

➤ Main Ideas, Key Points, Questions:

After watching the video segment, write down key points, main ideas, and big questions.

➤ Objective(s):

- *Understand the importance of units, and recognize the SI units for mass, time, and distance.*
- *Convert from one metric unit to another and between metric units and non-metric units using conversion factors.*
- *Convert numbers from standard notation to scientific notation and from scientific notation to standard notation.*

➤ Notes:

During the video segment, use words, phrases, or drawings to take notes.

➤ Summary:

After watching the video segment, write at least three sentences explaining what you learned. You may ask yourself: "If I was going to explain this to someone else, what would I say?"

Answer the following.

1. What are the SI units for distance, mass, and time?

distance *meters*

mass *kilograms*

time *seconds*

2. When multiple base units are combined to form new units, these are called *derived* units.

3. What are used to change a measured quantity from one unit to another? *conversion factors*

4. When setting up a conversion, where does the initial unit go in the conversion factor?

 When multiplying a value by a conversion factor, the starting unit
 must go on the bottom of the conversion factor so that it cancels out.

5. List the number of base units for the six common prefixes below:

Prefix	Number of Base Units
kilo	<i>1000</i>
hecto	<i>100</i>
deca	<i>10</i>
base unit	<i>1</i>
deci	<i>0.1</i>
centi	<i>0.01</i>
milli	<i>0.001</i>

6. If a number in scientific notation has a positive exponent, is this a very large or very small number? What about a negative exponent?

Positive exponents represent numbers that are very large.

Negative exponents represent numbers that are very small.

7. In scientific notation, the starting coefficient of a number must be within what range?

The starting coefficient of a number in scientific notation

must be greater than or equal to 1 and less than 10.

8. Convert the following numbers into scientific notation:

$$2,000,000 = \underline{2.0 \times 10^6}$$

$$0.0006 = \underline{6.0 \times 10^{-4}}$$