

CAUTION-ELECTRIC TOY

NOT RECOMMENDED FOR CHILDREN UNDER
8 YEARS OF AGE. AS WITH ALL ELECTRIC
PRODUCTS PRECAUTIONS SHOULD BE
OBSERVED DURING HANDLING AND USE
TO PREVENT ELECTRIC SHOCK.

2-XL™

**BOOKLET TO ACCOMPANY
PROGRAM ON**

BASIC METRIC SYSTEM

Manufactured by Mego Corp., New York, N.Y. 10010 in the U.S.A.

CHARACTERS THAT LIVE IN
THE METRIC SYSTEM

Little Milli	Mr. Centi	Mr. Basic	Mr. Kilo
(1000 times smaller than Mr. Basic)	(100 times smaller than Mr. Basic)	(keeps changing his name)	(1000 times bigger than Mr. Basic)

STOP HERE AND TURN 2-XL BACK ON

METRIC MEASURES OF LENGTH

Millimeter = 1000 times smaller than a meter and is abbreviated MM

Centimeter = 100 times smaller than a meter and is abbreviated CM

Meter = Basic unit of length and is abbreviated M

Kilometer = 1000 times bigger than a meter and is abbreviated KM

CIRCLE THE BEST ANSWER

- | | A | B | C |
|---|--------------|-----------|----------|
| 1. Which is the smallest? | MM | CM | M |
| 2. Who keeps changing his name? | Little Milli | Mr. Basic | Mr. Kilo |
| 3. Which is the biggest? | KM | Mr. Meter | CM |
| 4. Which is 100 times smaller than Mr. Basic? | KM | MM | CM |
| 5. The metric system is based on the number | 10 | 12 | 20 |

1 WHEN YOU ARE DONE, TURN 2-XL BACK ON

METRIC MEASURES OF LENGTH

Mr. Basic is now called **Meter**

Millimeter = about the thickness of a dime

Centimeter = about the width of a dime

Meter = a little more than a yard (39 inches)

Kilometer = about half a mile

When we want to measure very small distances or lengths, like the thickness of a piece of paper, or the width of film, or even the thickness of one hair on your head, we use **Millimeters**.

When we want to measure small lengths like the length of a washcloth, length of a stick of gum, or the distance from one of 2XL's eyes to the other (which by the way is $6\frac{1}{2}$ cm), we use

Centimeters.

When we want to measure the length of large objects like the side of a house, a wall, a bus, or even a flagpole, we use **Meters**.

When we want to measure long distances like the distance from one city to another, or the length of a river, we use **Kilometers**.

REMEMBER, metric measures of MILLIMETERS, CENTIMETERS, METERS, and KILOMETERS replace the old measures of inches, feet, yards, and miles.

REVIEW

CIRCLE THE BEST ANSWER	A	B	C
1. If you want to measure the distance from your house to school you would use the metric measure of	M	KM	CM
2. If you wanted to measure the thickness of a credit card you would use the metric measure of	MM	KM	CM
3. If you wanted to measure the height of a building you would use the metric measure of	MM	KM	M
4. To measure the length of a football you would use	CM	KL	M
5. The basic metric measure for length is a	M	KM	CM
6. One half mile is about equal to a	M	KM	CM
7. The width of a dime is about equal to a	MM	M	CM
8. The biggest metric measure for length is a	M	CM	KM
9. The metric measure that is a little longer than a yard is	M	KM	MM
10. A kilometer is how many times bigger than a meter	10	1000	100

METRIC MEASURES OF VOLUME AND CAPACITY

Mr. BASIC is now called the **Litre**

Millilitre = 1000 times smaller than a litre and is abbreviated ML

Litre = the basic unit of capacity and is abbreviated L

Kilolitre = 1000 times bigger than a litre and is abbreviated KL

Millilitre = about one drop of rain

Litre = a little more than a quart

Kilolitre = 6 full bathtubs

When we want to measure very small capacities like perfume, small bottles of soda, medicine, cups and glasses, and even the amount of liquid in a spoon, we use **Millilitres**.

