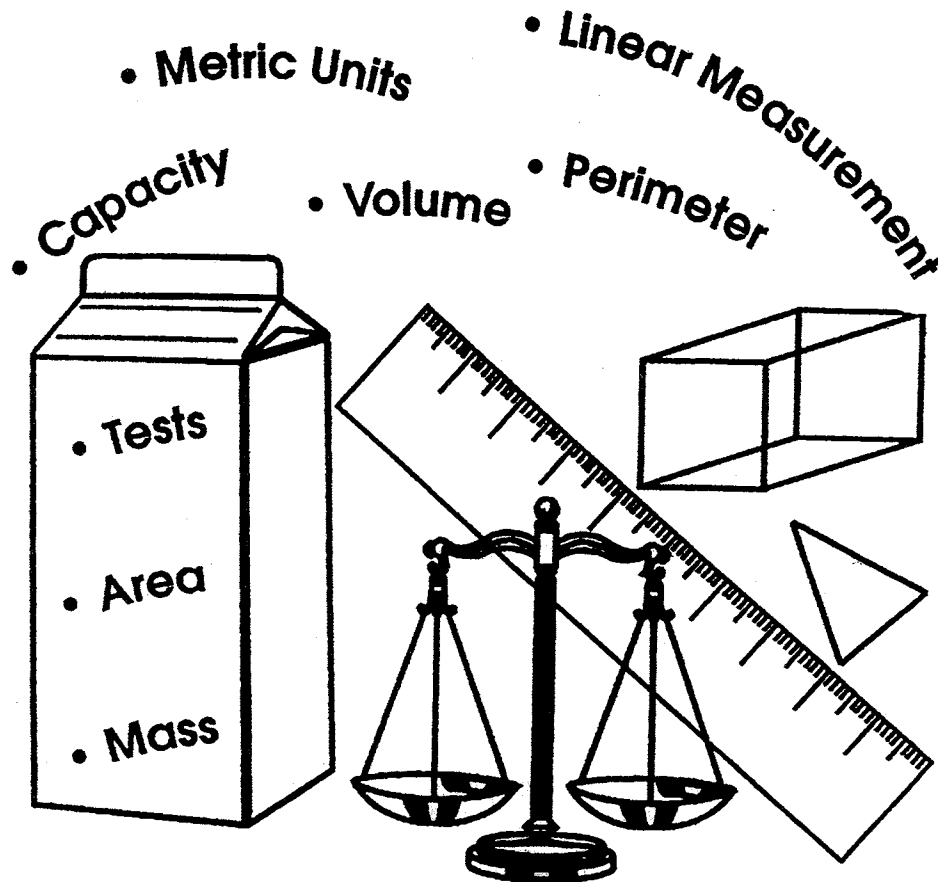


MEASUREMENT

The Metric System

Grades 4-8



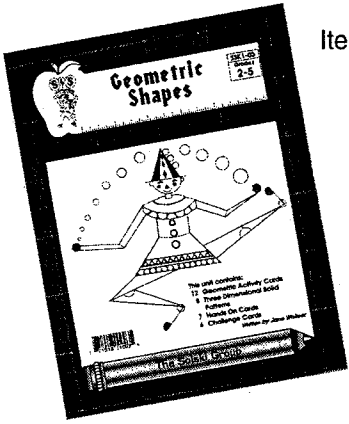
About This Book

This unit contains Teaching Suggestions, Activities in Estimating, Linear Measurement, Pretests, Volume, Capacity, Metric Units, Perimeter, Tests, Area and Mass.

