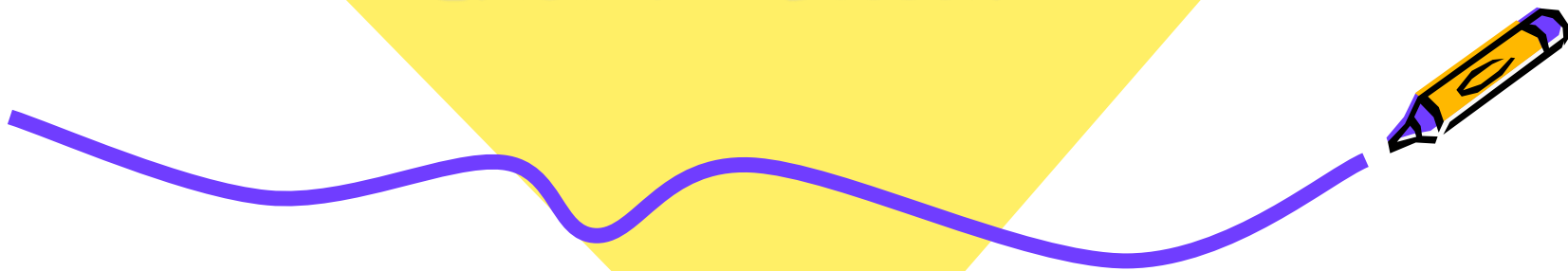




Invention and Innovation

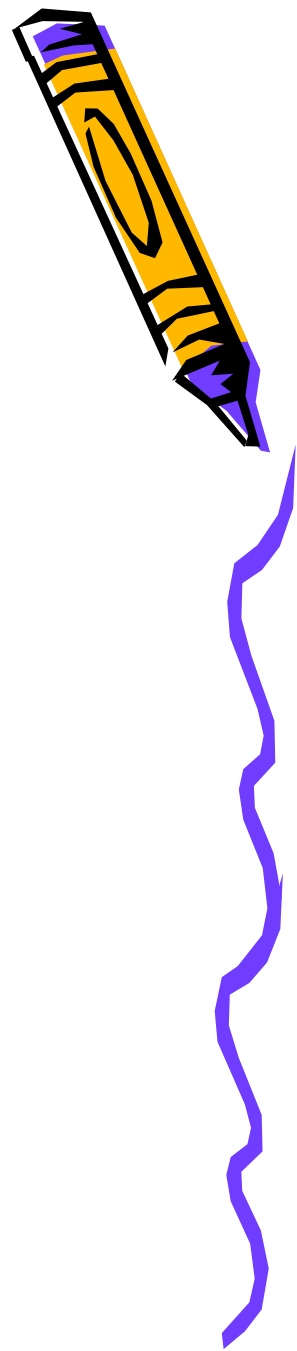
ENGR 7-2 Lesson 1



Written by Roland Williams

Big Idea:

- ENGR-II-1: Students will learn the concept of invention and innovation.



Critical Knowledge/Elements



A. Define related invention and innovation terms

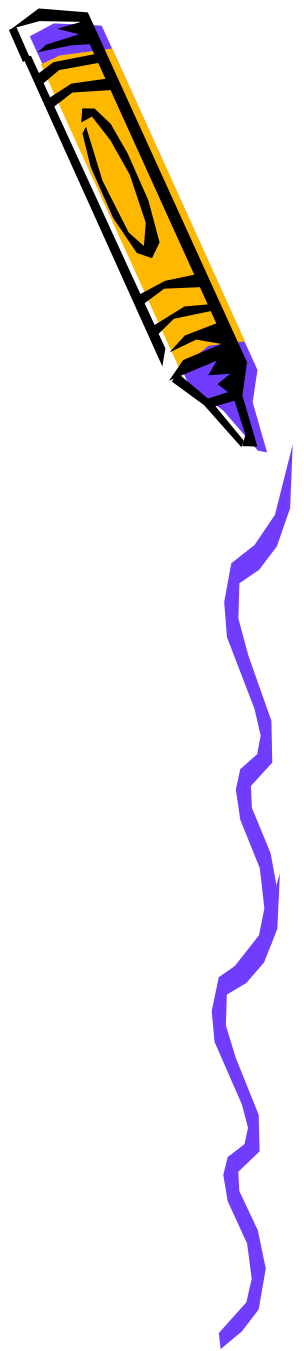
B. Compare invention to innovation

C. Identify an important past invention or innovation

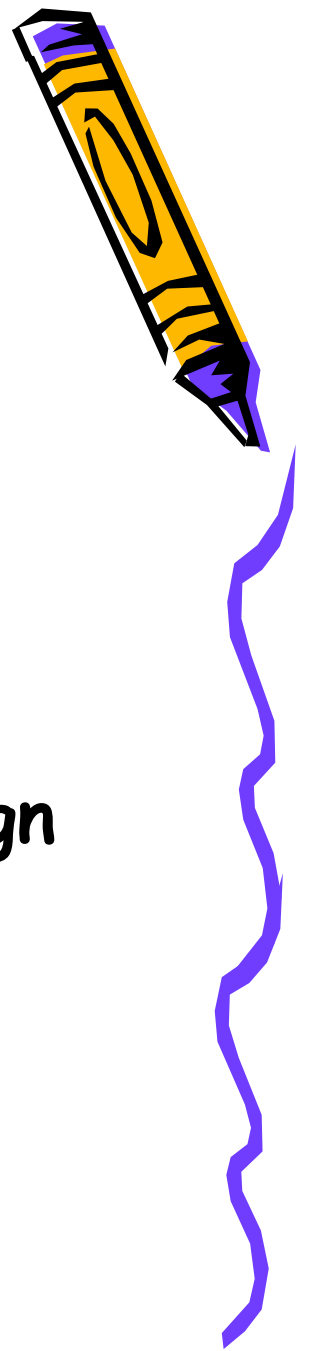


Essential Question

What is invention and innovation?



