

Jamal's Marbles

Jamal has some marbles.

He has 28 green marbles.

The number of red marbles is 10 less than the number of green marbles.

1. How many red marbles does Jamal have? _____

Write how you know.

The number of blue marbles is 10 more than the number of green marbles.

2. How many blue marbles does Jamal have? _____

Write how you know.

The number of yellow marbles is 10 less than the number of blue marbles.

3. How many yellow marbles does Jamal have? _____

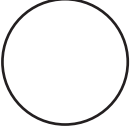
Write how you know.

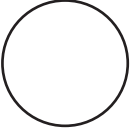
Use  .

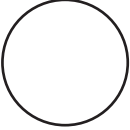
Write the number for each color of Jamal's marbles.

Compare the tens. Compare the ones.

Then write $>$, $<$, or $=$ to complete the sentence.

4. 
red yellow

5. 
yellow green

6. 
blue red

Did the tens or the ones help you decide? Explain.

Compare Numbers

Jamal's Marbles

COMMON CORE STANDARDS

- CC.1.NBT.3** Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols $>$, $=$, and $<$.
- CC.1.NBT.5** Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.

PURPOSE

To assess the ability to compare two-digit numbers using symbols and to find 10 more or 10 less than a number

TIME

25–30 minutes

GROUPING

Individuals

MATERIALS

- Performance Task, paper, pencil
- Crayons: red, blue, green, yellow

PREPARATION HINTS

- Review using tens and ones to compare numbers with children before assigning the task.
- Review identifying 10 more or 10 less than a number with children before assigning the task.
- Review vocabulary, including *more*, *greater than*, *fewer*, *less than*, *equal*, *same*.

IMPLEMENTATION NOTES

- Read the task aloud to children and make sure that all children have a clear understanding of the task.
- Children may use manipulatives to complete the task.
- Allow children as much paper as they need to complete the task.
- Allow as much time as children need to complete the task.
- Children must complete the task individually, without collaboration.
- Collect all work when the task is complete.

TASK SUMMARY

Children use place value to compare two-digit numbers. They identify a number that is 10 more or 10 less than another number. They use the symbols $>$, $=$, and $<$ to record comparisons.

REPRESENTATION

In this task teachers can...

- Provide options for language, mathematical expressions, and symbols by giving children multiple ways to compare numbers.
- Provide options for comprehension by guiding the ways in which children relate language to symbols and symbols to language in comparing numbers.

ACTION and EXPRESSION

In this task teachers can...

- Provide options for physical action by having children draw quick pictures to model number values.

ENGAGEMENT

In this task teachers can...

- Provide options for engagement by giving children individual choice and autonomy in representing numbers that fulfill open-ended clues in the problem.

EXPECTED STUDENT OUTCOMES

- Complete the task within the time allowed
- Reflect engagement in a productive struggle
- Find 10 more or 10 less than a number
- Compare two-digit numbers by evaluating tens and ones
- Record results of comparisons using the symbols $<$, $>$, and $=$

SCORING

Use the associated Rubric to evaluate each child's work.

Performance Task Scoring Guide

JAMAL'S MARBLES	
Problem #	Points
The student:	
1. • provides the correct answer: 18 red marbles • explains solution method	1 1
2. • provides the correct answer: 38 blue marbles • explains solution method	1 1
3. • provides the correct answer: 28 yellow marbles • explains solution method	1 1
4. • compares the number of red and yellow marbles accurately: $18 < 28$	1
5. • compares the number of yellow and green marbles accurately: $28 = 28$	1
6. • compares the number of blue and red marbles accurately: $38 > 18$ • explains how to use place value to compare numbers.	1 3
TOTAL POINTS:	12
Point Score and equivalent Performance Level (see rubrics below): 10–12 points = Level 3 7–9 points = Level 2 4–6 points = Level 1 1–3 points = Level 0	

Performance Task Rubric

JAMAL'S MARBLES

A level 3 response	<ul style="list-style-type: none"> • Indicates that the child has made sense of the task and persevered • Demonstrates an understanding of whether a number is greater than, less than, or the same as another number • Accurately represents comparisons using symbols • Indicates an understanding of how to find 10 more or 10 less than a given number
A level 2 response	<ul style="list-style-type: none"> • Indicates that the child has made sense of the task and persevered • Demonstrates an understanding of whether a number is greater than, less than, or the same as another number • Accurately represents comparisons using symbols • Indicates an understanding of how to find 10 more or 10 less than a given number • Addresses most or all aspects of the task, but there may be errors of omission
A level 1 response	<ul style="list-style-type: none"> • Shows that the child has made sense of at least some elements of the task • Shows evidence of understanding that numbers can be greater than, less than, or the same as other numbers • Demonstrates some understanding of the symbols used to compare numbers • May not demonstrate understanding of how to find 10 more or 10 less than a given number
A level 0 response	<ul style="list-style-type: none"> • Shows little evidence that the child has made sense of the problems of the task • Reflects a lack of understanding of number relationships and the symbols used to compare numbers • Reflects a lack of understanding of how to find 10 more or 10 less • Shows little evidence of addressing the elements of the task

Use $\overline{\quad}$.

