

Metric Mania

(Be sure to study your prefixes and values for the quiz.)

Name _____
Date _____ Block _____
Teacher _____

Length:

1. What is the base unit for length in the metric system? _____
2. What prefix means one hundredth? _____
3. Circle the best unit for measuring each distance:
 - a. Thickness of an eyelash: cm mm m c. Distance from home to school: km m cm
 - b. Length of football field: km m cm d. Length of a pencil: cm mm m
4. How many millimeters are in a centimeter? _____
5. How many centimeters are in a meter? _____
6. How many millimeters are in a meter? _____
7. Use a meter stick or metric ruler to find each measurement.
 - a. Width of this page (short side) _____ cm OR _____ mm
 - b. Length of your table _____ cm OR _____ m
8. Convert the following measurements.
 - a. 34 mm = _____ cm c. 0.005 Mm = _____ km
 - b. 275.3 cm = _____ m d. 16 m = _____ mm

Mass:

9. What is the base unit for mass in the metric system? _____
10. Which prefix means 10^3 ? _____
11. How many grams are in a kilogram? _____
12. How many milligrams are in a gram? _____

13. Circle the best unit for measuring each mass:

a. Your mass: mg g kg b. Mass of 10 pennies: mg g kg

14. Convert the following measurements:

a. 47.6 mg = _____ g c. 0.047 Mg = _____ g
b. 12.345 g = _____ kg d. .238 kg = _____ mg

Volume:

15. What is the base unit for volume in the metric system? _____

16. What is the relationship between 1 mL and 1 cm^3 ? _____

17. What is cm^3 typically used as a unit for volume? _____

18. Use $L \times W \times H$ to determine the volume of your book in cm^3 (show your work)

19. How is water displacement used to measure volume? _____

20. Convert the following measurements:

a. 160 mL = _____ L c. 23 kL = _____ L
b. 465 cL = _____ mL d. 120 mL = _____ cm^3

21. Circle the best unit for measuring each volume:

a. The amount of water in a test tube: mL L kL
b. The amount of fuel in a motorcycle: mL L kL

22. How many milliliters are in a liter? _____

Metric System: Conversions and Scientific Notation

Part 1: Fill in the chart below.

Symbol	Prefix	Value	Exponent
G			
	mega		10^6
k			
		100	
		10	
m, L, g	Base unit		
d			
	centi		
			10^{-3}
μ		.000001	
n			

Part 2: Express the following in scientific notation.

1. .00825 _____

2. 1,250 _____

3. .55200 _____

4. 75,100 _____

5. 1,223,000 _____

6. .0007638 _____

Part 3: Convert the following exponents into standard notation.

7. 4.67×10^3 _____

8. 6.2035×10^4 _____

9. 8.52×10^{-2} _____

10. 5.78239×10^7 _____

11. 3.459×10^{-5} _____

12. 2.73×10^6 _____

Part 4: Move the decimal point to convert the following metric measurements.

13. 1200 cm = _____ nm

14. 4,025.5 kL = _____ dL

15. 14.78 m = _____ mm

16. 5,000,000 mg = _____ Mg

17. 1500 cg = _____ hg

18. 0.056 Gm = _____ km

19. 25.54 mL = _____ L

20. 46.9 μ m = _____ dam

21. 76.5 mg = _____ g

22. 0.2906 kg = _____ mg

23. 14.78 m = _____ cm

24. 367,948.55 nL = _____ L