When we want to measure bigger capacities like large bottles of soda, amount of water in a fish tank, containers of milk or the amount of paint in a can, we use **Litres**.

When we want to measure large capacities like swimming pools, gasoline trucks, and the amount of water in a pond, we use **Kilolitres**.

REVIEW

CIRCLE THE BEST ANSWER	A	B	C
1. What is the smallest metric measure for capacity	ML	L	KL
2. What is the largest metric measure for capacity	ML	L	KL
3. What is Mr. Basic called in this category of capacity	ML	L	KL
4. If I wanted to know how much perfume there was in a small bottle, what metric measure would I use	ML	L	KL
5. Soda is measured in which metric measure	ML	L	KL

REMEMBER metric measures of MILLILITRES, LITRES, and KILOLITRES replace the old measures of ounces, pints, quarts, and gallons.

METRIC MEASURES OF WEIGHT AND MASS

Mr. BASIC is now called the **Gram**

Milligram = 1000 times smaller than a gram and is abbreviated MG

Gram = the basic unit of weight and is abbreviated G

Kilogram = 1000 times bigger than a gram and is abbreviated KG

Milligram = about one grain of salt

Gram = about one paper clip

Kilogram = about one brick or one little league baseball bat

When we want to know the weight of very light things like vitamins, pollution in the air, and grains of sand we use **Milligrams**.

When we want to know the weight of fairly light things like cereals, pencils, small books, and the program in 2XL's belly, we use **grams**.

When we want to know the weight of fairly heavy things* like dogs, big books, people, and furniture we use **Kilograms**.

*You may be interested to know that for very heavy things like ships, building materials, and cars, there is a metric measure called the METRIC TON. A METRIC TON is equal to 1000 KILOGRAMS.

REVIEW

CIRCLE THE BEST ANSWER	A	B	C
1. The smallest metric measure for weight is called the	MG	G	KG
2. What is Mr. Basic called in this category of weight	KG	MG	G
3. A brick is about the weight of a	MG	G	KG
4. A paper clip is about the weight of a	MG	G	KG
5. On a vitamin jar the weight of the vitamins in each pill is measured in	MG	G	KG
6. If you wanted to weigh a snowflake, which metric measure would you use	MG	G	KG
7. If you wanted to weigh a bicycle, which metric measure would you use	MG	G	KG

REMEMBER metric measures of MILLIGRAMS, GRAMS, and KILOGRAMS replace the old measures of ounces and pounds.

METRIC MEASURES FOR TEMPERATURE

Metric Measure for Temperature is called **Celsius**, (instead of the old FAHRENHEIT)

ZERO degrees CELSIUS is the temperature at which water freezes.

37 degrees CELSIUS is your normal body temperature.

100 degrees CELSIUS is the temperature at which water boils.

A comfortable room would probably be about 22 degrees CELSIUS.

A COMPLICATED COMPUTATION

To convert Fahrenheit into CELSIUS

1. subtract 32 degrees
2. multiply by $5/9$

To convert CELSIUS to Fahrenheit

1. multiply by $9/5$
2. add 32 degrees

Examples:

$$60^{\circ} \text{ F} - 32 \times 5/9 = 14^{\circ} \text{ C}$$

$$100^{\circ} \text{ F} - 32 \times 5/9 = 37^{\circ} \text{ C}$$

$$22^{\circ} \text{ C} \times 9.5 + 32 = 72^{\circ} \text{ F}$$

$$100^{\circ} \text{ C} \times 9/5 + 32 = 212^{\circ} \text{ F}$$

CAN YOU FIND THESE METRIC WORDS IN THE PUZZLE BELOW? BE CAREFUL, THE WORDS GO UP AND DOWN, DIAGONALLY, AND EVEN BACKWARDS.

