City Population Report

Teacher Guide & Answer Keys

Grade 4 · All levels

Overview

Students become data reporters for a travel magazine. They read and write city populations in standard, word and expanded form, compare and order them, round them for headlines, and explain how the value of a digit changes from place to place.

Time: 2 class periods · **Product:** City Fact Poster · **Standards:** 4.NBT.A.1, 4.NBT.A.2, 4.NBT.A.3

Suggested pacing

- Day 1: Introduce the challenge, read the scenario together, and work Parts 1–2 in pairs.
- Day 2: Finish the remaining parts and create the final product.
- Wrap-up: Share products and reflect on strategies.

Levels

- **Remedial:** smaller numbers, fewer steps, more structure.
- **Standard:** grade-level numbers and the full set of tasks.
- **Advanced:** harder numbers, extra reasoning and multi-step questions.

All three levels practice the same learning goals, so the class can share and compare work.

Rubric

Category	4 Excellent	3 Good	2 Developing	1 Beginning
Math accuracy	All answers correct	Most answers correct	Some answers correct	Few answers correct
Shows work	Clear work for every step	Work for most steps	Some work shown	Little work shown
Explains thinking	Clear, complete explanations	Mostly clear explanations	Some explanation	Little explanation
Final product	Complete, neat and creative	Complete and neat	Partly complete	Not complete

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Answer key · Remedial KEY

Part 1: Read and Write the Numbers

1. Write the population of Maple Grove in word form.

eight thousand, four hundred fifty-two

2. Write the population of Maple Grove in expanded form.

8,000 + 400 + 50 + 2

3. Write this number in standard form: three thousand, seven hundred sixty.

3,760

Part 2: Compare and Order

4. Compare 8,452 and 8,425. Write >, < or =.

8,452 > 8,425

5. List the five cities from the greatest population to the least.

Summit City, Maple Grove, Lakeside, Riverton, Pinehill

6. Which place did you look at to compare Maple Grove and Lakeside? Why?

The tens place, because it is the first place (from the left) where the digits are different.

Part 3: Round for the Headlines

7. Round the population of Maple Grove: 8,452.

about 8,500

8. Round the population of Riverton: 6,917.

about 6,900

9. Round the population of Lakeside: 8,425.

about 8,400

Part 4: The Value of a Digit

10. What is the value of the 4 in 8,452?

400

11. What is the value of the 4 in 8,425?

40

12. How many times as much is the first value as the second value?

10 times as much (400 ÷ 40 = 10)

Extension

Any whole number from 6,500 to 7,499.

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Answer key · Standard KEY

Part 1: Read and Write the Numbers

1. Write the population of Maple Grove in word form.

eighty-four thousand, five hundred twenty

2. Write the population of Maple Grove in expanded form.

80,000 + 4,000 + 500 + 20

3. Write this number in standard form: thirty-seven thousand, six hundred eight.

37,608

Part 2: Compare and Order

4. Compare 84,520 and 84,250. Write >, < or =.

84,520 > 84,250

5. List the five cities from the greatest population to the least.

Summit City, Maple Grove, Lakeside, Riverton, Pinehill

6. Which place did you look at to compare Maple Grove and Lakeside? Why?

The hundreds place, because it is the first place (from the left) where the digits are different.

Part 3: Round for the Headlines

7. Round the population of Maple Grove: 84,520.

about 85,000

8. Round the population of Riverton: 69,175.

about 69,000

9. Round the population of Lakeside: 84,250.

about 84,000

Part 4: The Value of a Digit

10. What is the value of the 4 in 84,520?

4,000

11. What is the value of the 4 in 84,250?

400

12. How many times as much is the first value as the second value?

10 times as much (4,000 ÷ 400 = 10)

Extension

Least 65,000; greatest 74,999.

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Answer key · Advanced KEY

Part 1: Read and Write the Numbers

1. Write the population of Maple Grove in word form.

four hundred fifty-two thousand, sixty-eight

2. Write the population of Maple Grove in expanded form.

400,000 + 50,000 + 2,000 + 60 + 8

3. Write this number in standard form: ninety-six thousand, three hundred forty.

96,340

Part 2: Compare and Order

4. Compare 452,068 and 698,175. Write >, < or =.

452,068 < 698,175

5. List the five cities from the greatest population to the least.

Summit City, Lakeside, Maple Grove, Riverton, Pinehill

6. Which place did you look at to compare Maple Grove and Lakeside? Why?

The hundred thousands place, because it is the first place (from the left) where the digits are different.

Part 3: Round for the Headlines

7. Round the population of Maple Grove: 452,068.

about 450,000

8. Round the population of Riverton: 425,860.

about 430,000

9. Round the population of Lakeside: 698,175.

about 700,000

Part 4: The Value of a Digit

10. What is the value of the 5 in 452,068?

50,000

11. What is the value of the 5 in 698,175?

5,000

12. How many times as much is the first value as the second value?

10 times as much (50,000 ÷ 5,000 = 10)

Extension

Least 650,000; greatest 654,999. It must be at least 650,000 to round up to 700,000, and less than 655,000 to round to 650,000.

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Worked teacher example (Standard, Part 1)

Write the population of Maple Grove in word form.

eighty-four thousand, five hundred twenty

Write the population of Maple Grove in expanded form.

80,000 + 4,000 + 500 + 20

Write this number in standard form: thirty-seven thousand, six hundred eight.

37,608

Model the first part aloud: read the situation, name the operation, estimate, solve, and check. Then let partners try Part 2.

Look for

- Students use correct notation and units in every answer.
- Students explain why an answer is reasonable (estimates, benchmarks, pictures).
- Final products show the math clearly, not just the answers.