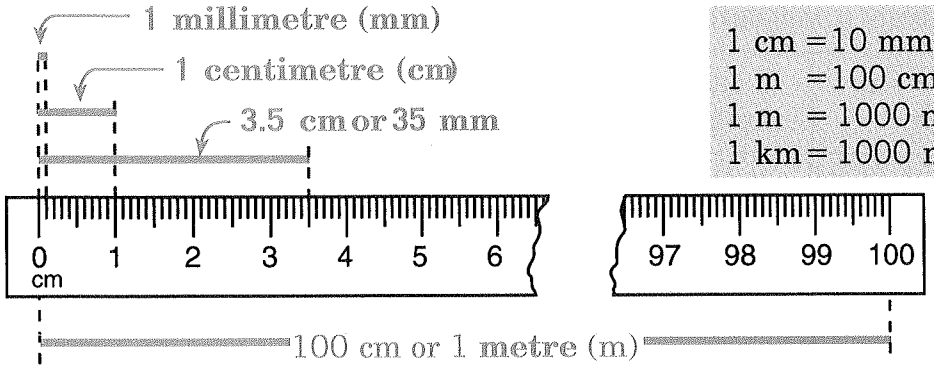
NAME _____

Lesson 1 Length



1 cm = 10 mm	1 mm = 0.1 cm
1 m = 100 cm	1 mm = 0.001 m
1 m = 1000 mm	1 cm = 0.01 m
1 km = 1000 m	1 m = 0.001 km

A distance of 1000 m is 1 kilometre (km). If you run around a track 2.5 times, you would run a distance of 1 km.

16.9 m = ? cm	0.8 m = ? mm
16.9 m = (16.9 × 100) cm	0.8 m = (0.8 × 1000) mm
16.9 m = 1690 cm	0.8 m = _____ mm

CHAPTER 8

Complete the following.

	a	*b*	*c*
1.	9 km = _____ m	12 m = _____ cm	6 m = _____ mm
2.	3 cm = _____ mm	5.3 km = _____ m	0.4 m = _____ cm
3.	9.2 cm = _____ mm	0.99 m = _____ mm	10 km = _____ m
4.	10.54 km = _____ m	12.8 m = _____ cm	1.2 m = _____ mm
5.	0.01 m = _____ cm	100 m = _____ mm	45 cm = _____ mm
6.	200 km = _____ m	18.7 m = _____ mm	0.01 km = _____ m

Solve each problem.

7. The diameter of a hockey puck is 76 mm. Is that more or less than 8 cm?

It is _____ than 8 cm.

8. A relay race is 1.5 km long. How many metres is that?

The race is _____ m long.

7.

8.

NAME _____

Lesson 2 Units of Length

This table shows how to change a measurement from one metric unit to another.

To change	to millimetres, multiply by	to centimetres, multiply by	to metres, multiply by	to kilometres, multiply by
millimetres		0.1	0.001	0.000 001
centimetres	10		0.01	0.000 01
metres	1000	100		0.001
kilometres	1 000 000	100 000	1000	

5300 mm = ? cm
5300 mm = (5300 × 0.1) cm
5300 mm = 530.0 cm

420.8 m = ? km
420.8 m = (420.8 × 0.001) km
420.8 m = 0.4208 km

Complete the following.

	a	*b*	*c*
1.	130 mm = _____ cm	2.8 cm = _____ m	345 m = _____ km
2.	60 cm = _____ mm	100 mm = _____ m	9.25 km = _____ m
3.	0.9 cm = _____ m	2.05 km = _____ m	1500 m = _____ km
4.	20.6 cm = _____ m	24.85 m = _____ mm	48 mm = _____ cm
5.	999 mm = _____ m	98.9 m = _____ cm	0.1 cm = _____ mm
6.	50 m = _____ km	152.6 cm = _____ m	0.625 km = _____ m

Solve each problem.

7. The circumference of a baseball is 238 mm. How many centimetres is that?

The circumference is _____ cm.

8. Adlai said he is 150 mm tall. Alex said he is 150 cm tall. Kathy said she is 150 m tall. Only one of those students could possibly be correct. What is the name of that student?

_____ gave a correct measurement.

7.

