

Library Shelf Hunt

Teacher Guide · Solutions · Rubric

Grade 2 · All levels

Overview

Students help a librarian. Books have numbers from 100 to 999. They count on and skip count to find books, compare book numbers with >, = and <, and use 10 more, 10 less, 100 more and 100 less to move along the shelves.

Time: 2 class periods · **Product:** Shelf Map
Standards: 2.NBT.A.2, 2.NBT.A.4, 2.NBT.B.8
Prerequisite skills: Place value to 1,000 (Unit 3)

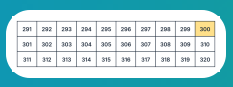
Learning targets

- I can count and skip count within 1,000.
- I can compare three-digit numbers with >, =, and <.
- I can find 10 or 100 more or less than a number.

Timing and materials

- Day 1 (40 min): counting along the shelves (Parts 1–2).
- Day 2 (40 min): comparing and moving by 10s and 100s; shelf map (Parts 3–4).

Materials: Sticky notes for book numbers; Number chart pages (printable support page); Pencils. No accounts, paid products or student personal information are needed.



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The three versions

- Remedial: hints for a first step, partly filled tables, sentence frames and fewer open choices; the same learning targets.
- Standard: the full task set at grade level; students choose their strategies and models.
- Advanced: open design constraints, missing information, error analysis and a written justification; no hints.

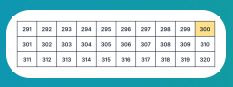
All versions use the same context and learning targets, so groups can share and compare work.

Implementation notes

- Post book-number sticky notes in a line on the wall for counting practice.
- Ask “Which place changed?” after every 10 or 100 move.
- Advanced students design a shelf rule and order mixed book numbers.
- Before Part 1, read the challenge aloud and ask students to restate the goal.
- Close with a gallery walk: each group explains one strategy.

Rubric

Learning target	4 Exceeds	3 Meets	2 Approaching	1 Beginning
I can count and skip count within 1,000.	Correct and complete; explains how	Mostly correct	Partly correct	Not yet
I can compare three-digit numbers with >, =, and <.	Correct and complete; explains how	Mostly correct	Partly correct	Not yet
I can find 10 or 100 more or less than a number.	Correct and complete; explains how	Mostly correct	Partly correct	Not yet
I can explain my thinking with pictures, numbers and words.	Clear for every part	Clear for most parts	Some explanation	Little explanation
My shelf map is complete and matches my math.	Complete, neat, accurate	Complete	Partly complete	Not complete



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Solutions · Remedial KEY

Part 1: Counting Along the Shelf

The books are in order starting at 296.

1. Write the next five book numbers.
297, 298, 299, 300, 301

2. Count by 10s from 290. Write the next four numbers.
300, 310, 320, 330

Part 2: Skip Counting Carts

A cart holds 5 books, and a box holds 100 books.

3. Count by 5s: how many books on 7 carts?
35 books

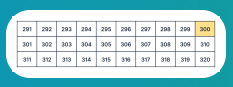
4. Count by 100s from 100: write four numbers.
100, 200, 300, 400

Part 3: Comparing Book Numbers

Compare with >, =, or <.

5. 345 ___ 354
<

6. Put in order from least to greatest: 354, 345, 245
245, 345, 354



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Part 4: Moving Along

Start at book 450.

7. What is 10 more?

460

8. What is 100 less?

350

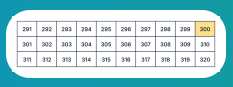
9. What is 10 less?

440

Extension

Start at 995. Count on by ones to 1,000. What numbers do you say?

996, 997, 998, 999, 1,000



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Solutions · Standard KEY

Part 1: Counting Along the Shelf

The books are in order starting at 597.

1. Write the next five book numbers.
598, 599, 600, 601, 602

2. Count by 10s from 591. Write the next four numbers.
601, 611, 621, 631

Part 2: Skip Counting Carts

A cart holds 5 books, and a box holds 100 books.

3. Count by 5s: how many books on 7 carts?
35 books

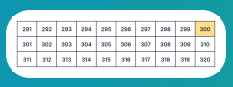
4. Count by 100s from 200: write four numbers.
200, 300, 400, 500

Part 3: Comparing Book Numbers

Compare with >, =, or <.

5. 628 ___ 682
<

6. Put in order from least to greatest: 682, 628, 528
528, 628, 682



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Part 4: Moving Along

Start at book 693.

7. What is 10 more?

703

8. What is 100 less?

593

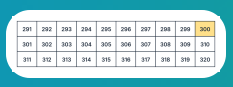
9. What is 10 less?

683

Extension

Start at 995. Count on by ones to 1,000. What numbers do you say?

996, 997, 998, 999, 1,000



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Solutions · Advanced KEY

Part 1: Counting Along the Shelf

The books are in order starting at 895.

1. Write the next five book numbers.
896, 897, 898, 899, 900

2. Count by 10s from 889. Write the next four numbers.
899, 909, 919, 929

Part 2: Skip Counting Carts

A cart holds 5 books, and a box holds 100 books.

3. Count by 5s: how many books on 7 carts?
35 books

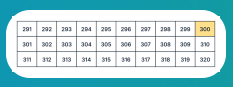
4. Count by 100s from 350: write four numbers.
350, 450, 550, 650

Part 3: Comparing Book Numbers

Compare with >, =, or <.

5. 509 ___ 590
<

6. Put in order from least to greatest: 590, 509, 409
409, 509, 590



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Part 4: Moving Along

Start at book 805.

7. What is 10 more?

815

8. What is 100 less?

705

9. What is 10 less?

795

Part 5: Shelf Puzzle

Explain your thinking.

10. Ted says 389 > 401 because 8 and 9 are big digits. Is he right?

No. Compare hundreds first: 3 < 4, so 389 < 401.

11. What is the greatest digit that makes 6□4 < 654 true?

4 (644 < 654, but 654 is not less than 654)

Extension

Start at 995. Count on by ones to 1,000. What numbers do you say?

996, 997, 998, 999, 1,000