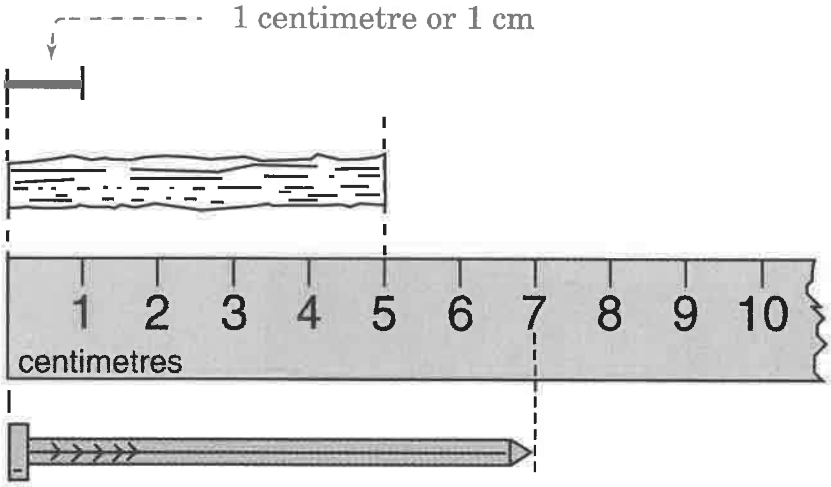
GRADE 10 ESSENTIALS MATH

METRIC CONVERSIONS WORKBOOK

EXTRA PRACTICE FOR CONVERTING BETWEEN METRIC MEASURES

NAME _____

Lesson 1 Centimetre (cm)



The stick is 5 cm long.

The nail is _____ cm long.

Find the length of each picture to the nearest centimetre.

1. _____ cm 

2. _____ cm 

3. _____ cm 

4. _____ cm 

5. _____ cm

6. _____ cm

Use a ruler to draw a line segment for each measurement.

7. 4 cm

8. 9 cm

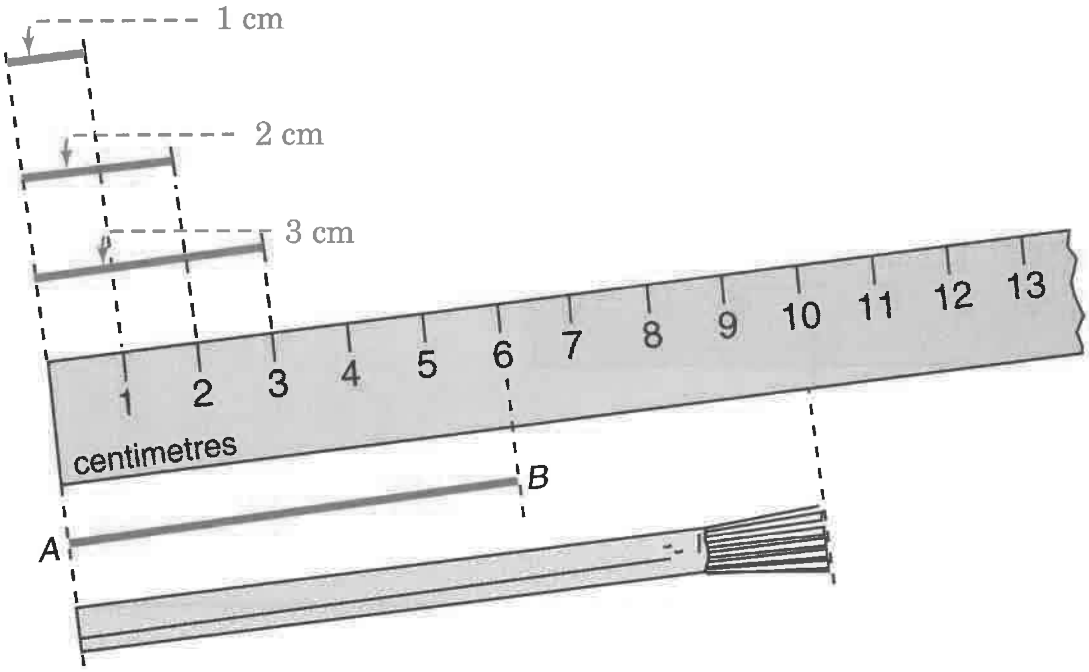
9. 11 cm

10. 13 cm

CHAPTER 15

NAME _____

Lesson 2 More Centimetres



Line segment AB is 6 cm long.

The brush is _____ cm long.

Find the length of each picture to the nearest centimetre.

1. _____ cm 

2. _____ cm 

3. _____ cm 

4. _____ cm

5. _____ cm

Use a ruler to draw a line segment for each measurement.