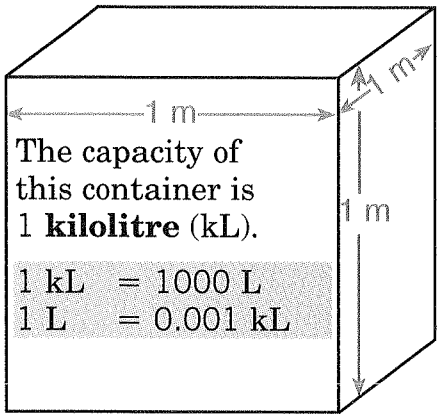
8.

NAME _____

Lesson 3 Capacity

A cube with each edge 1 cm long has a capacity of 1 **millilitre** (mL). A cube that is 10 cm long on each edge has a capacity of 1 **litre**.

1 L = 1000 mL
1 mL = 0.001 L



The capacity of this container is 1 **kilolitre** (kL).

1 kL = 1000 L
1 L = 0.001 kL

To change	to millilitres, multiply by	to litres, multiply by	to kilolitres, multiply by
millilitres		0.001	0.000 001
litres	1 000		0.001
kilolitres	1 000 000	1 000	

Complete the following.

	a	*b*
1.	8 kL = _____ L	17 kL= _____ L
2.	200 L = _____ kL	6 L = _____ mL
3.	2000 mL = _____ L	3440 L = _____ kL
4.	10 L = _____ mL	45 mL = _____ L
5.	0.1 kL = _____ L	0.94 L = _____ mL
6.	240.5 L = _____ kL	236 mL = _____ L
7.	3500 mL = _____ L	4.5 kL = _____ L
8.	1 L = _____ kL	30.8 L = _____ mL

Solve each problem.

9. There are 1000 cubic centimetres (cm^3) in 1 L. How many cubic centimetres are there in 1 kL?

_____ cm^3 are in 1 kL.

9.

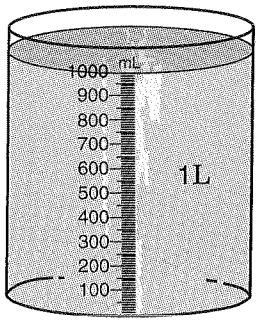
10. An owner of a service station bought 3 kL of gasoline at $0.64 a litre. How much did it cost?

The gasoline cost $ _____.

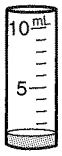
10.

NAME _____

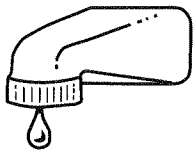
Lesson 4 Mass



1 L of water has a mass of 1 **kilogram** (kg).



1 mL of water has a mass of 1 **gram** (g).



1 drop of water has a mass of about 67 **milligrams** (mg).

1 kg = 1000 g	1 g = 0.001 kg
1 g = 1000 mg	1 mg = 0.001 g

Complete the following.

	a	*b*
1.	3 kg = _____ g	10 g = _____ mg
2.	485 g = _____ kg	250 mg = _____ g
3.	3.5 kg = _____ g	4600 mg = _____ g
4.	45.8 g = _____ mg	2500.9 g = _____ kg

Solve each problem.

5. Give the mass in kilograms of 2.5 L of water. Give the mass in grams.

The mass is _____ kg.

The mass is _____ g.

5.

6. Give the mass in grams of 9.5 mL of water. Give the mass in milligrams.

The mass is _____ g.

The mass is _____ mg.

6.

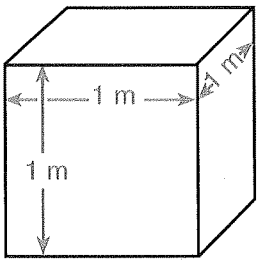
7. A vitamin tablet has a mass of 100 mg. How many vitamin tablets would it take to have a mass of 1 g?

It would take _____ vitamin tablets.

7.

NAME _____

Lesson 5 Tonne



Suppose this container were filled with water.
The water would weigh 1 **tonne** (t).

1 t = 1000 kg 1 kg = 0.001 t

Complete the following.

	a	*b*
1.	6 t = _____ kg	8.5 t = _____ kg
2.	675 kg = _____ t	5050.5 kg = _____ t

Solve each problem.

3. Paige has a mass of 49.3 kg. Amy has a mass of 47.7 kilograms. How much more is Paige's mass than Amy's?

Paige's mass is _____ kg more.

3.

