

35. What's Underneath the Covers?

- RECOGNIZE THE BASE TEN REPRESENTATION OF A NUMBER
- REINFORCE TWO REPRESENTATIONS OF A NUMBER: LINEAR AND BASE TEN
- IDENTIFY THE PLACE VALUE OF THE DIGITS

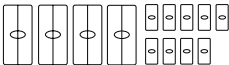
TEACHER NEEDS:

8 single blocks
6 blocks-of-10

STUDENT NEEDS:

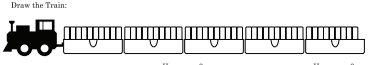
worksheets

 20 minutes

Packed Blocks: 

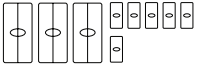
How many?

4	9
Tens	Ones

Draw the Train: 

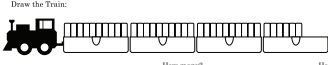
How many?

4	9	49
Full Cars	Leftover	How many?

Packed Blocks: 

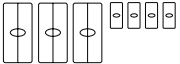
How many?

3	6
Tens	Ones

Draw the Train: 

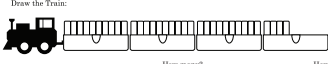
How many?

3	6	36
Full Cars	Leftover	How many?

Packed Blocks: 

How many?

3	4
Tens	Ones

Draw the Train: 

How many?

3	4	34
Full Cars	Leftover	How many?

HELPFUL HINTS:

Do a few examples together as a class before students complete the worksheets on their own.

GROUP ACTIVITY:

1. Show the students a collection of three blocks-of-10 and four ones. (34)
2. Ask, "How many total single blocks are in the collection?" (34)
3. Ask students how they could use the set of blocks to make a train. (Take the covers off, line them up, and put the leftover single blocks in a car at the end.)
4. Ask a student to count the blocks. She/he may count by tens or by ones. (34)
5. Take another set of three blocks-of-10 and four ones (34) and put them beside the train.
6. Discuss why the count of both the train, or **linear counting**, view and the packed, or **base 10**, view are the same. Reinforce that organizing into groups of ten makes counting large quantities simpler, but does not change the number. Take the 34 blocks out of the train and lay them flat on a desk or the floor and have a student count them by ones if students are not convinced.

INDEPENDENT WORK:

1. Given a set of packed blocks, students write the number as tens and ones.
2. Students draw the corresponding train with the correct number of blocks.
3. Students write the number of full cars and leftover blocks and the total number of single blocks on the train.
4. Repeat for additional worksheets.

Assessment:

DOES THE STUDENT:

- write the correct number of tens and ones for the packed blocks
- draw the corresponding train correctly
- count the blocks on the train
- write the correct number of full cars and leftover blocks
- connect the linear view (number of single blocks) to the base ten view

Differentiation:

REINFORCEMENT:

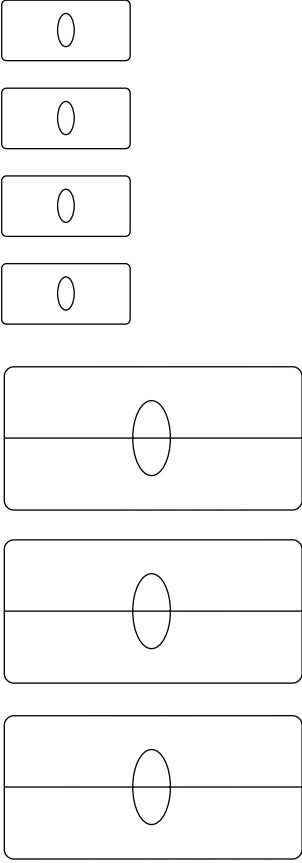
- Make more sheets with different numbers to keep practicing.
- Keep students in a small group all doing the same problem together.

EXTENSION:

- Use larger numbers.

Name: _____

Packed Blocks:

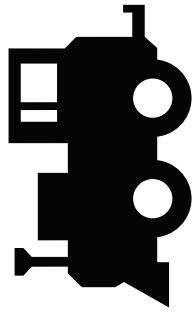


How many?

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Tens Ones

Draw the Train:



How many?

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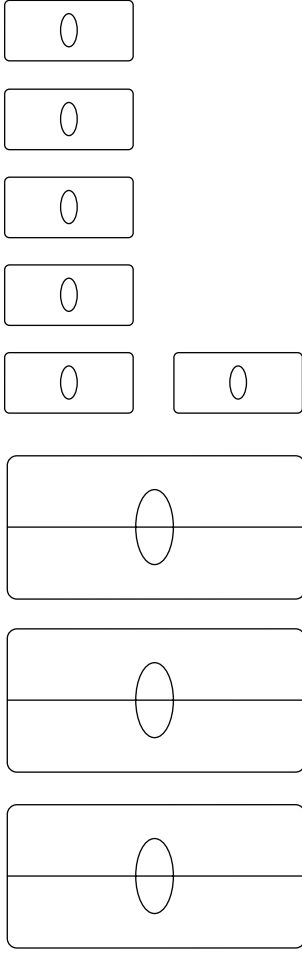
Full Cars Leftover

How many?

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Name: _____

Packed Blocks:

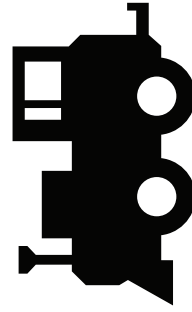


How many?

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Tens Ones

Draw the Train:



How many?

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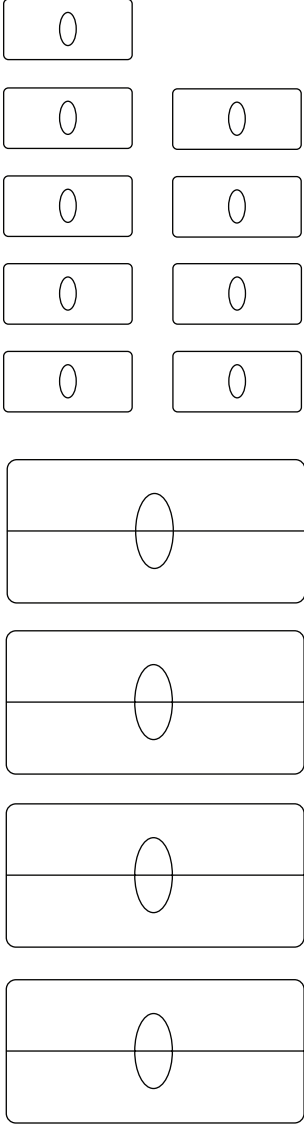
Full Cars Leftover

How many?

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Name: _____

Packed Blocks:

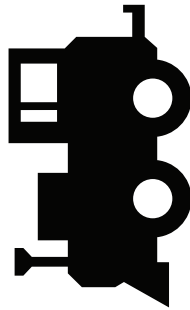


How many?



Tens Ones

Draw the Train:



How many?



Full Cars Leftover

How many?

