

Core Focus

- Number: working with place value and counting sequence to 120 using a hundred chart
- Subtraction: Taking multiples of 1 or 10 from any two-digit number using a hundred chart
- Measurement: Capacity and mass

Ideas for Home

- Practice skip-counting to 120 when passing the time traveling or waiting.
- Practice reading two- and three-digit numbers on apartments, houses, street signs, and highway exit signs.

Number

- A hundred chart helps students understand the base-ten system. Students use this model to recognize vertical patterns of +10 and -10, and horizontal patterns of +1 and -1.

12.1 Number: Working with place value (hundred chart)

Step In Look at the hundred chart below.

Run your finger along all the numbers that have 6 in the ones place.
Run your finger along the numbers that have 6 in the tens place.
What do you notice?

| | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|-----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
| 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
| 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 |
| 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
| 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 |
| 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |

Subtraction

- Students practice counting forward and backward by tens *on the decade* (10, 20, 30) and *off the decade* (27, 37, 47) with help from the hundred chart.

12.6 Subtraction: Multiples of ten from any two-digit number (hundred chart)

Step In Look at this part of a hundred chart.

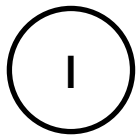
How can you figure out what number is behind the shaded tile?

33
41 42 43 44 45 46

I would start at 44 and count back in steps of 10 to the shaded tile.

How many steps of 10 is that?
What equation could you write to match? - =

In this lesson, students start at any two-digit number off the decade and count in steps of ten, e.g. 44, 34, 24, 14.




Module 12

Measurement

- Language associated with capacity and **mass** (or **weight**) is explored in this module. Expressions like *full*, *empty*, *half-full*, *nearly full* describe capacity, or the amount a container can hold. For mass, the language includes *heavy*, *heavier*, *light*, etc.

12.9 Capacity: Making direct comparisons

Step In Each of these bottles is full of water. Which bottle holds the most water?
How could you order these bottles by the amount of water that they each hold?



Two of these water bottles have the same **capacity**.

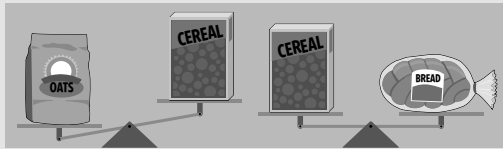
Capacity tells the amount of liquid that a container can hold.

In this lesson, students fill bottles with water and then compare and order capacities.

- Counting non-standard units (for example, the number of same-size cubes, or equal-size scoops of water) is foundational to exploring capacity and comparing weight.

12.11 Mass: Making direct comparisons

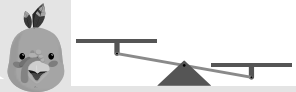
Step In What do you know about the mass of each grocery item in this picture?



How could you compare the mass of the bread and the oats?

Write **bread** and **oats** on this pan balance to show your thinking.

The bread and cereal have the same mass. The oats are heavier than the cereal.



In this lesson, students count and record the number of uniform non-standard units (cubes) to compare the masses of objects.

Ideas for Home

- Explore capacity by asking, “Which container seems the right size for these leftovers?” or, “Which glass will hold more milk — the tall, skinny one, or the short, fat one?”
- Use marbles, beans, or cups of water to measure the capacity of different-sized containers.
- Ask questions, like, “Can a hairbrush fit into your backpack?” or “Can a garden shovel fit in the kitchen cabinet?”
- Create a coat hanger balance scale. Place objects in plastic bags and hang them from the ends of the hanger. Ask, “How many pennies does it take to balance the mass of a pencil?”

Glossary

- **Mass** and **weight** are not the same thing. However, for students in earlier grades, it is acceptable to use the two terms interchangeably, especially when most students hear *weigh* and *weight* more often in everyday conversation. The distinction between *mass* and *weight* will be addressed in later grades.