4. A bag of apples with a mass of 2.6 kg costs $2.99. What is the cost per kilogram?

The cost per kilogram is $_____.

4.

5. A kilolitre of water has a mass of 1 t. There are 7500 kL of water in a swimming pool. How much is the mass of the water in the swimming pool?

The water's mass is _____t.

5.

6. The combined mass of the students in a class is 1260 kg. Give the mass in tonnes.

The mass is _____ t.

6.

7. In 2004, Canada produced about 4700 t of corn a day. It produced about 16 000 t more wheat a day than corn. How many tonnes of wheat did Canada produce a day in 2004?

It produced _____ t of wheat a day.

7.

CHAPTER 8

Lesson 5 Problem Solving

Solve each problem.

1. A roll has 325 cm of tape. How many metres is that? How many millimetres is that?

It is _____ m.

It is _____ mm.

2. Samantha runs 3.5 km each day. How many metres does she run each day?

She runs _____ m each day.

3. A teaspoon holds 5 mL of water. How many teaspoonfuls of water are in 1 L?

_____ teaspoonfuls of water are in 1 L.

4. 1.5 L of water are in a container. 50 mL of water are removed. How many litres of water remain in the container?

_____ L of water remain.

5. It costs \$1.86 for 2 L of orange juice. What is the cost per litre?

The cost per litre is \$_____.

6. It costs \$1.80 to buy 2.25 kg of onions. What is the cost per kilogram?

The cost per kilogram is \$_____.

7. One nickel has a mass of about 5 g. There are 40 nickels in a roll. Find the mass in grams of three rolls of nickels.

The mass is _____ g.

8. There are 3.5 t of cargo on a truck. How many kilograms is that?

It is _____ kg.

1.	2.
3.	4.
5.	6.
7.	8.

NAME _____

CHAPTER 8 PRACTICE TEST
Metric Measurement

Complete the following.

	a	*b*
1.	12 cm = _____ mm	6 m = _____ mm
2.	30 m = _____ cm	2 km = _____ m
3.	80 mm = _____ cm	900 mm = _____ m
4.	6.4 km = _____ m	54.92 m = _____ mm
5.	54.92 cm = _____ m	505 m = _____ km
6.	6 L = _____ mL	1.2 kL = _____ L
7.	0.7 L = _____ mL	85 mL = _____ L
8.	1200 mL = _____ L	3500 L = _____ kL
9.	15.9 g = _____ mg	75 mg = _____ g
10.	250 kg = _____ g	875 g = _____ kg
11.	10 000 kg = _____ t	0.75 t = _____ kg

Solve each problem.

12. The odometer on a car showed 9031.7 km before a trip. It showed 10 001.3 km after the trip. How long was the trip?

The trip was _____ km long.

12.

13. 1 L of water has a mass of 1 kg. How many grams are in 1.5 L of water?

The water has a mass of _____ grams.

13.

14. A pharmacist has 700 mL of medicine. She wants to put the same amount of medicine in each of 35 bottles. How much medicine will she put in each bottle?

She will put _____ mL in each bottle.

14.

CHAPTER 8

NAME _____

CHAPTER 9 PRETEST
More Metric Measurement

Complete the following.

	a	*b*
1.	640 mm = _____ cm	42.5 days = _____ h
2.	3400 cm = _____ m	25 kL = _____ L
3.	4000 g = _____ kg	16 400 kg = _____ t
4.	9000 m = _____ km	37 cm = _____ mm
5.	12 000 mL = _____ L	27 000 s = _____ h
6.	0.5 kL = _____ L	3600 cm = _____ m
7.	15 km = _____ m	7800 g = _____ kg
8.	19 m = _____ cm	1700 mL = _____ L
9.	4300 mL = _____ L	7 h = _____ s
10.	10 h 18 min = _____ min	39 m = _____ cm
11.	1700 cm = _____ m	448 min = _____ h _____ min

Solve each problem.

12. Jack's fishbowl has a capacity of 9 L. What is the capacity in kilolitres?

The fishbowl has a capacity of _____ kL.

12.

13. Delvin and two of his friends rode their bikes on an 11-km bike trail. How many metres is the bike trail?

The bike trail is _____ m.

13.

14. Madeline spent 690 min working on her science project. How many hours did Madeline spend working on her science project?

Madeline spent _____ h working on her science project.

14.