Important Concepts . . .

Preview Review

Mathematics Grade 5

W2 - Lesson 5: Metric Measurements

V5-07

Important Concepts of Grade 5 Mathematics

W1 - Lesson 1 .....Number Sense Numbers 0 to 100 000
W1 - Lesson 2 ..... Exploring Proper Fractions
W1 - Lesson 3 ..... Exploring Decimals
W1 - Lesson 4 .....Numbers With Up to 2 Decimal Places
W1 - Lesson 5 ..... Multiplication
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W2 - Lesson 1 ..... Division
W2 - Lesson 2 ..... Collecting Data and Analyzing Patterns
W2 - Lesson 3 .....Estimating and Taking Measurements
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W3 - Lesson 1 ..... Volume, Capacity, Mass, and Time
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W3 - Lesson 3 .....Transformations
W3 - Lesson 4 ..... Statistics and Probability
W3 - Lesson 5 .....Chance and Probability
W3 - Quiz

Materials Required

Protractor
Ruler
Calculator

A textbook is not needed.

This is a stand-alone course.

Mathematics Grade 5
Version 5
Preview/Review W2 - Lesson 5

Publisher: Alberta Distance Learning Centre
Author: Leslie Friesen
In-House Teacher: Sue Rees

Project Coordinator: Dennis McCarthy
Preview/Review Publishing Coordinating Team: Nina Johnson, Laura Renkema, and Donna Silgard

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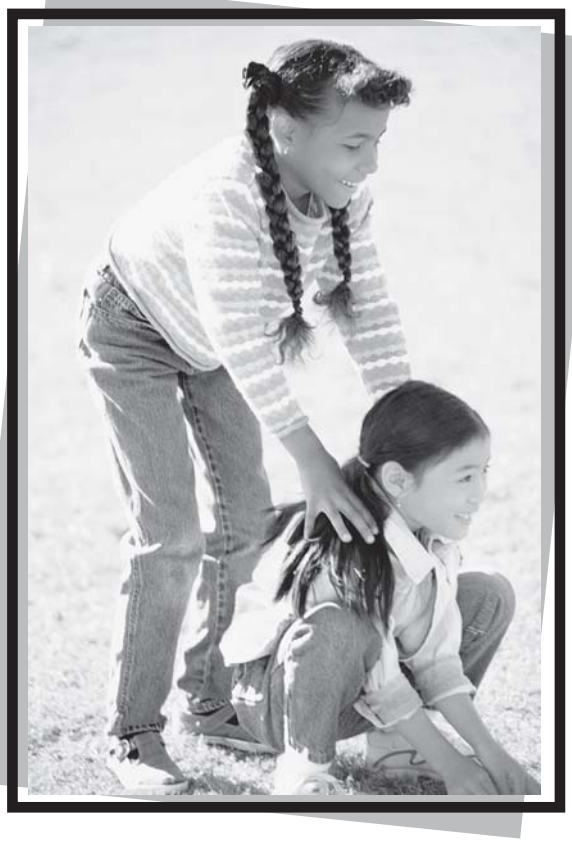
Preview/Review Concepts for Grade Five Mathematics



W2 - Lesson 5: Metric Measurements

OBJECTIVES

By the end of this lesson, you should

- understand base ten metric units
- convert from one unit to another in metric units

Glossary of Terms

Capacity: Capacity is the measurement of how much a container holds.

Length: Length is the measurement of distance or the measurement of how long an object is.

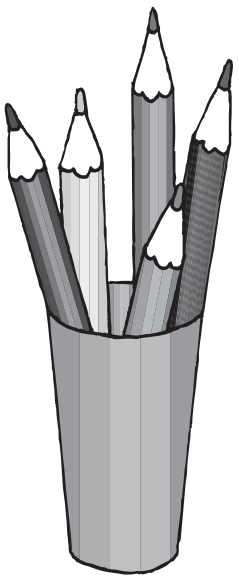
Mass: Mass is a measurement of matter or the measurement of how much an object weighs.

