@@@ Measures in Technology and The Metric System @@@

Even though **The Metric System** exists throughout the **United States**, it is not well accepted and not well understood in the US.
The Metric System is very much pervasive in the **Medical Profession**, in the **Automobile Commerce** and in the **Food Industry**.

Technology impacts all types environments throughout the **World** especially in the US, and it specifically uses **The Metric System**.
Therefore, it is especially important that **Students, Teachers and Parents** understand and appreciate **The Metric System**.

##

**This activity will attempt to present an overview of The Metric System in Technology
and concentrate on the aspects of   speed   within Technology usage.**
The basic units to be explored in this activity will be: **Kilo**, **Mega**, **Giga**, and **Tera**.

Kilo = 1x10^3 Mega = 1x10^6 Giga = 1x10^9 Tera = 1x10^{12}

In words, these terms mean: **Thousand**, **Million**, **Billion**, **and Trillion**. They are used most often in the **US Government**!
These basic units are actually prefixes that **provide a quantity** to a specific Technology term.

The common Technology term of **Bit** which is used to describe the   **speed**   of information via communication media is sometimes confusing.
A simple and practical **definition** of a **Bit** is a digit in the **Binary Number System**. **Example: A = 01000001 and** a Bit is any **1 or 0**.
Using the term **Bit**, there are common technology communication media to transport information.

Dial Up   **Digital Subscriber Line (DSL)**   **Broadband**

These three communication media are probably the **most common** in use with today 's technology.
These three communication media use **common phone lines** (DialUp and DSL) while Broadband use **Optical Fibers.**
These communication media use a common speed measure such as: **Bits/Second**.   How many **Bits** travel **pass** a Point in a Second?

##

**Try finding out how fast simple web pages using Digital Networks or Cellular Networks would transport in one second?
By the way, what is the difference between the words   Digital Networks and Cellular Networks?
Humm… A good way to do this search Wikipedia or How Stuff Works   for speeds!!! ☺**

@@@   Bits, Bytes and Number Systems * Programming Tutorial   @@@

##

###

Activities with Measures of Technology and The Metric System.

The most **common**, but becoming **less used** in today's technology, is the   **Dial Up** **communication media.**
A **Dial Up** media has a **maximum speed** of **about 56 KBits/Sec**.   **Remember**: How many **Bits** travel **pass** a Point in a **Second**
Therefore, a **Dial Up System** would pass approximately **56,000 Bits pass a Single Point in One second.**
A **simple web page created with Mozilla Composer**, like the one you are viewing, would be about **5 to 10 Kilobytes (KB)**.
Ok, now **how many** smallest and simplest **web pages** could the **fastest Dial Up** system transport approximately:?   _____
Let's assume were are using an **8 Bit Binary System** thus each Byte is 8 Bits. **So, 5 KBits = 40 KBits.**

Use Basic Online Calculator to determine (check) the answer to this question! (56,000 / 40,000 = _____ web pages / second).

###

Activities with Measures of Technology and The Metric System.

A **most recent**, but becoming **more used** in today's technology, is the   **DSL** . **communication media**.
A **DSL** media has a maximum speed of **about 128 KBits/sec.**   **Remember**: How many **Bits** travel **pass** a Point in a **Second**
Therefore, a **DSL System** would pass approximately **128,000 Bits pass a Single Point in One second**.
A simple web page created with **Mozilla Composer**, like the one you are viewing, would be about **5 to 10 Kilobytes (KB)**.
Ok, now how many smallest and simplest web pages could the **fastest DSL** system transport approximately:?   _____
Let's assume were are using an **8 Bit Binary System** thus each Byte is 8 Bits. **So, 5 KBytes = 40 KBits.**

Use Basic Online Calculator to determine (check) the answer to this question!   (128,000 / 40,000 = _____ web pages / second).

###

Activities with Measures of Technology and The Metric System.

A **most recent**, but becoming **more used** in today's technology, is the **Broadband** **communication media**.
A **Broadband** System has a maximum speed of   **about 1.5 to 2 MBit/s.**   **Remember**: How many **Bits** travel **pass** a Point in a **Second**
Therefore, a **Broadband System** would pass approximately **2,000,000 Bits pass a Single Point in One second**.
A simple web page created with **Mozilla Composer**, like the one you are viewing, would be about **5 to 10 Kilobytes (KB)**.
Ok, now how many smallest and simplest web pages could the **fastest Broadband** system transport approximately:?   _____
Let's assume were are using an **8 Bit Binary System** thus each Byte is 8 Bits. **So, 5 KBytes = 40 KBits.**

Use Basic Online Calculator to determine (check) the answer to this question!   (2,000,000 / 40,000 = _____ web pages / second).

###