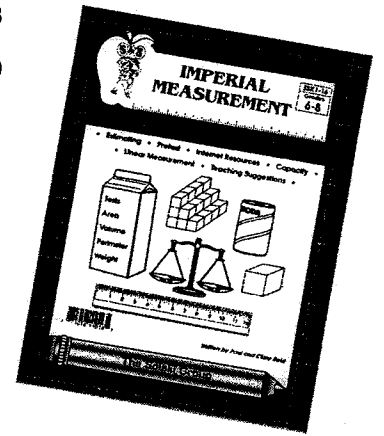
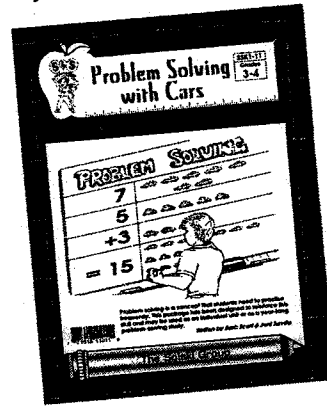
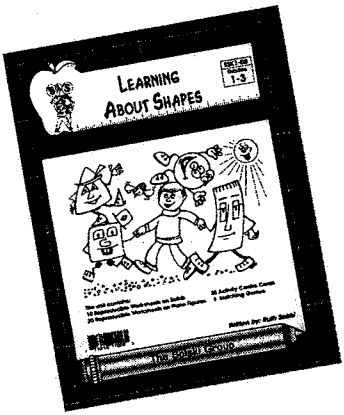
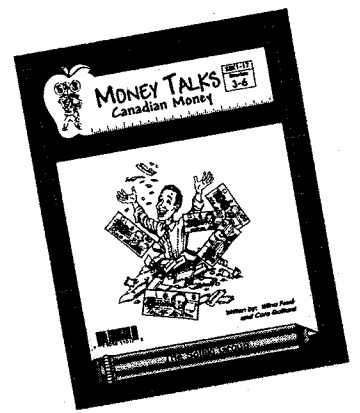
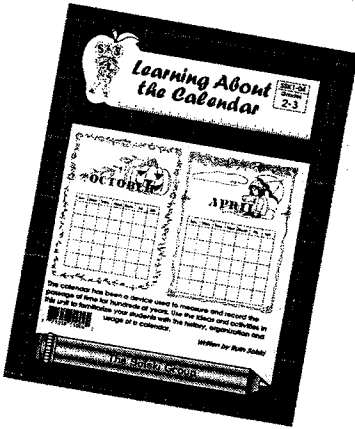
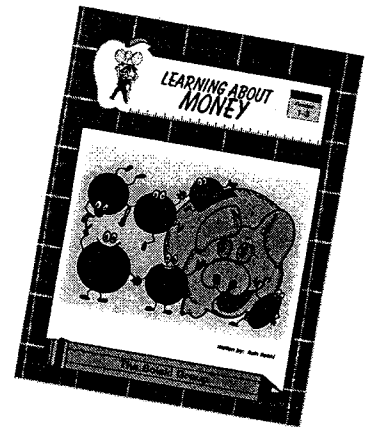
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Item # K1-15

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Look For Other Math Units



Item #K1-03	Geometric Shapes	2-5
K1-04	Learning About the Calendar	2-3
K1-05	It's About Time	2-4
K1-06	All About Time	4-6
K1-07	Teaching Math Through Sports	6-9
K1-08	Learning About Shapes	1-3
K1-09	Learning About Money (Canadian)	1-3
K1-10	Learning About Time	1-3
K1-11	Problem Solving With Cars	3-4
K1-12	Canadian Problem Solving	4-6
K1-13	Place Value	4-6
K1-14	A Graph for All Seasons	1-3
K1-15	Measurement & The Metric System	4-6
K1-16	Imperial Measurement	6-8
K1-17	Money Talks	3-6
K1-18	Money Talks - U.S. Money	3-6
K1-19	Learning About U.S. Money	1-3
K1-20	Probability and Inheritance	7-10



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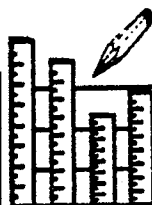


Table of Contents

Objectives	2
Teacher Suggestions	3
Vocabulary List	4 - 5
Extension	6
Internet Resources	7
Pretest	8 - 9
Metric Units	10 - 13
Linear Measurement	14 - 15
Estimating	16 - 17
Perimeter	18 - 20
Area	21 - 27
Volume	28 - 32
Mass	33 - 35
Capacity	36 - 37
Volume, Mass, Capacity	38 - 39
Wordsearch	40
Test	41 - 44
Student Worksheets	45 - 46
Evaluation Form	47
Answer Keys	48 - 77
Blank Activity Sheet	78

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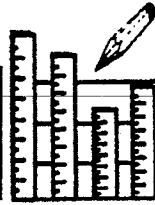
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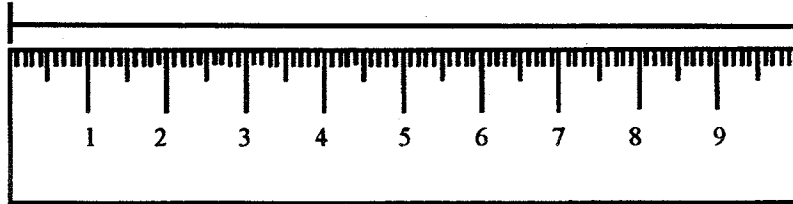
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MEASUREMENT



Metric Units

$$10 \text{ cm} = 1 \text{ dm}$$



Metric Measurement is based on **multiples of 10**.

When you change from a larger unit to a smaller unit, there will be more units.

When you change from a smaller unit to a larger unit, there will be fewer units.

multiply by 10, 100, or 1 000

divide by 10, 100, or 1 000

Examples:

$$5 \text{ m} = 500 \text{ cm}$$

large unit → small unit

$$\times 100$$

$$3\,000 \text{ m} = 3 \text{ km}$$

small unit → large unit

$$\div 1\,000$$

$$2 \text{ cg} = 20 \text{ mg}$$

large unit → small unit

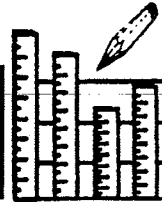
$$\times 10$$

$$550 \text{ L} = 0.550 \text{ kL}$$

small unit → large unit

$$\div 1\,000$$

MEASUREMENT



Metric Units

Exercise # 1

Complete the following by multiplying.

