# Reasoning and Problem Solving
# Step 6: Compare Numbers

**Teaching note: Inequality symbols are included in this step as they were introduced in Block 1 Step 10. These can be used as a visual aid to improve fluency as children continue comparing numbers and amounts.**

## National Curriculum Objectives:

**Mathematics Year 1: (1N2c) Read and write numbers from 1 to 20 in numerals and words**
**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**
**This resource also covers the following objective from Year 2:**
**Mathematics Year 2: (2N2b) Compare and order numbers from 0 up to 100; use <, > and = signs**

## Differentiation:

**Questions 1, 4 and 7 (Problem Solving)**
**Developing Solve a simple word problem by determining which numbers are more or less than two given numbers up to 10. Pictorial support using objects. Numbers presented in numerals.**
**Expected Solve a simple word problem by determining which numbers are more or less than two given numbers up to 20. Pictorial support using Base 10. Numbers presented in numerals and words.**
**Greater Depth Solve a simple word problem by determining which numbers are more or less than two given numbers up to 20. Numbers presented in numerals and words and some numbers are partitioned.**

**Questions 2, 5 and 8 (Problem Solving)**
**Developing Restructure a number line and identify start or finish up to 10. Pictorial support using Numicon. Numbers presented in numerals.**
**Expected Restructure a number line and identify start or finish up to 20. Pictorial support using Base 10. Numbers presented in numerals and words.**
**Greater Depth Restructure a number line and identify start or finish up to 20. Numbers presented in numerals and words and some numbers are partitioned.**

**Questions 3, 6 and 9 (Reasoning)**
**Developing Read two statements comparing numbers to 10. Explain which statement is correct and why. Pictorial support using counters. Numbers presented in numerals.**
**Expected Read two statements comparing numbers to 20. Explain which statement is correct and why. Pictorial support using Base 10. Numbers presented in numerals and words.**
**Greater Depth Read two statements comparing numbers to 20. Explain which statement is correct and why. Numbers presented in numerals and words and some numbers are partitioned.**

## More Year 1 Place Value resources.

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

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# Compare Numbers

1a. Mia has 4 gems. Jon has 8 gems. Mat has more gems than Mia but less gems than Jon.


Mia


Mat


Jon

| 4 | ? | 8 |
|---|---|---|

How many gems could Mat have?

D

PS

1b. Kat has 2 plums. Ria has 7 plums. Ann has less plums than Ria but more plums than Kat.


Kat


Ria


Ann

| 2 | 7 | ? |
|---|---|---|

How many plums could Ann have?

D

PS

2a. Olly has cut up his number track.

| 5 | 4 | 3 |
|---|---|---|

| 9 | 8 | 7 | 6 |
|---|---|---|---|

Which number did his number track start with?

D

PS

2b. Tia has cut up her number track.

| 6 | 7 | 8 |
|---|---|---|

| 2 | 3 | 4 | 5 |
|---|---|---|---|

Which number did her number track finish with?

D

PS

3a. Anya and Ben are comparing the numbers 1 and 10


Anya

The numbers are equal because they both have a 1.


Ben

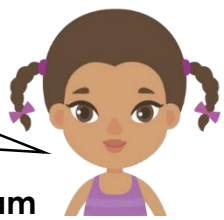
10 is the bigger number because you start counting from 1.

Who is correct?
Explain how you know.

D

R

3b. Sam and Max are comparing the numbers 5 and 2


Sam

2 is smaller because 5 is 3 more than 2.


Max

The numbers are the same.

Who is correct?
Explain how you know.

D

R

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# Compare Numbers

4a. Sam has 9 sweets. Max has 17 sweets. Tom has more sweets than Sam but less sweets than Max.


Sam


Max


Tom

| 9 | 17 | ? |
|---|---|---|

How many sweets could Tom have?

E PS

# Compare Numbers

4b. Mel has eleven jewels. Liv has sixteen jewels. Anya has less jewels than Liv but more jewels than Jess.


Anya


Mel


Liv

| ? | 11 | 16 |
|---|---|---|

How many jewels could Anya have?

E PS

5a. Jess has cut up her number track.

| 13 | twelve | eleven |
|---|---|---|

| 17 | sixteen | 15 | 14 |
|---|---|---|---|

Which number did her number track start with?

E PS

5b. Ross has cut up his number track.

| 14 | 15 | sixteen | 17 |
|---|---|---|---|

| 18 | 19 | twenty |
|---|---|---|

Which number did his number track finish with?

E PS

6a. Kat and Raz are comparing the numbers 10 and 17.


Raz

17 is bigger because 17 is seven more than ten.

10 is bigger because 10 is bigger than 7.


Kat

Who is correct?
Explain how you know.

E R

6b. Pip and Joe are comparing the numbers 9 and 19.

9 is equal to 19 because they both have the digit 9.


Joe


Pip

19 is bigger because it is nearly 20 and 9 is less than ten.

Who is correct?
Explain how you know.

E R

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# Compare Numbers

7a. Bella and Ria each have some colouring pencils. Joe has more than Bella but less than Ria.


Bella


Ria


Joe

| 1 ten and three ones | seventeen | ? |
|---|---|---|

How many pencils could Tom have?

GD PS

7b. The numbers of stickers Ben and Anya have are shown. Pip has an even amount, more than Ben but less than Anya.


Ben


Anya


Pip

| sixteen | one ten and nine ones | ? |
|---|---|---|

How many stickers could Pip have?

GD PS

8a. Ava has cut up her number track.

| 14 | 13 | twelve |
|---|---|---|

| 18 | 1 ten and seven ones | sixteen | 15 |
|---|---|---|---|

Which number did her number track start with?

GD PS

8b. Nat has cut up his number track.

| 13 | 14 | fifteen |
|---|---|---|

| 9 | ten | 1 ten and 1 one | twelve |
|---|---|---|---|

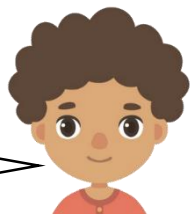
Which number did his number track finish with?

GD PS

9a. Liv and Tom are comparing the numbers twelve and 9.


Liv

9 is bigger because 9 it has a nine in the ones column and twelve has the digit 2.


Tom

9 is smaller because it is less than ten and twelve has one ten.

Who is correct?
Explain how you know.

GD R

9b. Mia and Ann are comparing partitioned numbers.


Mia

1 ten and three ones is bigger than 2 tens because 3 is more than 0.


Ann

Twenty is bigger than thirteen because it has two tens.

Who is correct?
Explain how you know.

GD R

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## Reasoning and Problem Solving
## Compare Numbers

### Developing

1a. 5, 6, or 7 gems

2a. 9

3a. Ben is correct. 1 is not equal to 10.

### Expected

4a. 10, 11, 12, 13, 14, 15 or 16 sweets

5a. 17

6a. Raz is correct. 17 has got 7 ones in the ones column, whereas 10 has got zero. 17 is 7 more than 10.

### Greater Depth

7a. 14, 15, or 16 pencils

8a. 18

9a. Tom is correct. 9 is a 1-digit number (less then 10).

## Reasoning and Problem Solving
## Compare Numbers

### Developing

1b. 3, 4, 5, 6

2b. 8

3b. Sam is correct. Max has misread one of the numbers.

### Expected

4b. 12, 13, 14 or 15 jewels

5b. 20

6b. Jo is correct. Although both numbers contain the digit 9, 19 has one ten, where as 9 less than 10.

### Greater Depth

7b. 18 stickers

8b. 15

9b. Ann is correct. Thirteen has one ten; twenty has two tens.

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