

Convert Measurement Units

Lesson 4-6

Name: _____

Date: _____

Class: _____

Key Vocabulary

Level 1 support

Picture first, then the word, then a plain-language meaning. Say each word out loud.

1 foot = 12 inches, so the factor is 12

Conversion Factor

A ratio that helps you change one unit into another.

Inches, feet, pounds, ounces

Unit

A standard amount used to measure, like an inch or a liter.

2 feet = 24 inches

Equivalent

Having the same value, just in different units.

12 inches per 1 foot

Ratio

A way to compare two amounts.

12 inches = 1 foot, 3 feet = 1 yard, 16 ounces = 1 pound

Customary units

The U.S. way of measuring, like inches, feet, and pounds.

1 meter = 100 centimeters, 1 kilogram = 1,000 grams

Metric units

A way of measuring by 10s, like meters, liters, and grams.

Key Ideas & Notes

- You're building a brand-new arcade cabinet!
- The blueprints use feet, but the parts catalog lists measurements in inches.
- The wiring instructions use yards, and the weight limits are in pounds — but the shipping labels use ounces.
- You need to convert between units to make sure everything fits and ships correctly.
- Use conversion factors to complete the ratio table. Convert each measurement to the target unit.

Think About It

- Why might the blueprint and the parts catalog use different units?
- How many inches are in 1 foot? How many feet in 1 yard?
- How do you decide whether to multiply or divide when converting?

My Notes

Guided Examples

Example 1

How many inches are in 7 feet?

Solution: $7 \times 12 = 84$ inches.

Answer: A. 84 inches

Example 2

How many feet are in 3 yards?

Solution: 1 yard = 3 feet. $3 \times 3 = 9$ feet.

Answer: A. 9 feet

Example 3

How many ounces are in 4 pounds?

Solution: 1 pound = 16 ounces. $4 \times 16 = 64$ ounces.

Answer: A. 64 ounces

Write About the Math

The Writing Revolution

I can explain my conversion using the words conversion factor, unit, equivalent, and ratio.

1. Kernel Sentence subject + verb

Model: Unit is a standard amount used to measure, like an inch or a liter.

Unidad es una cantidad estándar para medir, como una pulgada o un litro.

Write a kernel sentence about unit. Use a subject and a verb.

Escribe una oración base sobre unidad. Usa un sujeto y un verbo.

2. Sentence Expansion because · but · so

Kernel: Unit matters in math

Unidad importa en matemáticas

Expand the kernel three ways. Add a reason, a contrast, and a result.

because
porque

Unit matters in math because ____.

Unidad importa en matemáticas porque ____.

but
pero

Unit matters in math, but ____.

Unidad importa en matemáticas, pero ____.

so
entonces

Unit matters in math, so ____.

Unidad importa en matemáticas, entonces ____.

3. Sentence Types 4 ways to write a math idea

Statement
Afirmación

Tell one true fact about unit.
Di un hecho verdadero sobre unit.

Unit ____.

Question
Pregunta

Ask a question about unit.
Haz una pregunta sobre unit.

How does ____ ?

¿Cómo ____ ?

Exclamation
Exclamación

Show excitement about unit.
Muestra entusiasmo sobre unit.

Wow, ____ !

¡Guau, ____ !

Command
Mandato

Tell a partner what to do with unit.
Dile a un compañero qué hacer con unit.

First, ____ .

Primero, ____ .

4. Explain Your Reasoning use a sentence starter

I multiplied / divided by ____ .

Multipliqué / dividí por ____ .

____ **equals** ____ **because** ____ .

____ *es igual a* ____ *porque* ____ .

I convert units when ____ .

Convierto unidades cuando ____ .

Try It

Solve on your own. Check the answer key when you are done.

1. Convert 24 inches to feet.

- A. 2 feet
- B. 3 feet
- C. 12 feet
- D. 24 feet

Show your work:

2. A shelf is 30 inches long. How many feet and inches is that?

- A. 2 feet 6 inches
- B. 3 feet 0 inches
- C. 2 feet 8 inches
- D. 1 foot 18 inches

Show your work:

Stretch Your Thinking

Level 2 enrichment

Challenge task — explain your reasoning in full sentences.

A recipe says you need 5 feet of ribbon, but the store only sells ribbon in inches. Another recipe says you need 2 yards of fabric, but your ruler measures in feet. Convert both measurements and explain the steps you used. Which conversion factor did you use each time?

Sentence starter: 5 feet = ___ inches because ___. 2 yards = ___ feet because ___. The conversion factors I used were ___.

Show your work:

Reflect — Exit Ticket

Which is the correct conversion of 5 yards to inches?

- A. 180 inches
- B. 60 inches
- C. 15 inches
- D. 540 inches

Your answer:

Answer Key & Teacher Guide

1. **Try It 1:** A. 2 feet — $24 \div 12 = 2$ feet.
2. **Try It 2:** A. 2 feet 6 inches — $30 \div 12 = 2$ remainder 6. So 30 inches = 2 feet 6 inches.
3. **Exit Ticket:** A. 180 inches — 5 yards $\times 3 = 15$ feet. 15 feet $\times 12 = 180$ inches. Or: $5 \times 36 = 180$ inches.

Writing (TWR) — what to look for

- **Kernel sentence:** A complete sentence needs a subject and a verb. Example: Unit is a standard amount used to measure, like an inch or a liter.
- **Expansion:** *because* gives a reason, *but* shows a contrast or exception, *so* shows a result. Answers vary; each must keep the kernel idea and add the correct kind of detail.
- **Sentence types:** Statement ends with a period, question with "?", exclamation with "!", and a command starts with an action verb (a "bossy" verb).