# Reasoning and Problem Solving
# Step 2: Tens and Ones

## National Curriculum Objectives:

**Mathematics Year 1: (1N1a)** Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number
**Mathematics Year 1: (1N1b)** Count in multiples of twos, fives and tens
**Mathematics Year 1: (1N2a)** Count, read and write numbers to 50 in numerals
**Mathematics Year 1: (1N2b)** Given a number, identify one more and one less
**Mathematics Year 1: (1N4)** Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least

## Differentiation:

**Questions 1, 4 and 7 (Problem Solving)**
**Developing** Identify which numbers can be made with the equipment. 3 numbers up to 50 are given, and number pieces and tens frames are used.
**Expected** Identify which numbers can be made with the equipment. 5 numbers up to 50 are given, and straws and Base 10 are used.
**Greater Depth** Identify which numbers can be made with the equipment. 5 numbers up to 50 are given, and Base 10 and place value counters are used in a mixed arrangement.

**Questions 2, 5 and 8 (Reasoning)**
**Developing** Explain the mistake made when representing a number using tens and ones. Tens frames and bead strings are used to represent numbers up to 50.
**Expected** Explain the mistake made when representing a number using tens and ones. Straws and Base 10 are used to represent numbers up to 50.
**Greater Depth** Explain the mistake made when representing a number using tens and ones. Base 10 and place value counters are used in a mixed arrangement to represent numbers up to 50.

**Questions 3, 6 and 9 (Reasoning)**
**Developing** Explain whether there are enough materials to complete a part-whole model. Number pieces are used to represent numbers up to 50. Tens partially filled, ones completed.
**Expected** Explain whether there are enough materials to complete a part-whole model. Base 10 is used to represent numbers up to 50. Tens and ones partially filled.
**Greater Depth** Explain whether there are enough materials to complete a part-whole model. Base 10 and place value counters are used in a mixed arrangement to represent numbers up to 50.

## More Year 1 Place Value resources.

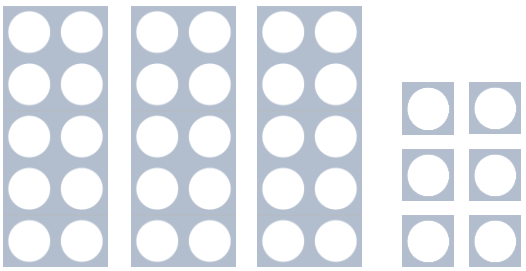
## Did you like this resource? Don't forget to review it on our website.

# Tens and Ones

# Tens and Ones

1a. Circle the numbers that can be represented using the equipment below.

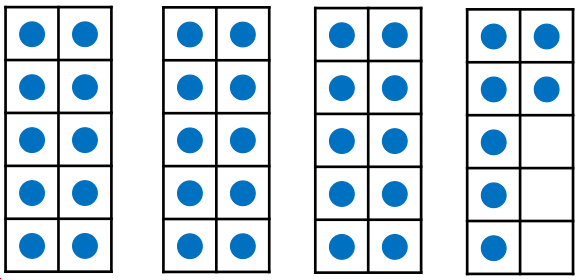
| 21 | 13 | 29 |
|---|---|---|



D PS

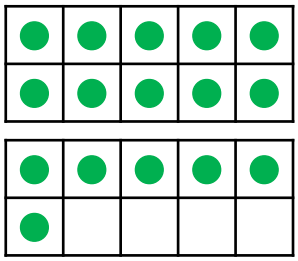
1b. Circle the numbers that can be represented using the equipment below.

| 30 | 41 | 35 |
|---|---|---|



D PS

2a. Zoe has made the number below.

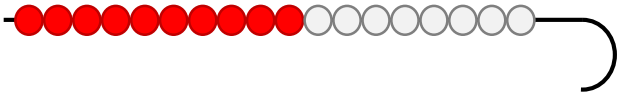


My number is 15.

Explain her mistake.

D R

2b. Joey has made the number below.

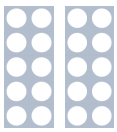


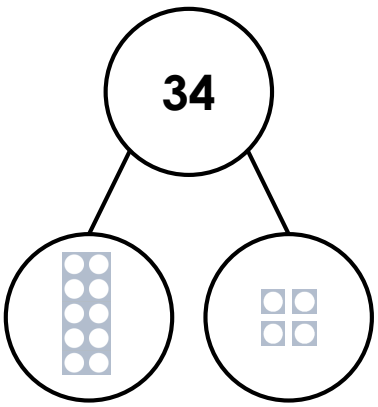
My number is 28.

Explain his mistake.

D R

3a. Yona is making a part-whole model.

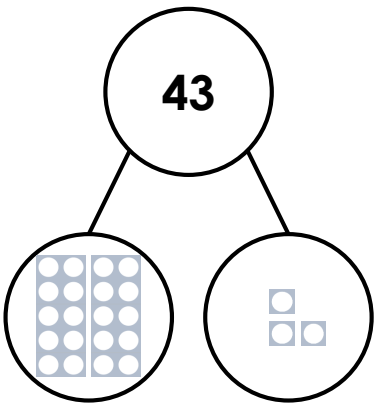





Does she have enough to tens to complete it? Prove it.