1. $7 \text{ m} = \underline{\quad} \text{ dm}$
2. $5 \text{ dm} = \underline{\quad} \text{ cm}$
3. $15 \text{ cm} = \underline{\quad} \text{ mm}$
4. $3 \text{ km} = \underline{\quad} \text{ hm}$
5. $8 \text{ hm} = \underline{\quad} \text{ m}$
6. $16 \text{ m} = \underline{\quad} \text{ cm}$
7. $12 \text{ m} = \underline{\quad} \text{ mm}$
8. $1 \text{ dam} = \underline{\quad} \text{ dm}$
9. $14 \text{ m} = \underline{\quad} \text{ mm}$

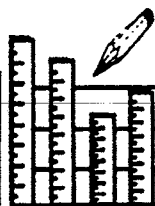
Complete the following by dividing.

1. $1\,200 \text{ mm} = \underline{\quad} \text{ cm}$
2. $200 \text{ m} = \underline{\quad} \text{ hm}$
3. $100 \text{ cm} = \underline{\quad} \text{ m}$
4. $400 \text{ hm} = \underline{\quad} \text{ km}$
5. $20 \text{ dm} = \underline{\quad} \text{ m}$
6. $1\,000 \text{ dm} = \underline{\quad} \text{ dam}$
7. $10 \text{ dam} = \underline{\quad} \text{ hm}$
8. $140 \text{ cm} = \underline{\quad} \text{ dm}$

Calculate the missing measurements.

75 m	= <u> </u> dm	= <u> </u> cm	= <u> </u> mm
42 km	= <u> </u> hm	= <u> </u> dam	= <u> </u> m
55 hm	= <u> </u> dam	= <u> </u> m	= <u> </u> dm
2.5 km	= <u> </u> hm	= <u> </u> dam	= <u> </u> m
1,000 mm	= <u> </u> cm	= <u> </u> dm	= <u> </u> m
4,500 m	= <u> </u> dam	= <u> </u> hm	= <u> </u> km
250 cm	= <u> </u> dm	= <u> </u> m	= <u> </u> dam
2,450 mm	= <u> </u> cm	= <u> </u> dm	= <u> </u> m

MEASUREMENT



Metric Units

Exercise # 2

Complete the table below by calculating the missing measurements.

125 km	= ___ hm	= ___ dam	= ___ m
___ m	= ___ dm	= 2 700 cm	= ___ mm
___ m	= ___ dm	= ___ cm	= 7 400 mm
___ mm	= 18 cm	= ___ dm	= ___ m
1 850 cm	= ___ dm	= ___ m	= ___ dam

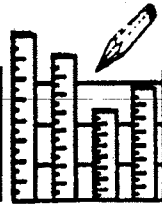
Complete.

1. $1 \text{ m} + 25 \text{ cm} = \text{___ cm}$
2. $3 \text{ km} + 12 \text{ hm} = \text{___ hm}$
3. $17 \text{ mm} + 2 \text{ cm} = \text{___ mm}$
4. $13 \text{ dm} + 22 \text{ m} = \text{___ dm}$
5. $150 \text{ cm} + 2 \text{ m} = \text{___ m}$
6. $40 \text{ hm} - 50 \text{ dam} = \text{___ dam}$
7. $15 \text{ km} - 3 000 \text{ m} = \text{___ km}$
8. $2.5 \text{ m} - 500 \text{ mm} = \text{___ m}$
9. $14 \text{ dm} - 90 \text{ cm} = \text{___ cm}$
10. $15 \text{ m} - 1 \text{ dam} = \text{___ m}$

Complete by using >, <, or =.

1. $10 \text{ cm} \text{ ___ } 1 \text{ dm}$
2. $1 001 \text{ m} \text{ ___ } 11 \text{ hm}$
3. $1 200 \text{ mm} \text{ ___ } 1.2 \text{ m}$
4. $15 \text{ dm} \text{ ___ } 151 \text{ cm}$
5. $12 \text{ km} \text{ ___ } 12000 \text{ m}$
6. $11 \text{ dm} \text{ ___ } 1 \text{ m}$

MEASUREMENT



Linear Measurement

The most commonly used unit for **linear measurement** is the **metre**.

Is the **metre** the most appropriate unit of measurement for measuring everything?

• Measure the thickness of a newspaper in **millimetres**.

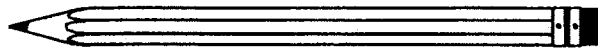


• Measure the distance between cities in **kilometres**.



• Measure the height of a lighthouse in **metres**.

• Measure the length of a pencil in **centimetres**.



From the list below, choose the appropriate unit of measurement.

mm cm m km

- | | | | |
|--------------------------------|-----|-------------------------------|-----|
| 1. the width of your hand | ___ | 6. a tree | ___ |
| 2. a hiking trail | ___ | 7. the width of a credit card | ___ |
| 3. a soccer field | ___ | 8. the height of a mountain | ___ |
| 4. the thickness of your ruler | ___ | 9. the length of a river | ___ |
| 5. your height | ___ | 10. the distance to the sun | ___ |