The New Old Way (The Imperial System of Measurement)

Suggested time: 45 minutes

What's important in this lesson:
It is important for you to understand the use of feet and inches in measuring lengths. You will need to become familiar with not only the new way of measuring but also the short forms used to show the units of measurement that you are using.

Complete these steps:

1. Read through the Lesson portion of the package independently.
2. Complete the required 'Practice' questions.
3. If you have questions about the examples or the 'Practice' questions seek assistance from the teacher as needed.
4. Use 'Practice' Answer Keys to check your answers as they work through the package. If you are making errors, have your teacher review these questions with you.
5. Complete the Imperial Measures Assignment

Hand-in the following to your teacher:

1. Practice Problems from the Student Handout
2. Imperial Measures Assignment

Questions for the teacher:

The New Old Way
The Imperial System of Measurement

Part A - Introduction

Although all of your measurement so far in this unit has been with the METRIC system, there are industries around the world which use the IMPERIAL system of measurement.

For example…
- the LUMBER industry uses FEET and INCHES instead of cm and m!
- the AVIATION industry uses miles instead of km!
- many people know their WEIGHT in POUNDS, not their MASS in kg!

Here is a look at the IMPERIAL SYSTEM, as it is used to measure LENGTH (or distance):

1 MILE = 1760 YARDS	**(= 5280 feet = 63360 inches)**
1 YARD = 3 FEET	**(=36 inches)**
1 FOOT = 12 INCHES	

Some common examples of these units include…

1 YARD (slightly shorter than 1m)	**1 FOOT** (about 30cm)	**1 INCH** (about 2.5cm)
- the width of your classroom door - the height of your teacher's desk	- the size of a (size 12) shoe - the height of this page (it's actually slightly less!)	- the length of a small paperclip - the diameter (width) of a quarter

Part B - The UNITS

Examples

6 feet is often written as **6 ft.** or **6′**
13 ½ feet is often written as **13 ½ ft.** or **13 ½ ′**
8 inches is often written as **8 in.** or **8″**
3 ¼ inches is often written as **3 ¼ in.** or **3 ¼ ″**

Practice Problems

1. Fill in the blanks:
   a. 12 feet is often written as _____ or _____

   b. 1 ¾ inches is often written as _____ or _____

**** Check the answers to these before moving on to part C!***

Part C - Fractions of an Inch

*****MAKE SURE THAT YOU HAVE AN IMPERIAL RULER OR TAPE MEASURE FOR THIS PART! (i.e. with INCHES on it!)**

Try the following questions by placing the 0 inches mark at one end of each line segment shown below:

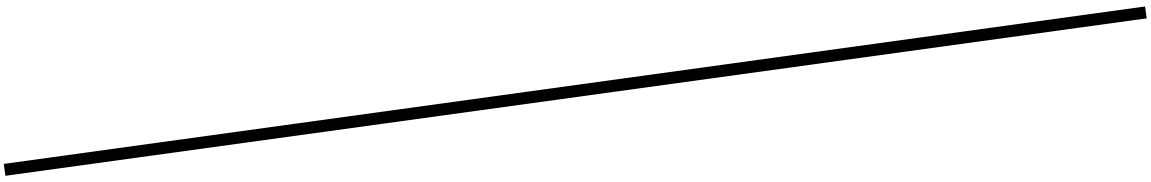
Examples

1. 

   The length of this line segment is **4 ¼** inches

2.

   The length of this line segment is **1 ½** inches



3. The length of this line segment is **6** inches

Practice Problems

1. WITHOUT MEASURING, which one of the lines below is closest to…

   3 inches – line _____ 1 ½ inches – line _____ 5 inches – line _____

   A)
   B)
   C)
   D)
   E)

2. WITHOUT MEASURING, circle the BEST answer to the following questions:

   a. The diameter of a dime is about…

      A) ¾ ″ B) 1 ½ ″ C) 2 ″ D) 3 ¼ ″

   b. The height of your classroom is closest to…

      A) 5 ′ B) 7 ′ C) 9 ′ D) 11 ′

   c. The length of most minivans is closest to…

      A) 5 ′ B) 10 ′ C) 15 ′ D) 20 ′

3. MEASURE each line to the nearest ¼ inch, and write the measurement on top of the line:

   1)

   2)

   3)

4. MEASURE the height of the top of your desk (in inches) - _____

5. MEASURE the LENGTH of your class room (to the nearest FOOT) - _____

*** Check the answers to these questions before moving on!**

Imperial Measures Assignment

****** FOR THIS ASSIGNMENT, BE SURE TO USE THE CORRECT SHORT FORM UNIT SYMBOLS, AND NOT THE WORDS INCHES OR FEET IN ALL ANSWERS!***

1. The following multiple-choice questions are to be done WITHOUT MEASURING. **Circle** the best response for each question:

   a. ESTIMATE the length of a bed:

   A) 7 ′ B) 10 ′ C) 7 ″ D) 10 ″

   b. ESTIMATE the length of a $5 bill:

   A) 4 ′ B) 6 ′ C) 4 ″ D) 6 ″

   c. ESTIMATE the THICKNESS of a slice of bread:

   A) ¼ ′ B) ½ ′ C) less than ¼ ″ D) ½ ″

2. MEASURE the following distances to the nearest ¼ of an inch:

   a. The width of a NICKEL - _____

   b. The width of a TOONIE - _____

3. MEASURE the HEIGHT of the door to your classroom (nearest foot) – _____

4. If you were trying to help another student understand how the length 20 feet, what would you say to them to describe this length?

5. MEASURE the LENGTH and WIDTH of this page, (to the nearest ½ inch), and then CALCULATE the PERIMETER of the page.

   L - _____ W - _____ P =
   P = _____

6. f) On the back of this page, draw line segments that are exactly…

   a. 4 ½ ″ long b. 1 ′ long c. 8 ¾ ” long