Units are compared in the following chart:

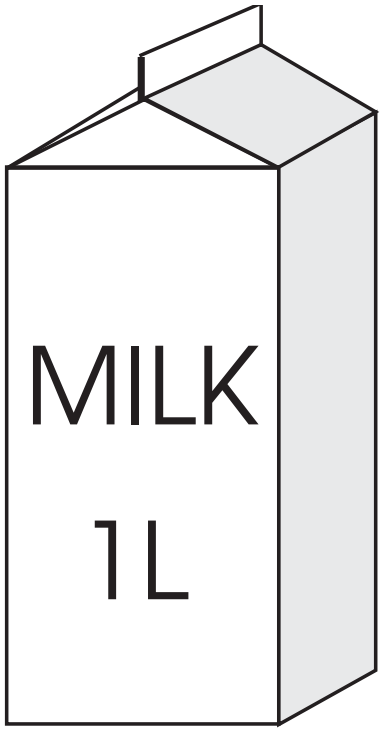
kilo	hecto	deca	metres, litres, grams	deci	centi	milli
1 000	100	10	1	0.1	0.01	0.001

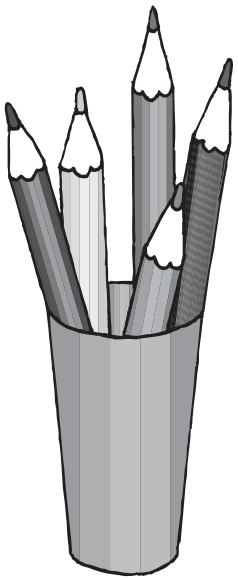
1 km = 1 000 m 1 000 mm = 1 m

1 000 mm = 1 m
1 000 m = 1 km



	Metric Unit for Length	Metric Unit for Mass	Metric Unit for Capacity
Abbreviations or symbols	mm, cm, dm, m, dam, hm, km	mg, cg, dg, g, dag, hg, kg	mL, cL, dL, L, dal, hL, kL
Units (Each unit is best for measuring a particular item.)	millimetre	milligram	millilitre
	centimetre	centigram	centilitre
	decimetre	decigram	decilitre
	metre	gram	litre
	decametre	decagram	decalitre
	hectometre	hectogram	hectolitre
	kilometre	kilogram	kilolitre
Examples	**Marathons are measured in km, but pencil leads are measured in mm.**	**Apples are measured in g, but cars are measured in kg.**	**Milk and juice may be measured in L, but pop is usually measured in mL.**

