

Title: Tens and Ones

Summary of Learning

- Show understanding of two-digit numbers by decomposing a number into tens and ones (All students)
- Use math tools to model an understanding of tens and ones. Explain thinking using at least one math tool. (All students)
- Show complete or deeper understanding of two-digit numbers by representing two-digit numbers in multiple ways (drawing two digit numbers, representing two digit numbers using different math tools, and locating numbers correctly on a blank number line (Selected students)

Standards Addressed in the Task: 1.NBT.2 (a-c), 1.NBT.3 (**Challenge)

Standards of Mathematical Practice:

MP5: Use Appropriate Tools Strategically

MP6: Attend to Precision

MP7: Look for and make use of Structure

Materials Needed



Math tools:

open number line

ten frames

base ten blocks and single units

unifix cubes

popsicle sticks (not shown)

other tools to model tens and ones

concepts

Information

Grouping

This task may be completed in small groups with each student in the group working on a different set of numbers to prevent sharing answers. Use the blank answer sheet to write in your own numbers if you choose this option.

Levels

The task may be differentiated based on student need. You will see the image on the right hand corner. Codes at the bottom identify each level



Most Challenging grade_1_tens_**h**_fall



Grade level appropriate grade_1_tens_**m**_fall



Same Concepts but smaller numbers grade_1_tens_**l**_fall

Student Directions

There are symbols to help guide students towards the demonstration of the Standards for Mathematical Practice on this task. Explain these symbols to students ahead of time so that they can know what is expected in the answer.



Students will draw a picture. This means students will use their pencil to draw either an image, symbol, or mark that represents the concept.



Students will use a math tool to create or represent their understanding.

Math tools are manipulatives or models that are used in class that represent or show concretely a math concept. It is important that you let a student choose the appropriate tool to complete the task. You might have the tools available in an area of the classroom and students can go over to the materials and select the appropriate tool when they are ready for that part of the assessment. It is also helpful to encourage student to use a different tool on each part of the assessment. If this is appropriate to expect on this assessment, ask that students use a different tool. Flexibility in demonstrating understanding is important.



Students will talk to the teacher and explain their thinking.

You will select the problem that you would like to discuss with the student and ask questions that will help you to understand the student's thinking. Teachers will want to take notes based on the student response. In class, to prepare students for this expectation, you will want to model for students how to explain an answer and provide opportunities for students to explain their thinking in small group and whole group settings.

Number Range



30-80



10-30 (No Inverse)

Part 1: Student Independent Work Directions

1. Hand students problem and make available math tools for student use.
2. Begin with letting student's draw out their own representation. They can draw for both numbers.
3. After drawing, let them select and use the appropriate math tool.
4. A work mat can be used to model student work. On this work mat the student will write his name and the number or work they are showing. They can then photograph their work. Now you will have a record of who did the work and what number or work was being modeled.

Part 2 : Student Interview/Observation

After students have completed the two numbers you will want to get a deeper understanding of their work. It is time for the interview. Just like a reading conference, an interview can be conducted while other students are working. You might need to move closer to the student (kneel by desk, use a low voice and train students to also use a low voice when responding). Like a reading conference, a math interview will yield valuable information about student learning and thinking. A student should explain his/her thinking. Teachers will take notes on response

Choose one number (either page 1 or page 2) to get more information about student understanding. Use the following guide to ask questions:

Begin with this question

- Can you tell me how you know that the number _____ is represented correctly in your drawing? Can you tell me how you know that the number _____ is represented correctly using your math tool?

Follow up with this if you need more details or specifics.

- What were your steps? Can you explain what you did first? Then what? Then what?

Finish with this question

- Is there anything else you would like to tell me

You will need to ask the students who took the challenge problem to explain the placement of numbers on the number line.

Choose two numbers and ask them to locate the numbers on the number line. Use the numbers from the problem or select two new numbers within that range.

Begin with this question

- Can you tell me how you know that the number _____ is represented correctly on the number line?

Follow up with this if you need more details or specifics.

- What were your steps? Can you explain what you did first? Then what??

Finish with this question

- Is there anything else you would like to tell me