Write the number for each color of

Jamal's marbles.

Compare the tens. Compare the ones.

Then write $>$, $<$, or $=$ to complete the sentence.

$$4. \begin{array}{c} 18 \\ \text{red} \end{array} \begin{array}{c} < \\ \text{yellow} \end{array} \begin{array}{c} 28 \\ \text{yellow} \end{array}$$

$$5. \begin{array}{c} 28 \\ \text{yellow} \end{array} \begin{array}{c} = \\ \text{green} \end{array} \begin{array}{c} 28 \\ \text{green} \end{array}$$

$$6. \begin{array}{c} 28 \\ \text{blue} \end{array} \begin{array}{c} > \\ \text{red} \end{array} \begin{array}{c} 18 \\ \text{red} \end{array}$$

Did the tens or the ones help you decide? Explain.

The tens place because if it is greater then the number is greater.

Name Cal

Unit 6

Jamal's Marbles

Jamal has some marbles.

He has 28 green marbles.

The number of red marbles is 10 less than the number of green marbles.

1. How many red marbles does Jamal have? 18 marbles

Write how you know.

Because $28 - 10 = 18$. So it is 18 marbles.

The number of blue marbles is 10 more than the number of green marbles.

2. How many blue marbles does Jamal have? 38 Marbles

Write how you know.

Because $28 + 10 = 38$ marbles.
So it is 38 Marbles.

The number of yellow marbles is 10 less than the number of blue marbles.

3. How many yellow marbles does Jamal have? 28 marbles

Write how you know.

Because $38 - 10 = 28$ marbles.
So it is 28 marbles.

Name _____

Unit 6

Jamal's Marbles

Jamal has some marbles.

He has 28 green marbles.

The number of red marbles is 10 less than the number of green marbles.

1. How many red marbles does Jamal have? 18

Write how you know.

Because $28 - 10 = 18$

The number of blue marbles is 10 more than the number of green marbles.

2. How many blue marbles does Jamal have? 38

Write how you know.

Because $28 + 10 = 38$

The number of yellow marbles is 10 less than the number of blue marbles.

3. How many yellow marbles does Jamal have? 28

Write how you know.


Because $38 - 10 = 28$ Use .


Write the number for each color of Jamal's marbles.

Compare the tens. Compare the ones.

Then write $>$, $<$, or $=$ to complete the sentence.

4. $\frac{18}{28}$  $\frac{28}{28}$
red yellow

5. $\frac{28}{28}$  $\frac{28}{28}$
yellow green

6. $\frac{38}{18}$  $\frac{18}{18}$
blue red

Did the tens or the ones help you decide? Explain.

The tens helped me decide

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Name _____ Unit 6

Jamal's Marbles

Jamal has some marbles.

He has 28 green marbles.

The number of red marbles is 10 less than the number of green marbles.

18

1. How many red marbles does Jamal have? 18

Write how you know.

counting back words.

The number of blue marbles is 10 more than the number of green marbles.

38

2. How many blue marbles does Jamal have? 38

Write how you know.

I counted up.

The number of yellow marbles is 10 less than the number of blue marbles.

48

3. How many yellow marbles does Jamal have? 48

Write how you know.

I counted ten up.Use .

Write the number for each color of

Jamal's marbles.

Compare the tens. Compare the ones.

Then write $>$, $<$, or $=$ to complete the sentence.

$$4. \begin{array}{r} 18 \\ \text{red} \end{array} \begin{array}{c} > \\ \text{---} \end{array} \begin{array}{r} 48 \\ \text{yellow} \end{array}$$

$$5. \begin{array}{r} 48 \\ \text{yellow} \end{array} \begin{array}{c} < \\ \text{---} \end{array} \begin{array}{r} 28 \\ \text{green} \end{array}$$

$$6. \begin{array}{r} 38 \\ \text{blue} \end{array} \begin{array}{c} < \\ \text{---} \end{array} \begin{array}{r} 18 \\ \text{red} \end{array}$$

Did the tens or the ones help you decide? Explain.

the tens.

Name _____

Unit 6

Jamal's Marbles

Jamal has some marbles.

He has 28 green marbles.

The number of red marbles is 10 less than the number of green marbles.

1. How many red marbles does Jamal have? 10

Write how you know.

cause it says

The number of blue marbles is 10 more than the number of green marbles.

2. How many blue marbles does Jamal have? 10

Write how you know.

10 + 10 = 20

The number of yellow marbles is 10 less than the number of blue marbles.

3. How many yellow marbles does Jamal have? 0

Write how you know.

10 - 10 = 0

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Use .

Write the number for each color of

Jamal's marbles.

Compare the tens. Compare the ones.

Then write $>$, $<$, or $=$ to complete the sentence.

$$4. \frac{10}{\text{red}} < \frac{0}{\text{yellow}}$$

$$5. \frac{0}{\text{yellow}} < \frac{28}{\text{green}}$$

$$6. \frac{10}{\text{blue}} < \frac{10}{\text{red}}$$

Did the tens or the ones help you decide? Explain.

I looked at the tens

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