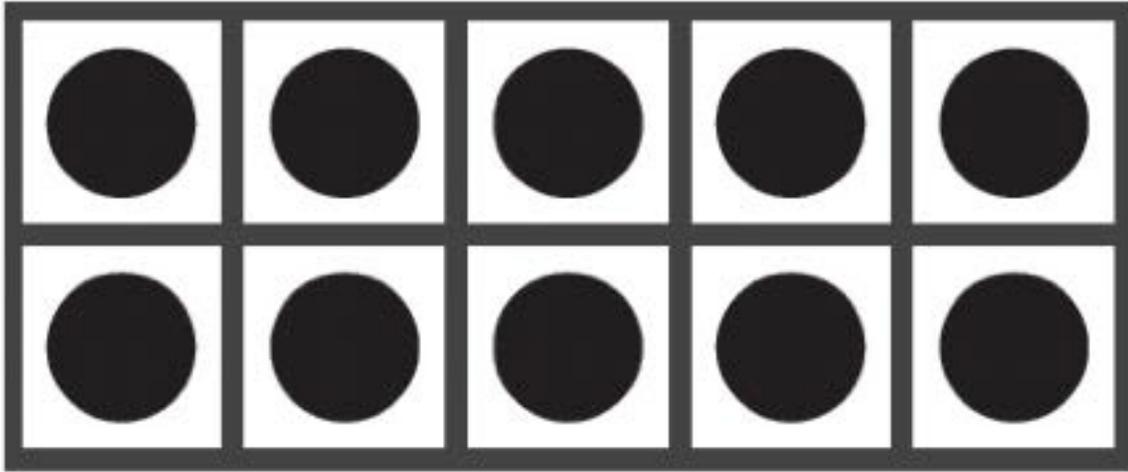


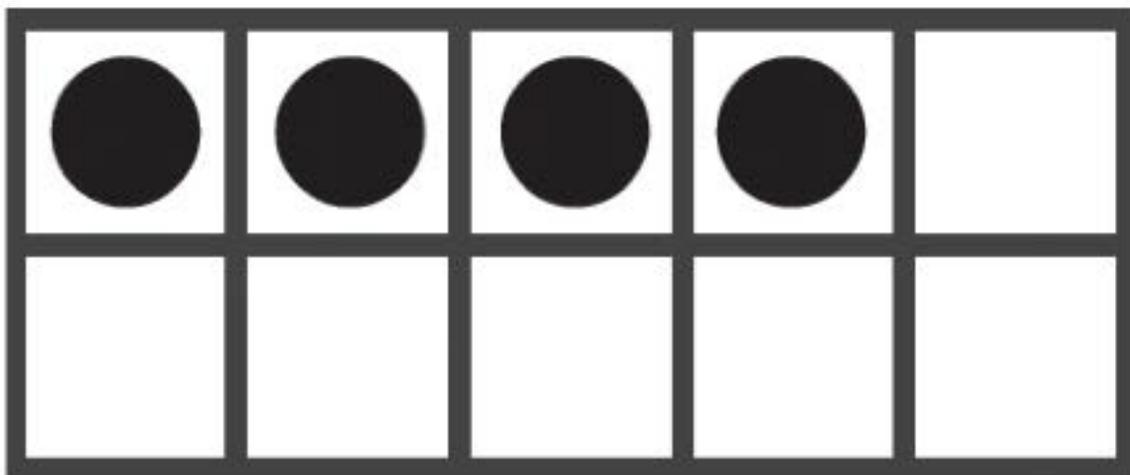
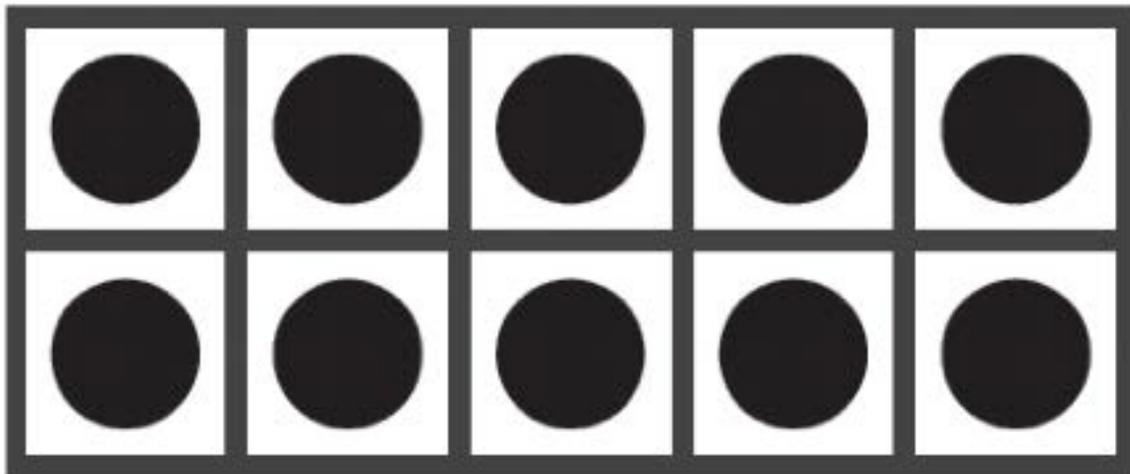
Appendix A- Double Ten Frames