- | | | |
|-------------|---------------|---------------|
| ✓ 1. Metric | 5. Milligram | 8. Millilitre |
| 2. Celsius | 6. Centimeter | 9. Gram |
| 3. Kilogram | 7. Kilolitre | 10. Litre |
| 4. Metric | | |

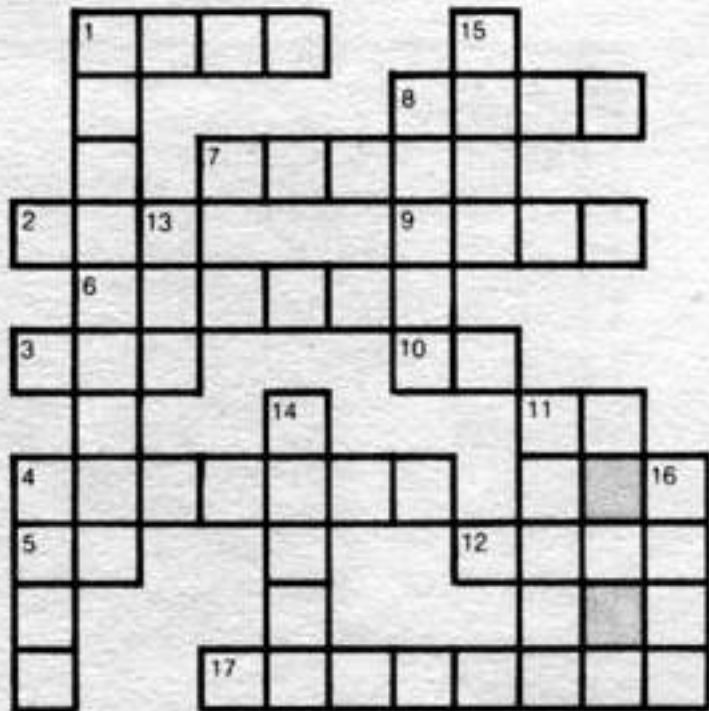
The first one is done for you to show you how this works

C	I	R	T	E	M	K	O	K	K
E	R	T	I	L	M	A	R	G	O
R	H	K	R	K	I	P	M	L	K
O	A	I	G	G	L	E	A	I	I
M	I	L	L	I	L	I	R	T	L
E	Z	O	M	G	I	T	G	M	O
L	E	G	R	R	L	W	I	E	L
I	L	R	L	E	I	O	L	I	I
P	M	A	W	O	T	X	L	L	T
C	E	M	E	T	R	E	I	O	R
S	U	I	S	L	E	C	M	L	E
C	E	N	T	I	M	E	T	E	R

METRIC CROSSWORD PUZZLE

Across

- 1000 times Mr. Basic is Mr. _____.
- If it was 37° celsius outside, it would be a _____ day.
- The metric system is based on the number _____.
- The temperature measure of _____ replaces Fahrenheit.
- We can learn the metric system and be smart _____ we could not learn it and be behind in understanding weights and measures.
- In 1795 a group of French scientists developed the _____ system.
- The basic measure for volume and capacity is the _____.
- Cooks are mean when they whip the butter and _____ the eggs.
- The metric measure of centimeter replaces the old measure of _____.
- The abbreviation for kilolitre is _____.
- The abbreviation for milligram is _____.
- Another sun that is millions of kilometers away would look like a _____ in the sky at night.
- To measure the weight of books or people, we would use a _____.



Down

- About half a mile would be what metric measure?
- The solid energy source found in the ground and is measured in metric tons is called _____.
- What building material weighs about one kilogram?
- The basic unit for length is the _____.
- How many times smaller is a millimeter than a centimeter?
- The smallest character in the metric system is little _____.
- A boy or girl between the ages of 12 and twenty.
- The basic unit of weight is a _____.

METRIC CONVERSION TABLES

Distance

1 inch = .0254 meters	1 centimeter = .3937 inches
1 foot = .3048 meters	1 meter = 39.37 inches
1 yard = .9144 meters	1 meter = 1.094 yards
1 rod = 5.028 meters	1 meter = .199 rods
1 mile = 1.609 kilometers	1 kilometer = .6214 miles

Weight

1 grain = .0648 grams	1 gram = 15.43 grains
1 ounce = .028 kilograms	1 kilogram = 35.27 ounces
1 pound = .454 kilograms	1 kilogram = 2.2 pounds
1 ton = 907 kilograms	1 gram = .0022 pounds

