

Ohms Law and the Metric System

Purpose: The objective of this activity is for the students to become familiar with metric system and Ohm's Law vocabulary terms.

Overview: The students have been exposed to the metric system and dealing with numbers by using powers of ten. The purpose for using the powers of ten is to manage very large and very small numbers. In electronics, frequencies are very large numbers, resistances range from very small to very large numbers, capacitance is usually very small numbers; these are just a few examples in electronics where the numbers used to represent the concept range from the very small to the very large. Electronics is an example where students need to apply the mathematics they have learned in the classroom.

This very simple crossword activity will allow the students to recognize the vocabulary of basic electronics vocabulary including the metric system. The suggested journal entries take the activity beyond a fun mind teaser activity to one that requires synthesis of concepts.

Time: One class period to review the metric system vocabulary and the vocabulary of Ohm's Law.

Skills Required:

- Listening
- Observation
- Critical Thinking
- Writing and expression

Materials and Tools:

- Crossword activity sheet
- Journal

Preparation:

Background:

Now You're Talking pages 7.2 – 7.3, 7.11 – 7.13.

Understanding Basic Electronics pages 3.5 – 4.8, 12.1-12.6.

What to do and how to do it:

1. Ask the students to find and circle the vocabulary words in the crossword puzzle.
2. Assign the students to make journal entries that explain how the vocabulary words on the crossword puzzle are related to each other.

Data Analysis:

Activity questions:

Adaptations for special needs: There should be no accommodations required for this activity.

Ohm's Law and Metric System Vocabulary Scramble

O R C I M N M I T Z H X T D E
C M P P N G O E L O H M N S B
C L I F F Y K R T L D U E Y Q
L C M W B Q G D T R I S R S I
O E P Q O V H Q N C I M R T T
E C N A T S I S E R E C U E N
L L U P O W E R P R G L C M E
Y R G O S D U G W B A G E M C
X V B T W P X L I B M K T C F
I T L S X E B T Q G R I O Y F
X O E M R P U P I Y A L N H K
V W T E T Z P C Z A P O E W R
W G P R O T O N N Q Z R J Y N
S M I A X X A U O P T G X E U
A A R R V J L W I Z G D W C E

Can you find these electronics vocabulary words?

ELECTRON
MEGA
AMPERE
MILLI
PICO
HERTZ
PROTON

KILO
EMF
MICRO
OHM
CURRENT
POWER
WATT

SYSTEM
METRIC
CENTI
VOLTS
GIGA
ION
RESISTANCE