




Name: _____ Date: _____

Understanding conversions using the metric system

Part A: Metric Investigation (20 minutes)

Supplies: A partner, a meter stick, a shoe, and a phone

Take measurements of each of the following items and write down the scale

PHONE	SHOE	PERSON
 140 mm	 _____ mm	 _____ mm
14 cm	_____ cm	_____ cm
.14 m	_____ m	_____ m

What do you notice about all of the numbers on each item measurement?

PART B: Converting Metric examples

Kilo	Hecto	Deca (da)	BASE	Deci (d)	Centi	Milli
X/1,000	X/100	X/10	X	10X	100X	1,000X
			X			

Metric conversions have base units of:
METER (length); LITER (liquid); GRAM (weight)

Stair rule. Find which unit you are starting at. If you are moving to the right move the decimal the how every many "stairs" you are going. If you are moving left, you move the decimal to the left for the number of stairs you are going.

Using the rule convert the following metric units.

1) .03 km is how many cm?

Kilo	Hecto	Deca (da)	BASE	Deci (d)	Centi	Milli
X/1,000	X/100	X/10	X	10X	100X	1,000X

.03 000 → 3,000 cm (5 SPACES)

2) 75 mL is how many KL?

Kilo	Hecto	Deca (da)	BASE	Deci (d)	Centi	Milli
X/1,000	X/100	X/10	X	10X	100X	1,000X

000075 → 000075 KL (6 SPACES)

3) 2.007 g is how many mg?

Kilo	Hecto	Deca (da)	BASE	Deci (d)	Centi	Milli
X/1,000	X/100	X/10	X	10X	100X	1,000X

2.007 → 2007 mg

Which unit would produce a bigger number?

4) m or cm	5) m or km	6) cm or km	7) g or mg	8) kg or g?

K H D B D C m

Part C: Practice conversions

1) 4 km to m 4000 m	2) 500 cm to m 5 m	3) 30 mm to cm 3 cm	4) 93.5 cm to m .935 m
5) 2340 mg to g 2.34 g	6) 2500 mm to cm 250 cm	7) 2000 mm to m 2 m	8) 800 m to km .8 km
9) 3 m to cm 300 cm	10) 385 mL to L .385 L	11) 3.64 m to cm 364 cm	12) 1.45 kg to g 1450 g
13) 3000 m to km 3 km	14) 50 mm to cm 5 cm	15) 2000 mm to m 2 m	16) 2386 m to km 2.386 km
17) 3482 g to kg 3.482 kg	18) 9.6 cm to mm 96 mm	19) 2.5 m to cm 250 cm	20) 6 km to m 6000 m 60000 m
21) 300 mm to m .3 m	22) 15 g to mg 15,000 mg	23) 1.75 L to mL 1,750 mL	24) 5.6 m to cm 560 cm

Part D: Which is bigger?

Compare the measurements using <, >, or =. **SHOW YOUR WORK**

1. 63 cm < 6 m
.63 m

2. 43 mg < 5 g
.043 mg

3. 5 g > 508 mg
.508 mg

4. 3.6 m > 36 cm
.36 m

5. 1500 mL = 1.5 L
1.5 L

6. 7 g > 698 mg
.698 g

7. 536 cm = 53.6 dm
5.36 m 5.36 m

8. 1.1 hL > 110 dL
110 L 11 L

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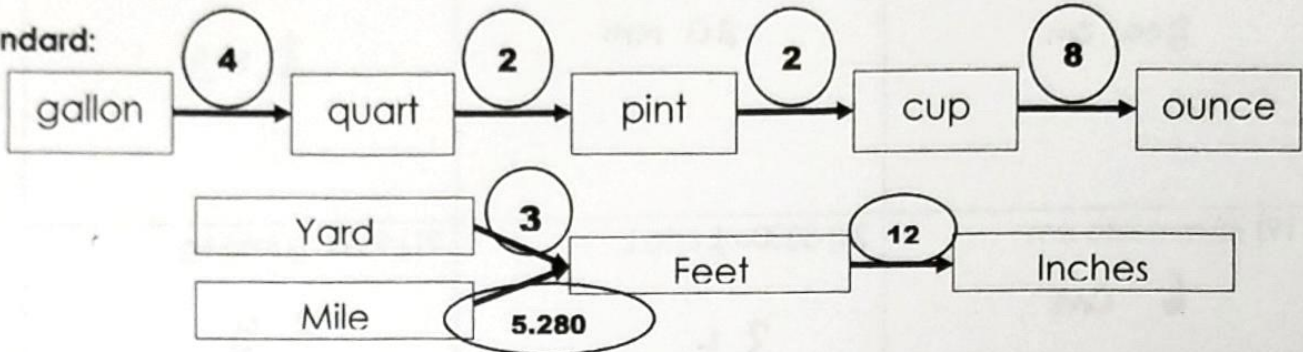
Conversion Practice #1

Remember your conversion rules: (MULTIPLY TO THE RIGHT--- DIVIDE TO THE LEFT)

METRIC:

Kilo	Hecto	Deka	BASE	Deci	Centi	Milli
			Meter (m) Gram (g) Liter (L)			

Standard:



1) 180 ft into miles .03 MILES	2) 18 miles into ft 95,040 ft	3) 16 yards into ft 48 ft
4) 20 yards into inches 720 in	5) 41 quarts into cups 164 cups	6) 23 gallons into pints 184 PINTS
7) 19,360 yards into miles 11 MILES	8) 5 miles into feet 26,400 ft	9) 13 gallons into cups 208 cups
10) 220 cups into quarts 55 QUARTS	11) 86 yards into inches 3096 in	12) 52,800 ft into miles 10 MILES

13) 84 ft into yards 28 YARDS	14) 126 cups into pints 63 PINTS	15) 108 pints into quarts 54 QUARTS
16) 5 m into cm 500 cm	17) 2 cm into mm 20 mm	18) 3,000 g into kg 3 kg
19) 60 mm into cm 6 cm	20) 3000mL into L 3 L	21) 2,000 g into kg 2 g
22) 1 L into mL 1,000 mL	23) 2 m into cm 200 cm	24) 10 cm into mm 100 mm
25) 5,000 ml into L 5 L	26) 8 km into m 8000 m	27) 9 kg into g 9000 g
28) 1,000 m into km 1 km	29) 7 cm into mm 70 mm	30) 300 cm into m 3 m