

FAMILY MATH

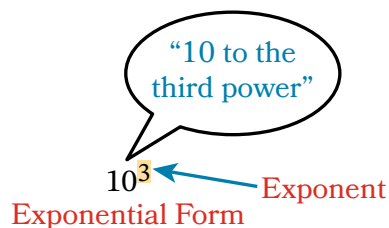
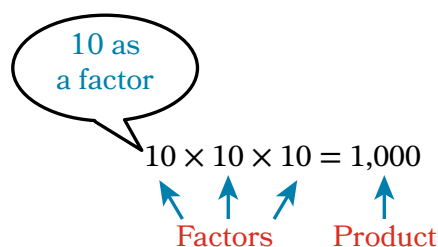
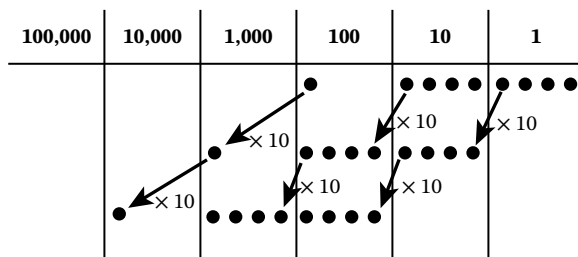
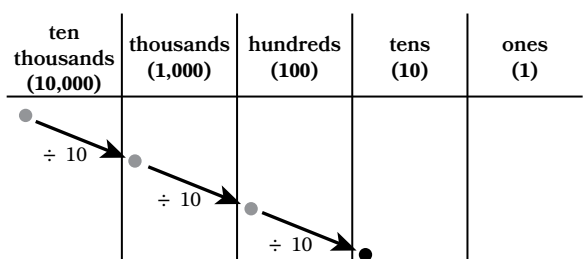
Place Value Understanding for Whole Numbers

Dear Family,

Your student is learning to multiply and divide by 10, 100, and 1,000. They begin by representing multiplication and division on the place value chart. Students recognize patterns in products and quotients, which prepares them to calculate mentally. They write repeated multiplication by using exponents and explore how powers of 10 relate to place value and metric units. Your student solves problems by converting between metric measurements and describing the relationships between the units.

Key Terms

centigram	kiloliter
centiliter	milligram
exponent	millimeter
exponential form	power of 10



The place value chart shows each place value unit is 10 times as much as the unit to its right. This understanding can be applied to multiplying and dividing by powers of 10.

When multiplying by 10, digits shift to the left. When dividing by 10, digits shift to the right.

kilometer, meter, centimeter, millimeter

longest ← → shortest

1 meter = 100 centimeters

1 meter = 1,000 millimeters

1 kilometer = 1,000 meters

kilogram, gram, centigram, milligram

heaviest ← → lightest

1 gram = 100 centigrams

1 gram = 1,000 milligrams

1 kilogram = 1,000 grams

kiloliter, liter, centiliter, milliliter

greatest capacity ← → least capacity

1 liter = 100 centiliters

1 liter = 1,000 milliliters

1 kiloliter = 1,000 liters

Students use powers of 10 to understand relationships between metric units and to solve problems.

At-Home Activity

Would You Rather?

Help your student practice converting metric units by asking “Would you rather” questions. For example, you could ask some of the following questions, replacing the pizza, chocolate milk, or scooter with your student’s favorite items. As they answer each question, have them explain why.

- “Would you rather eat 100 grams of pizza or 10,000 centigrams of pizza?”
- “Would you rather drink 1 liter of chocolate milk or 1,000 milliliters of chocolate milk?”
- “Would you rather ride on a scooter for 5 kilometers or ride on a scooter for 500,000 centimeters?”