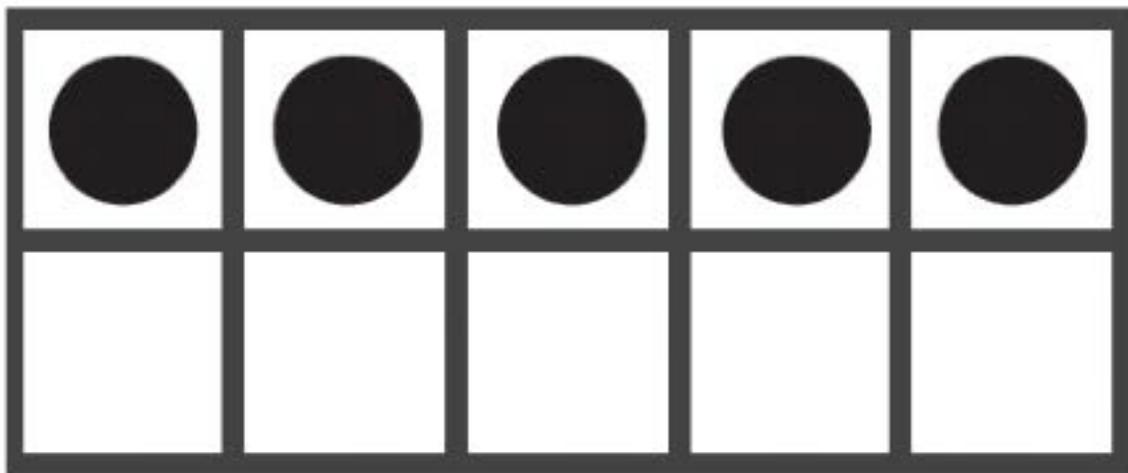
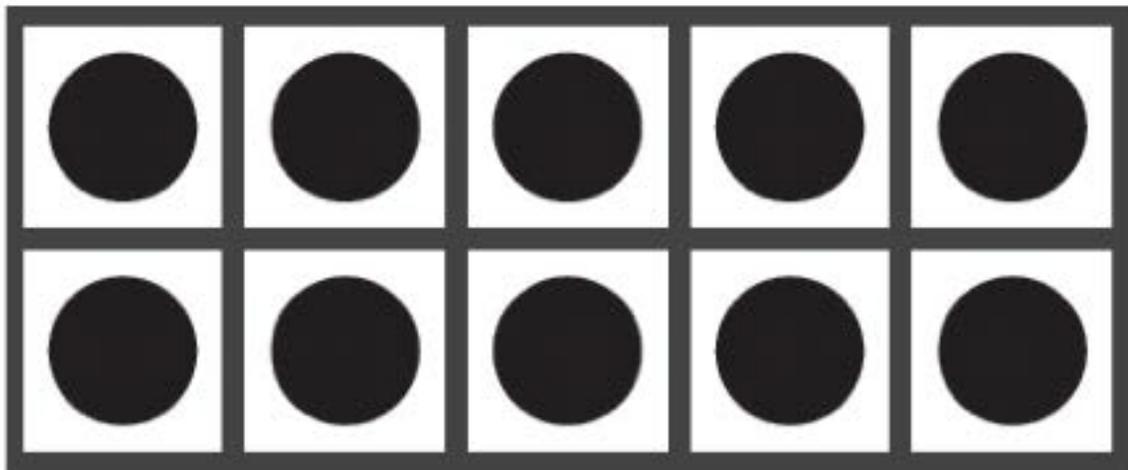