D R

3b. Chip is making a part-whole model.



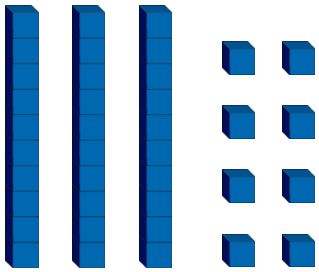

Does he have enough tens to complete it? Prove it.

D R

# Tens and Ones

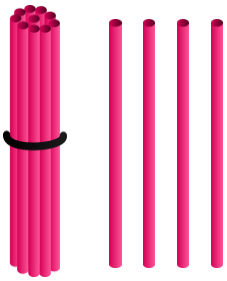
4a. Circle the numbers that can be represented using the equipment below.

| 19 | 40 | 42 | 36 | 27 |
|---|---|---|---|---|



E PS

5a. Karl has made the number below.

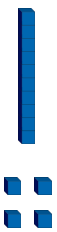


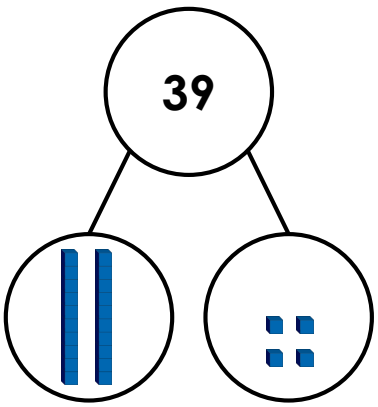
My number is forty-one.

Explain his mistake.

E R

6a. Ed is making a part-whole model.





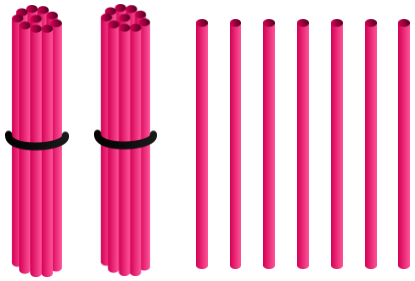

Does he have enough tens and ones to complete it? Prove it.

E R

# Tens and Ones

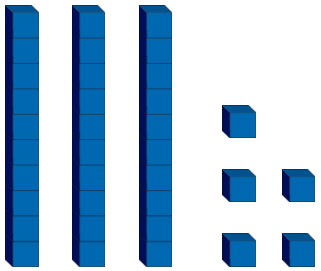
4b. Circle the numbers that can be represented using the equipment below.

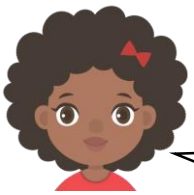
| 16 | 22 | 35 | 48 | 50 |
|---|---|---|---|---|



E PS

5b. Evie has made the number below.



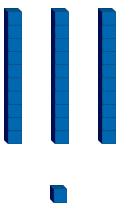


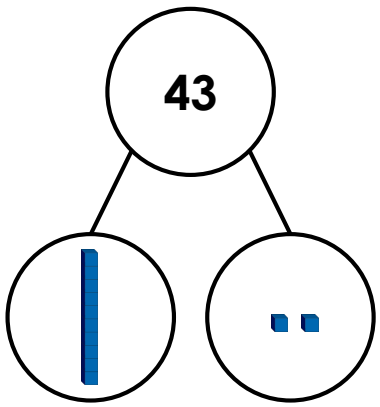
My number is forty-five.

Explain her mistake.

E R

6b. Dani is making a part-whole model.





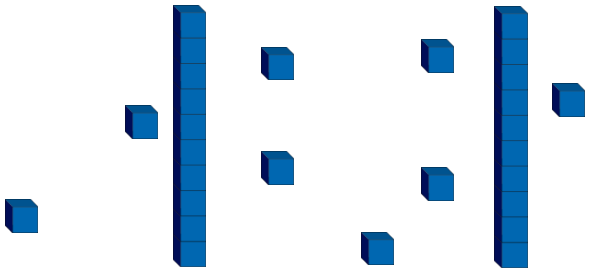

Does she have enough tens and ones to complete it? Prove it.

E R

# Tens and Ones

## 7a. Circle the numbers that can be represented using the equipment below.

| | | | | |
|---|---|---|---|---|
| 17 | 25 | 30 | 26 | 48 |



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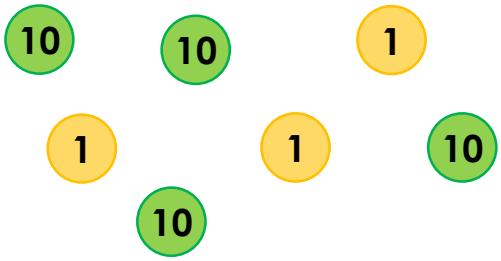
## 7b. Circle the numbers that can be represented using the equipment below.