Liquid Volume

1 ounce = .0284 liters	1 liter = 35.21 ounces
1 pint = .4735 liters	1 liter = 2.112 pints
1 quart = .9470 liters	1 liter = 1.057 quarts
1 gallon = 3.788 liters	1 liter = .2642 gallons

Miscellaneous

1 teaspoon = .005 liters	1 tablespoon = .0148 liters
1 cup = .24 liters	

1/16 inch = .0625 inches = 1.587 millimeters

1/8 inch = .1250 inches = 3.175 millimeters

212 Fahrenheit = 100° Celsius (Sell-shuss)—Water boils

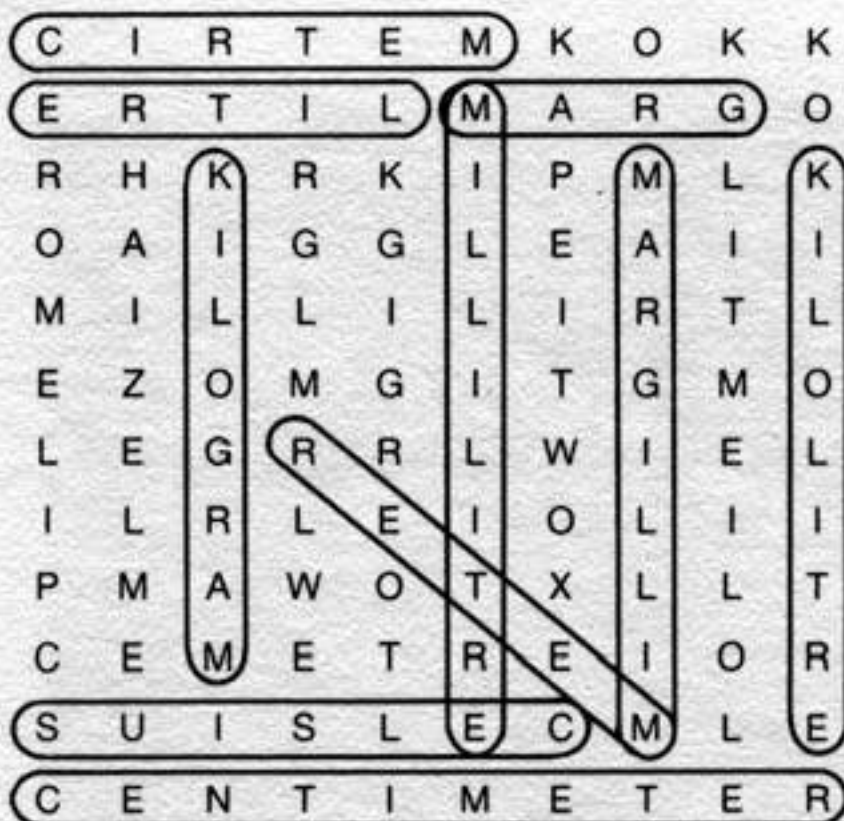
98.6° Fahrenheit = 37° Celsius = Normal Body Temp.

32° Fahrenheit = 0° Celsius = Water freezes.

1 MPH = 1.61 Kilometers per hour

55 MPH = 88.5 Kilometers per hour

**ANSWERS TO
METRIC FIND-A-WORD PUZZLE
FROM PAGE 9**



**ANSWERS TO
METRIC CROSSWORD PUZZLE
FROM PAGE 12**

Across

- | | |
|------------|--------------|
| 1. KILO | 9. INCH |
| 2. HOT | 10. KL |
| 3. TEN | 11. MG |
| 4. CELSIUS | 12. STAR |
| 5. OR | 17. KILOGRAM |
| 6. METRIC | |
| 7. LITRE | |
| 8. BEAT | |

Down

- | |
|--------------|
| 1. KILOMETER |
| 4. COAL |
| 8. BRICK |
| 11. METER |
| 13. TEN |
| 14. MILLI |
| 15. TEEN |
| 16. GRAM |

WORK AND REVIEW SPACE

WORK AND REVIEW SPACE

NOTE:

If you ever get confused
on a question that 2-XL
asks you, push Q instead
of an answer and 2-XL
will explain the answer
to you.



MEGO CORP

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