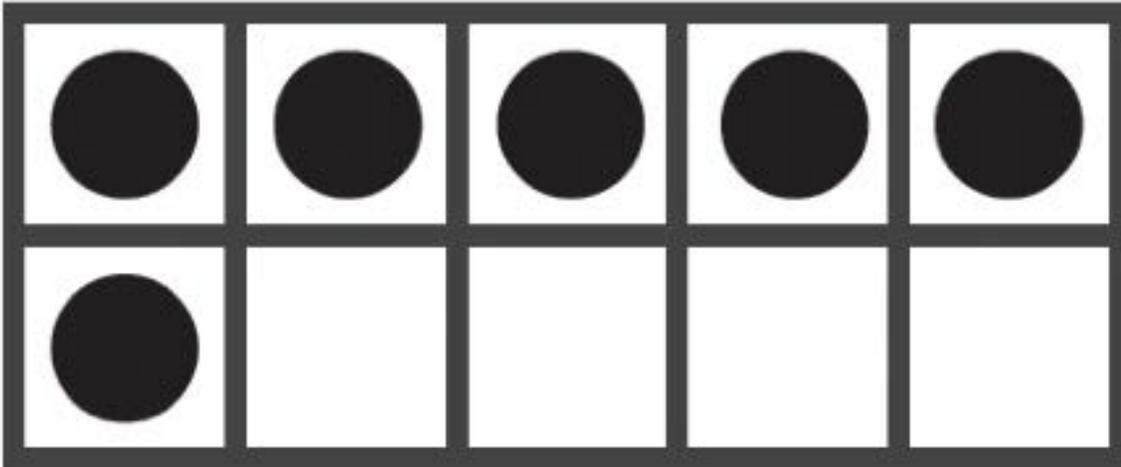
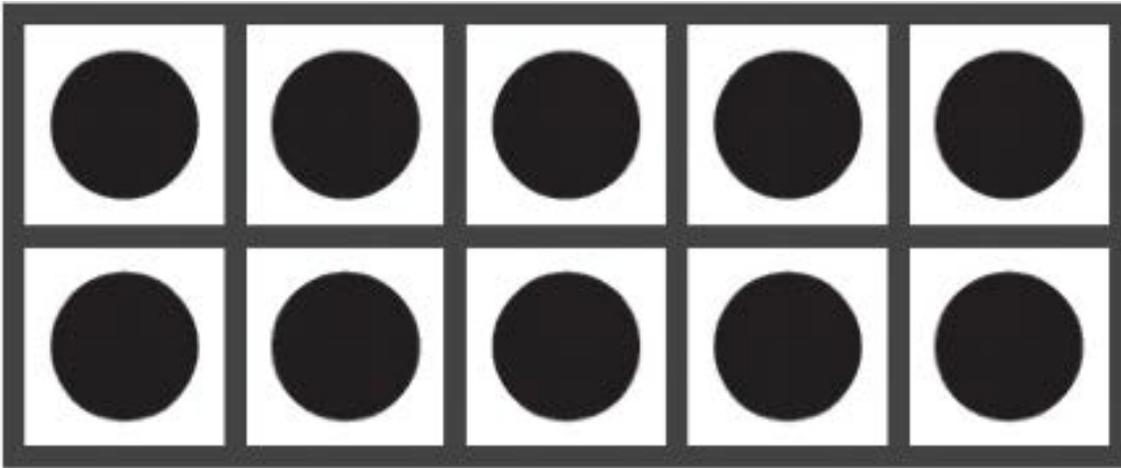