6. 6 cm

7. 4 cm

8. 12 cm

NAME _____

Lesson 3 Units of Length

600 cm = ? m

100 cm = 1 m

$$100\overline{)600} \quad 6$$

600 cm = 6 m

1 centimetre (cm) = 10 millimetres (mm)

1 metre (m) = 100 cm

1 m = 1000 mm

1 kilometre (km) = 1000 m

4 m = ? cm

1 m = 100 cm

1	100
×4	×4
4	400

4 m = _____ cm

Complete the following.

	a	*b*
1.	3 m = _____ cm	12 000 m = _____ km
2.	2 m = _____ mm	5 m = _____ cm
3.	5 m = _____ cm	7 m = _____ mm
4.	2 km = _____ m	6 km = _____ m
5.	2000 mm = _____ m	7000 m = _____ km
6.	7 m = _____ cm	9 m = _____ cm
7.	9 m = _____ mm	5 km = _____ m
8.	15 cm = _____ mm	500 cm = _____ m
9.	600 cm = _____ m	7 m = _____ mm
10.	3 m = _____ cm	300 cm = _____ m
11.	8 cm = _____ mm	9 km = _____ m
12.	10 m = _____ cm	3 km= _____ m

CHAPTER 15

Lesson 3 Problem Solving

Solve each problem.

1. Mr. Jefferson is 2 m tall. What is his height in centimetres?

His height is _____ cm.

2. In baseball the distance between home plate and first base is 27 m. What is this distance in centimetres?

The distance is _____ cm.

3. Jeromy has 150 m of kite string. How many centimetres of kite string does he have?

He has _____ cm of kite string.

4. A trench is 2 m deep. What is the depth of the trench in centimetres?

The trench is _____ cm deep.

5. There are 1000 m in a kilometre. How many centimetres are there in a kilometre?

There are _____ cm in a kilometre.

6. One of the pro quarterbacks can throw a football 54 m. How many centimetres can he throw the football?

He can throw the football _____ cm.

7. Marcena has 8 m of ribbon. How many centimetres of ribbon does she have?

She has _____ cm of ribbon.

8. A rope is 3 m long. What is the length of the rope in centimetres?

The rope is _____ cm long.

9. A certain car is 2 m wide. What is the width of the car in millimetres?

The car is _____ mm wide.

1.	
2.	**3.**
4.	**5.**
6.	**7.**
8.	**9.**

NAME _____

Lesson 6 Capacity

6 L = ? mL

1 L = 1000 mL

1 → 1000

×6 → ×6

6 → 6000

6 L = _____ mL

1 litre (L) = 1000 millilitres (mL)

1 kilolitre (kL) = 1000 L

12 000 L = ? kL

1000 L = 1 kL

$1000\overline{)12\,000}$ → 12

12 000 L = _____ L

Complete the following.

	a	*b*
1.	6000 mL = _____ L	12 L = _____ mL
2.	4000 mL = _____ L	8 kL = _____ L
3.	8000 L = _____ kL	6 L = _____ mL
4.	8 L = _____ mL	7000 L = _____ kL
5.	10 L = _____ mL	9000 mL = _____ L
6.	5 kL = _____ L	5000 mL = _____ L
7.	10 kL = _____ L	30 000 L = _____ kL
8.	2000 L = _____ kL	15 000 mL = _____ L
9.	10 L = _____ mL	17 000 L = _____ kL
10.	3000 L = _____ kL	12 kL = _____ L
11.	16 L = _____ mL	28 L = _____ mL
12.	10 000 mL = _____ L	16 kL = _____ L

CHAPTER 15

Lesson 6 Problem Solving

Solve each problem.

1. There are 6 L of lemonade in a picnic cooler. How many 1000-mL containers can be filled by using the lemonade in the cooler?

_____ containers can be filled.

2. The cooling system on a car holds 16 L. How many millilitres does it hold?

It holds _____ mL.

3. In problem **2,** how many millilitres do five cooling systems hold?

They hold _____ mL.

4. There are 376 L of milk delivered to the store. How many millilitres of milk is this?

It is _____ mL of milk.

5. How many litres of water would be needed to fill a 10-kL aquarium?

_____ L would be needed.

6. The lunchroom served 16 L of milk at lunch. How many millilitres of milk was this?

It was _____ mL of milk.

7. There are 1200 mL of liquid in a container. How many 100-mL jars can be filled by using the liquid in the container?

_____ jars can be filled.

8. There are 6 L of bleach in a container. How many millilitres of bleach are in the container?

There are _____mL of bleach in the container.

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

NAME _____

Lesson 7 Mass

Tonne (t), milligram (mg), gram (g), and **kilogram (kg)** are units of mass.

