



First Grade

Adding and Subtracting by Tens

Addition and Subtraction
On the Number Line

Standards

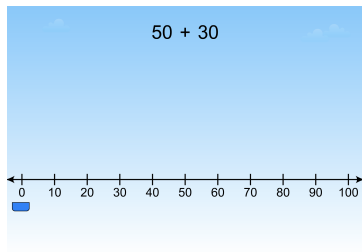
1.NBT.C.4: Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.

1.NBT.C.6: Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

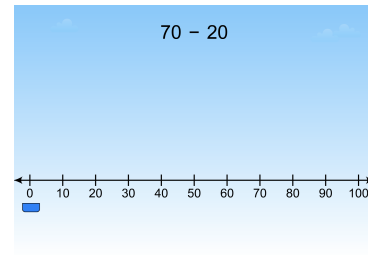
Game Description

Use a number line to find the sum or difference, within 100, of two numbers. At least one of the numbers is a multiple of ten.

Suggested Puzzles



Level 3



Level 3

Materials

Whiteboards and markers, counters, base ten blocks, beans and sticks

Directions

- Show a puzzle in Level 1 that has a multiple of ten plus a single digit number. Have students explain their strategy to solve sum on the number line. Discuss the numbers between the tens that are not shown.
- Repeat step 1 with a subtraction problem in Level 2. Discuss the directions you move on the number line to find a sum, difference.
- Play puzzles in Level 3 starting with addition, then subtraction. Have students explain their strategies. Look for students to use numbers of tens (i.e., 60 + 30 is 6 tens + 3 tens which equal 9 tens).

Sample Questions

- What whole numbers are not shown between 20 and 30?
- Why do you move to the right on a number line to add?
- How did you determine where to place the bucket?
- How does this relate to adding single digit numbers?

What to look for

How does the student:

- discuss direction on the number line? (Numbers increase as you move from left to right.)
- understand that the distance between 10 and 20 is the same size as the distance between 50 and 60?
- understand that there are 10 whole number jumps from one ten to the next higher ten?
- understand that the number in the middle of the two tens will have a 5 in the ones place?
- explain that adding and subtracting tens is the same as adding and subtracting one-digit numbers. (unitizing)



PUZZLE TALK

Extensions

- Have students draw an open number line to represent an addition or subtraction problem involving tens.
- Have students explain how the size of jumps change from adding tens to adding ones.
- Give students a story problem involving adding by tens.