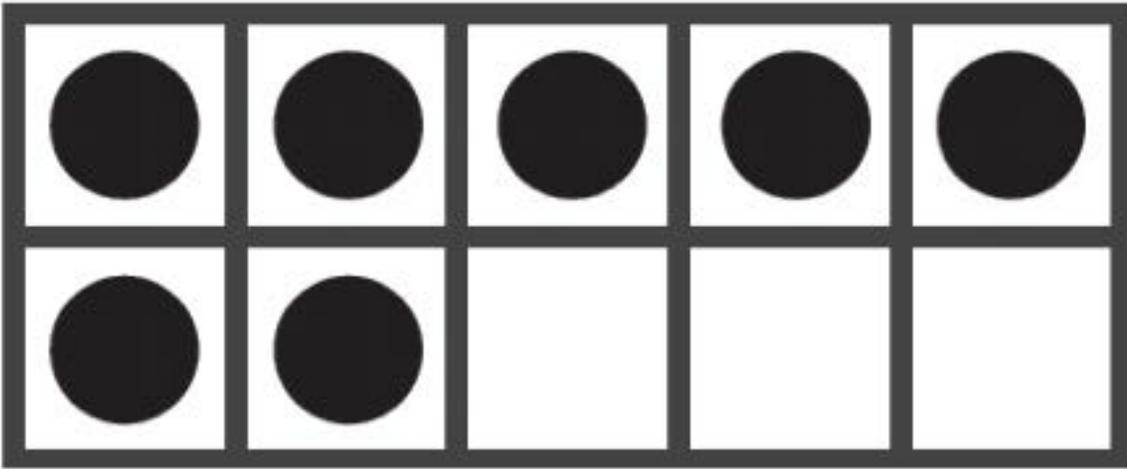
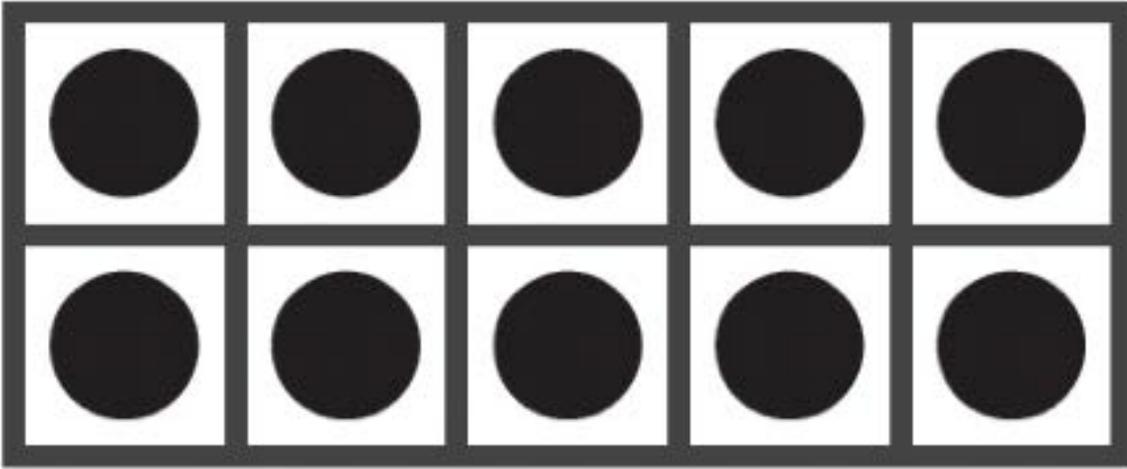
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