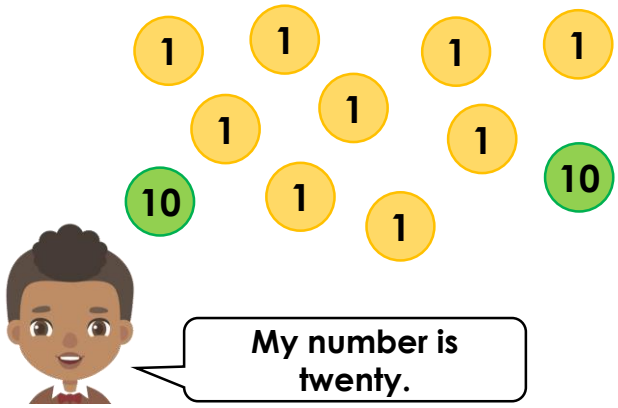
| | | | | |
|---|---|---|---|---|
| 23 | 25 | 46 | 32 | 14 |




GD

PS

## 8a. Ravi has made the number below.

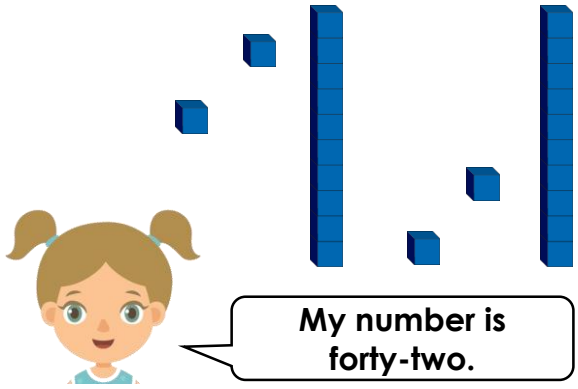



Explain his mistake.

GD

R

## 8b. Rey has made the number below.

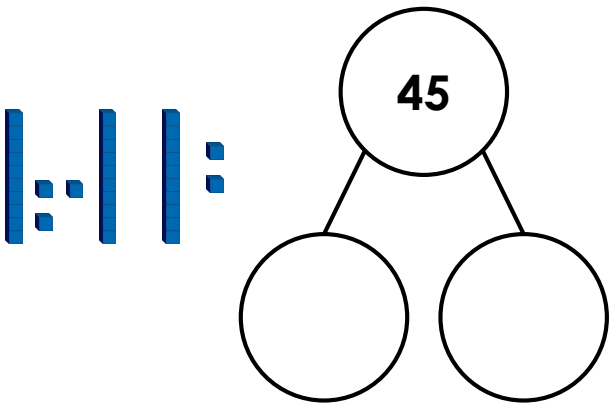



Explain her mistake.

GD

R

## 9a. Toya is making a part whole model.

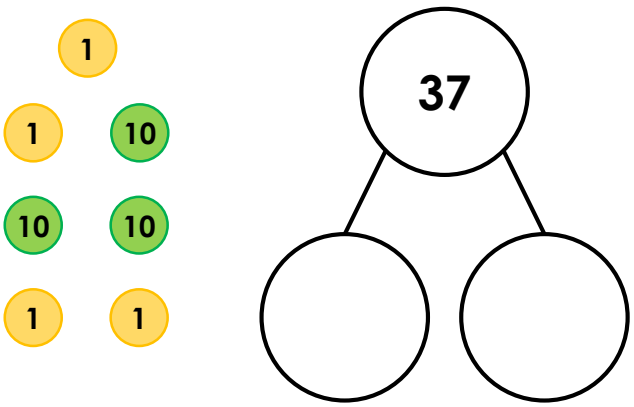



Does she have enough tens and ones to complete it? Prove it.

GD

R

## 9b. Seb is making a part-whole model.




Does he have enough tens and ones to complete it? Prove it.

GD

R

## Reasoning and Problem Solving
## Tens and Ones

### Developing

**1a.** 21, 13

**2a.** Zoe has counted the number of ones incorrectly. She has 1 ten and 6 ones, which makes 16.

**3a.** Yes. She needs 3 tens to make 30, which she has altogether.

### Expected

**4a.** 36, 27

**5a.** Karl has counted 4 ones as tens and 1 ten as ones. He has 14.

**6a.** No. He needs 9 ones to make 9 but he only has 8. He does have enough tens.

### Greater Depth

**7a.** 17, 25, 26

**8a.** Ravi has not counted the ones. He has 2 tens and 9 ones, which makes 29.

**9a.** No. She needs 4 tens and 5 ones. She has 3 tens and 5 ones, which makes 35.

## Reasoning and Problem Solving
## Tens and Ones

### Developing

**1b.** 30, 35

**2b.** Joey has counted the number of tens incorrectly. He has 1 ten and 8 ones, which makes 18.

**3b.** No. He needs 4 tens to make 40 but he only has 3.

### Expected

**4b.** 16, 22

**5b.** Evie has counted the number of tens incorrectly. She has 3 tens and 5 ones, which makes 35.

**6b.** Yes. She needs 4 tens to make 40 and 3 ones to make 43.

### Greater Depth

**7b.** 23, 32

**8b.** Rey has counted the ones as tens and the tens as ones. She has 2 tens and 4 ones which is 24.

**9b.** No. He needs 3 tens and 7 ones. He has 3 tens and only 4 ones, which makes 34.