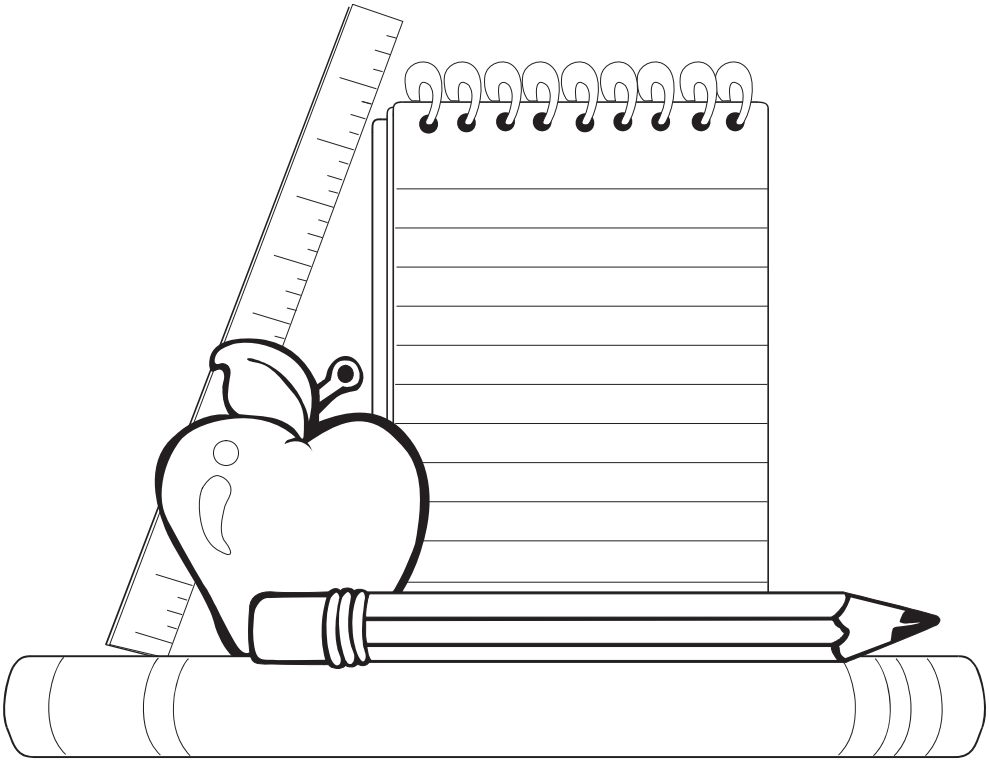




W2 - Lesson 5: Metric Measurements

Concepts:

- Metric Units are Base Ten Units
- Converting Units



Metric Units are Base Ten Units

What are Base Ten Units?

Base ten units are units that are based on ten or multiples of ten. This means that there are 10 metres in a decametre, or 1 000 metres in a kilometre. This means we can easily convert from one unit to another. All you need to do is move the decimal!

The most important things to remember when converting between units are the *value* of each unit and the *order* of each unit. If you can remember the value of each prefix (kilo, hecto, deca, deci, centi, and milli), finding the value of each should be easy.

One method to remember the prefixes is to use the first letter of every prefix and create a saying.

Try your own!

For example:

Kilometre	**km**	**K**iller	K	_____
Hectometre	**hm**	**H**eat wave	H	_____
Decametre	**dam**	**D**estroys	D	_____
Metre	**m**	**M**illion	L	_____
Decimetre	**dc**	**D**elicious	D	_____
Centimetre	**cm**	**C**andied	C	_____
Millimetre	**mm**	**M**arshmallows	M	_____

Use the comparative chart to complete the following.

kilo	hecto	deca	metres, litres, grams	deci	centi	milli
1 000	100	10	1	0.1	0.01	0.001

1. 10 m = _____ cm
2. 100 hm = _____ dm
3. 1 km = _____ m
4. 100 dam = _____ m
5. 10 cm = _____ dm
6. 1 000 mm = _____ m
7. 1 m = _____ dam
8. 100 hm = _____ km

Converting Units

If I want to change kilometres into hectometres, I need to go *down the stairs*, or move the decimal place to the right.

6.43 km = _____ hm (Because hectometres are one place to the right of kilometres on the chart, move the decimal one place to the left.)

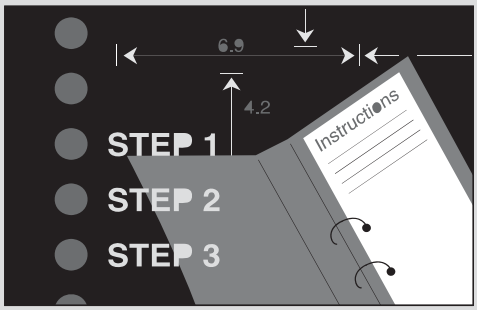
8 264.5 mm = _____ dam (Because decametres are four places to the left, move the decimal four places to the left.)

Complete the following.

1. 5.987 g = _____ cg
2. 0.048 hm = _____ dm
3. 0.184 km = _____ m
4. 1.54 dam = _____ m
5. 6948 cm = _____ dm
6. 14681 mm = _____ m
7. 532 m = _____ dam
8. 152.2 hm = _____ km
9. 453.01 mm = _____ dm
10. 987.65 cm = _____ dam
11. 52 hL = _____ daL
12. 46.88 hg = _____ g

3–Step Problem-Solving Process

1. Write the problem in a number question.
2. Solve the problem. **Show your work.**
3. Write a sentence with the answer.



1. Luke was building a special table for his Mom. He measured a piece of wood for the top of the table: 1.4 m by 0.45 m. He asked his Mom to decide on the height of the table. His mom wanted a table 125 cm high. How many metres tall did Luke's mom want the table?

2. Grace was making fruit punch. The recipe called for 1.5 litres of water. Unfortunately, Grace did not have a measuring container that held one litre. Help Grace find how many millilitres of water she needs.

3. A can of Cola contains 344 mL. How many litres of Cola would you have if you bought four dozen cans?