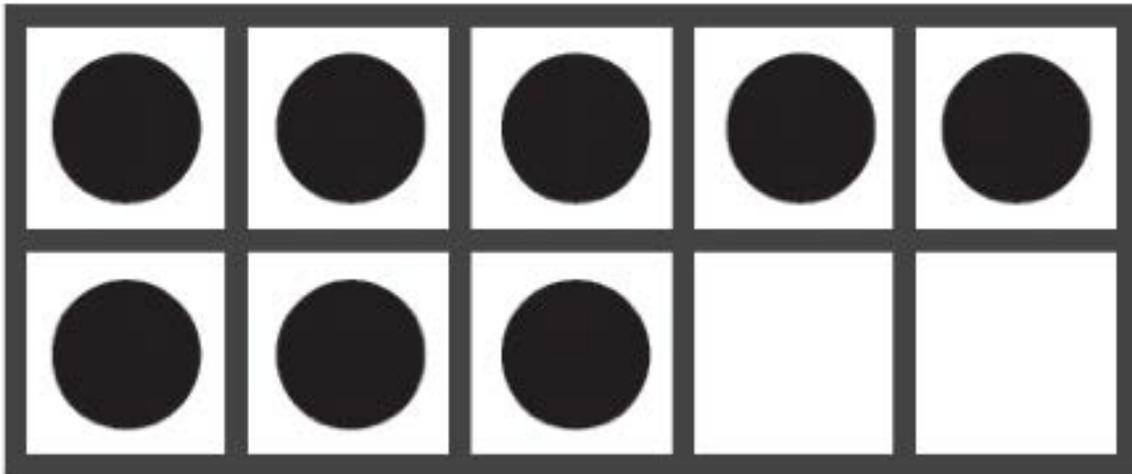
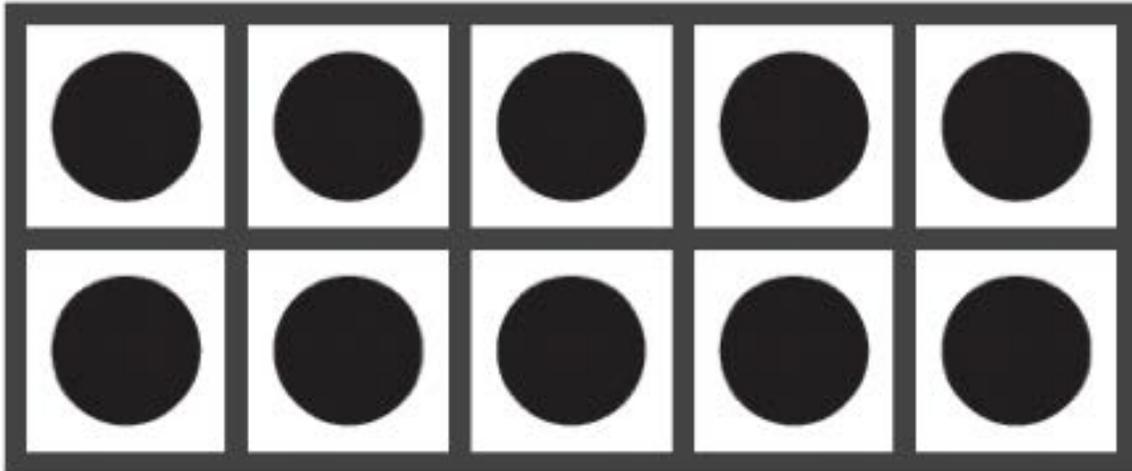