1 t = 1000 kg
1 kg = 1000 g
1 g = 1000 mg

5 kg = ? g

1 kg = 1000 g

1	1000
×5	×5
5	5000

5 kg = 5000 g

2 t = ? kg

1 t = 1000 kg

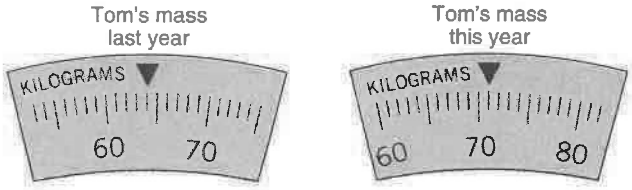
1	1000
×2	×2
2	2000

2t = _____ kg

Complete the following.

	a	*b*
1.	2 kg = _____ g	6 t = _____ kg
2.	2 t = _____ kg	4 kg = _____ g
3.	7 g = _____ mg	5 t = _____ kg

4. Tell the mass shown on each scale.



_____ kg _____ kg

5. How many kilograms did Tom gain?

Tom gained _____ kg since last year.

Complete the table.

	Tonnes	*Kilograms*	*Grams*	*Milligrams*
6.		1000		
7.	4			
8.	7		7 000 000	

Lesson 7 Problem Solving

Solve each problem.

1. Mrs. Wilson bought a 6-kg turkey. What is the mass of the turkey in grams?

The mass of the turkey is _____ g.

1.

2. The Garden Club grew 2 t of watermelons to sell. How many kilograms of watermelons did they grow?

The club grew _____ kg of watermelons.

2.

3. Mason bought 50 kg of apples to make applesauce. How many grams of apples did he buy?

Mason bought _____ g of apples.

3.

4. Brett bought a truck that can hold 25 t of stone. How many kilograms of stone could the truck hold?

The truck can hold _____ kg of stone.

4.

5. Jack and Beth picked 163 kg of blueberries. How many grams of blueberries did they pick?

They picked _____ g of blueberries.

5.

6. An African elephant can have a mass of 6 t. How many kilograms can be the mass of an African elephant?

An African elephant can have a mass of _____ kg.

6.

NAME _____

Lesson 8 Time

Second, minute, hour, and **day** are units of time.

1 minute (min) = 60 seconds (s)

1 hour (h) = 60 min

1 day = 24 h

3 min = ? s

1 min = 60 s

1	60
×3	×3
3	180

3 min = _____ s

Complete the following.

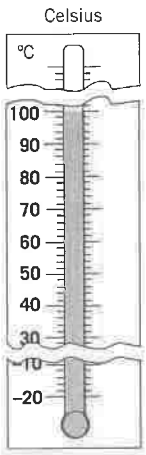
	a	*b*
1.	2 h = _____ min	8 min = _____ s
2.	2 days = _____ h	5 h = _____ min
3.	5 min = _____ s	3 days = _____ h
4.	12 h = _____ min	6 min = _____ s
5.	5 days = _____ h	10 min = _____ s
6.	24 h = _____ min	7 days = _____ h
7.	4 min = _____ s	8 h = _____ min
8.	13 min = _____ s	10 days = _____ h
9.	6 h = _____ min	4 days = _____ h
10.	15 min = _____ s	3 h = _____ min
11.	14 days = _____ h	7 min = _____ s
12.	4 h = _____ min	8 days = _____ h
13.	30 min = _____ s	48 h = _____ min
14.	30 days = _____ h	25 min = _____ s
15.	15 h = _____ min	9 days = _____ h

CHAPTER 15

NAME _____

Lesson 9 Temperature (Celsius)

Use **degrees Celsius** to measure the temperature. Read the top of the liquid in the thermometer to tell the temperature. Write 25°C.



In degrees Celsius, water freezes at 0°C.

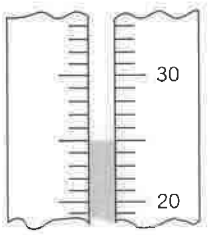
In degrees Celsius, water boils at 100°C.

Your normal body temperature is about 37°C.

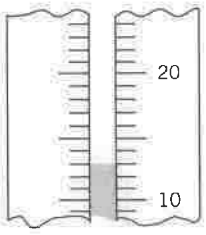
Use a minus sign to show temperatures colder than 0°C.

Record the temperature shown on each thermometer.

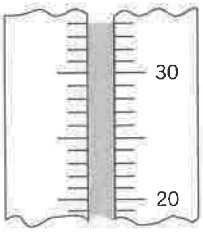
1.



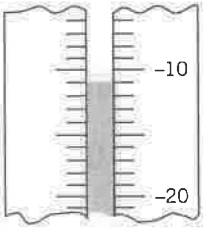
_____ °C



_____ °C



_____ °C



_____ °C

2. Water freezes at 0°C and boils at 100°C. What is the difference between those two temperatures?

The difference is _____ °C.

2.

3. At 6 A.M. the temperature was 13°C. The high temperature was expected to be 19°C warmer than that. What was the high temperature expected to be?

_____ °C was the expected high temperature.

3.

4. During a windy day, the windchill was −14°C. With no wind, the temperature would have been 16°C warmer. What would have been the temperature with no wind?

The temperature would have been _____ °C.

4.