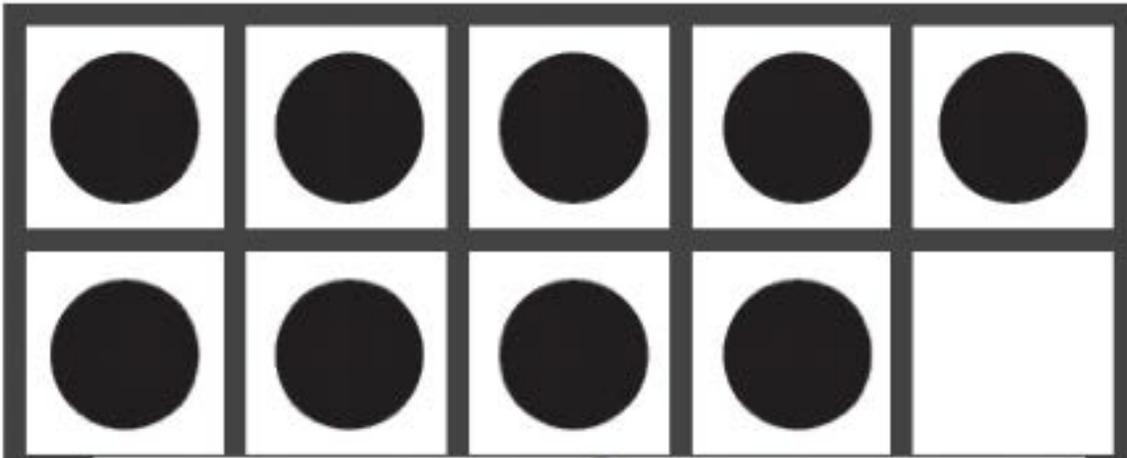
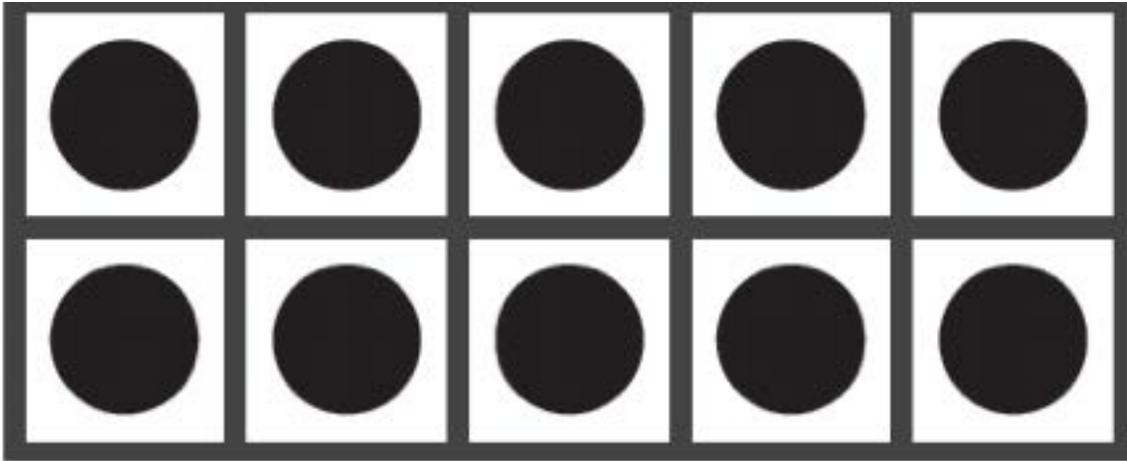




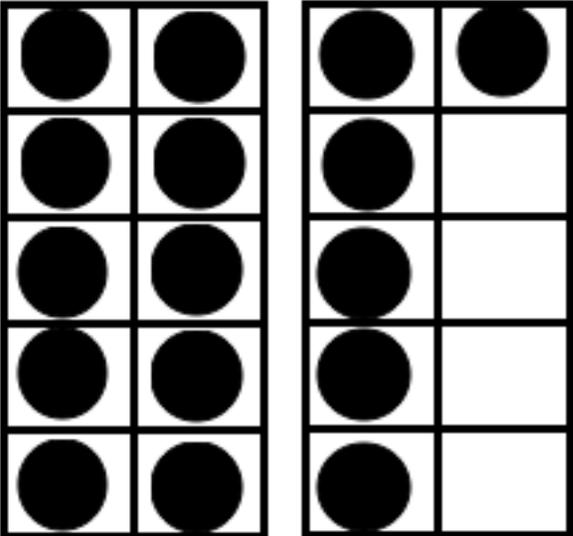








Appendix A1- Lesson 2 Exit Ticket

Number	Picture
	

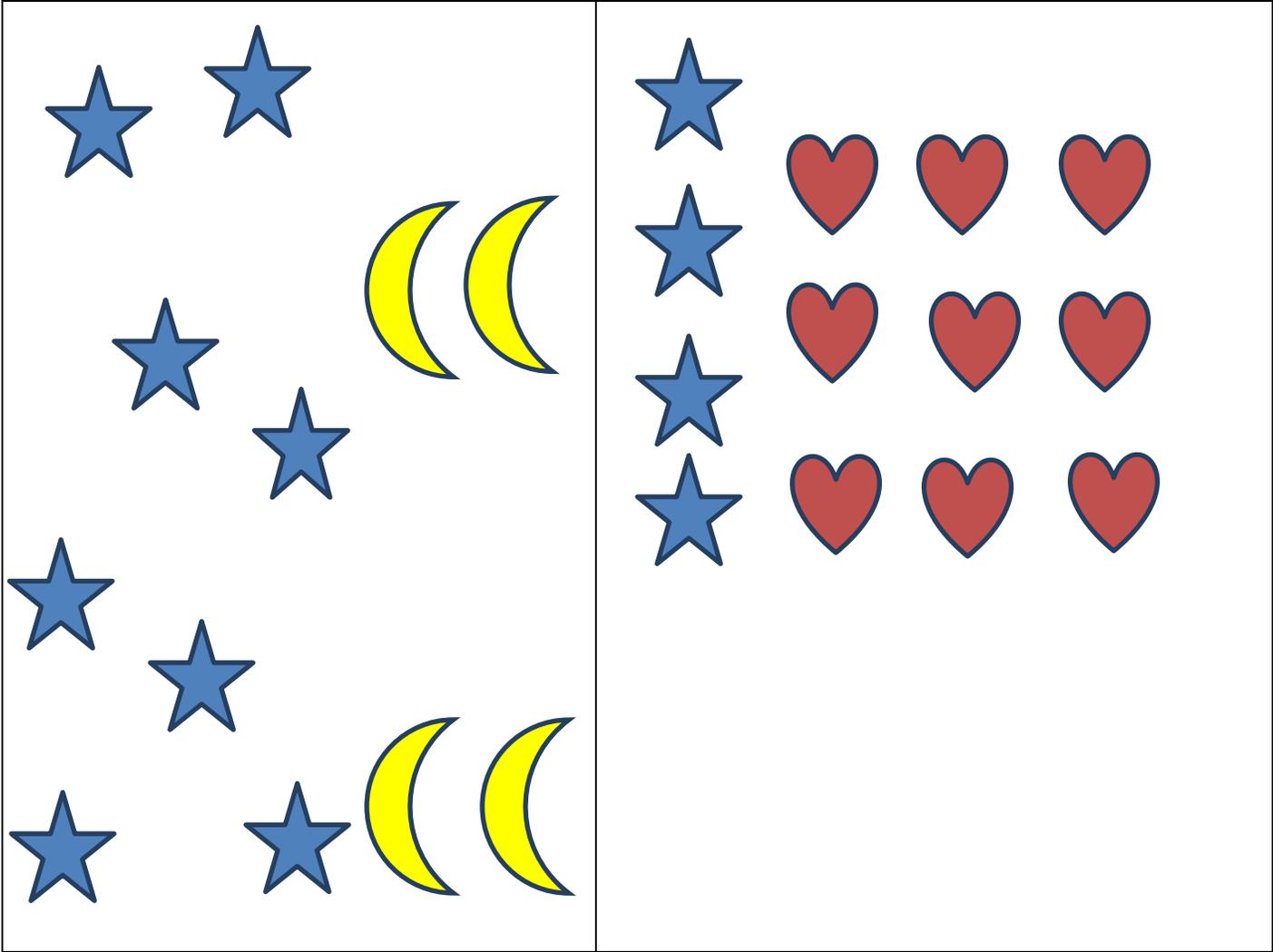


13



Appendix B

Name: _____

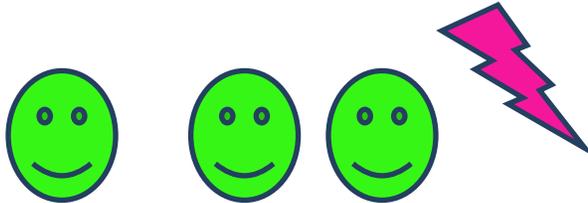


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Appendix C

Name: _____

My Number

My Picture

--	--



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Appendix D

Name: _____

My Number:	
Picture #1	Picture #2



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Picture #3	Picture #4 (extension)



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Appendix E
Lesson 5- Numeral Form

Number Formation Pre-Assessment

Name _____

Teacher will read out random numbers between 11-19 student will record.





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Appendix F

Numeral Cards

11	12	13
14	15	16
17	18	19



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Appendix G

Teens on the Ten Frame

By:



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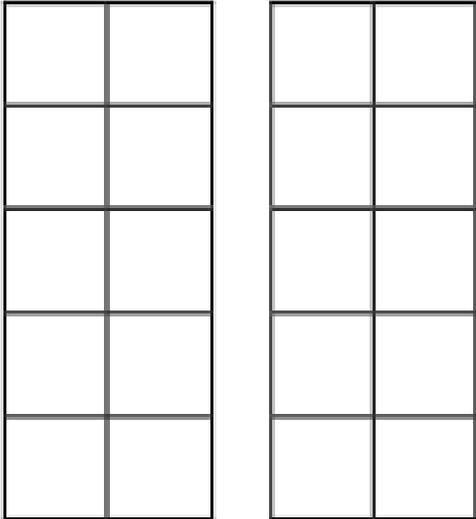
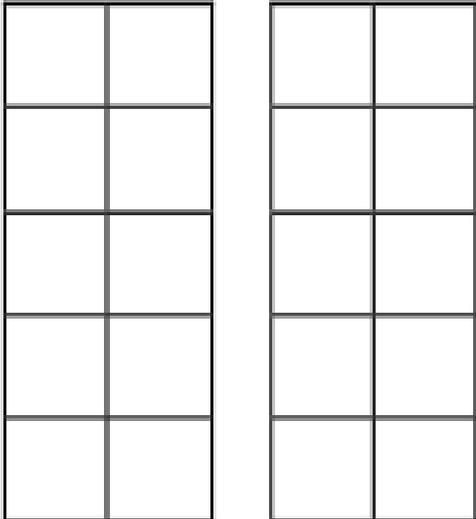
_____ is one set of ten

and _____ more.

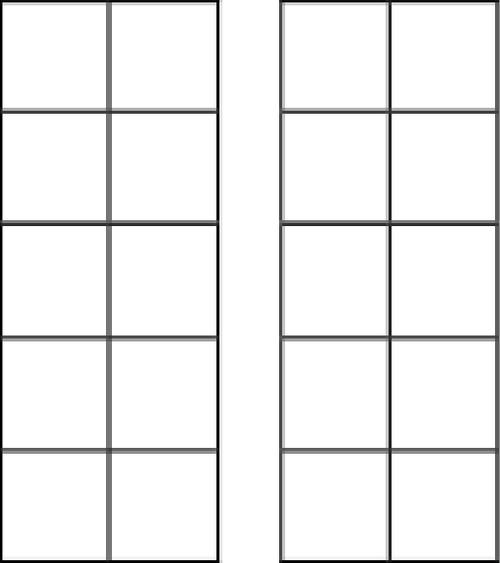
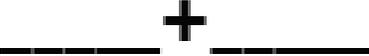
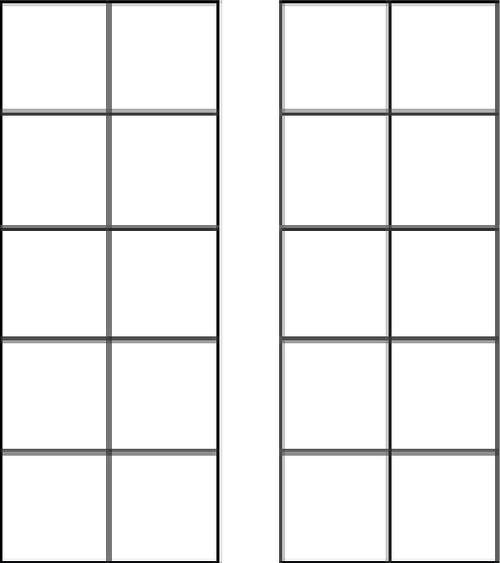


Appendix G1

Practice

Number	Picture	Expression
12		$\underline{\hspace{2cm}} + \underline{\hspace{2cm}}$
$\underline{\hspace{2cm}}$		10 + 8



Number	Picture	Expression
		
		



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Appendix H

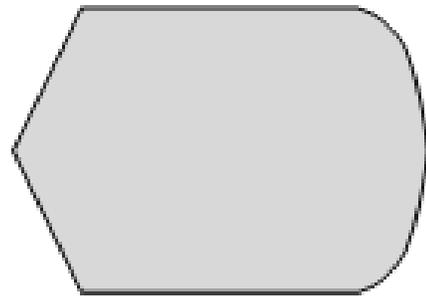
Under The Rock

Whole (Total Number)

Tens

Ones

10 Stay
←
Out



<input type="text"/>	+	<input type="text"/>	=	<input type="text"/>
<input type="text"/>		<input type="text"/>		<input type="text"/>
<input type="text"/>		<input type="text"/>		<input type="text"/>
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Appendix I

Help Your Family Solve the Problem

Our shopping bag can hold items.

There are 10 items in the bag now. How many more can fit in the bag?

$$\square = \square + \square$$

_____more items can fit in the shopping bag.



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