Word Wall



Invention

Science

Innovation

Technology

Societal Impacts

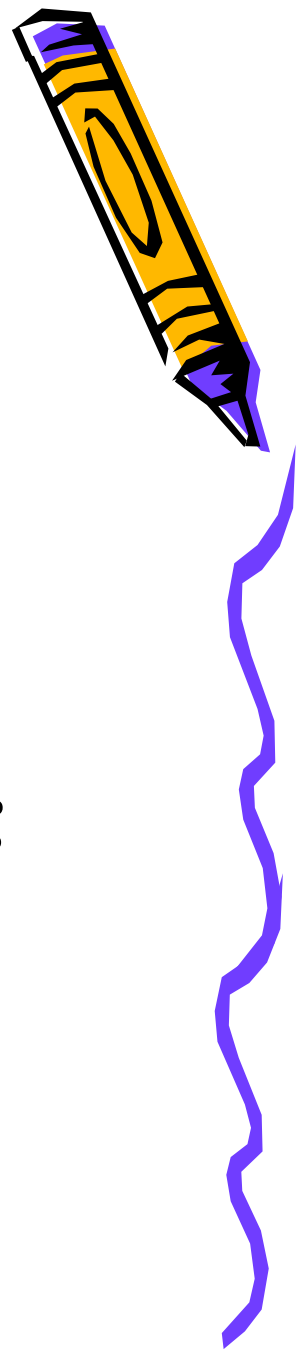
Prototype

**Engineering Design
Process**



One Minute Drill

Take out a sheet of
paper!



One Minute Drill

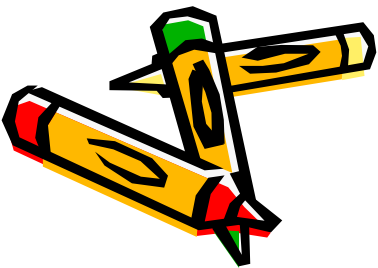
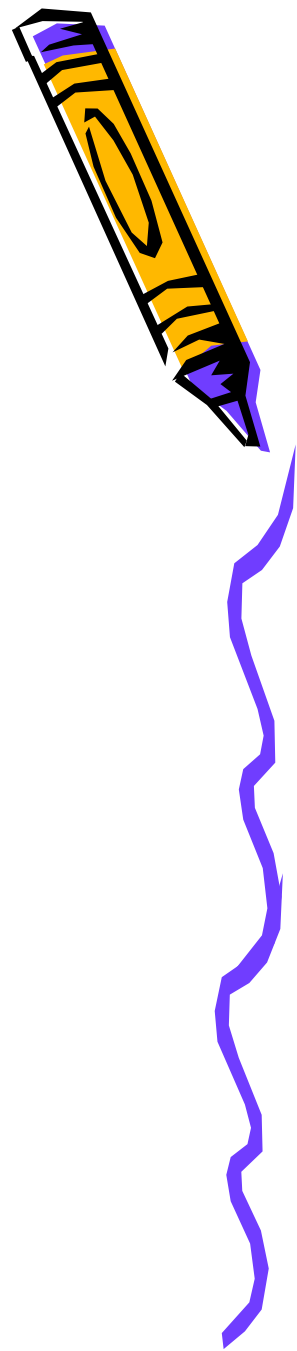
Write the names of
who you think are the
three most famous
inventors of all time.



READY



SET



GO

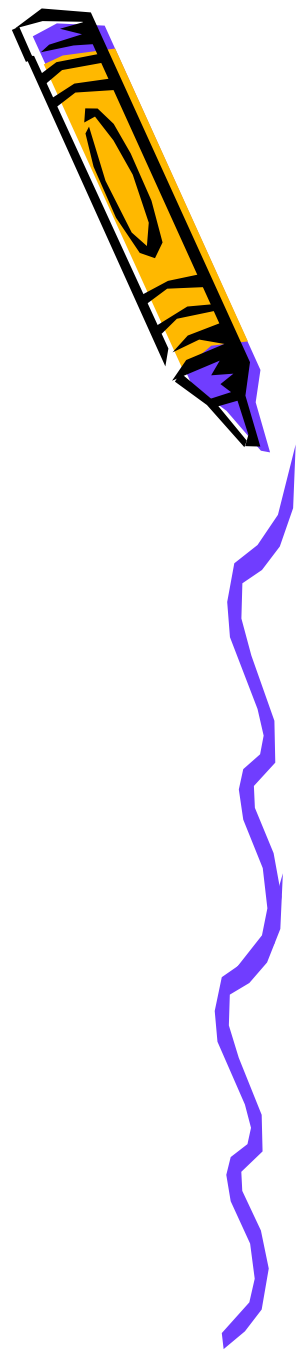


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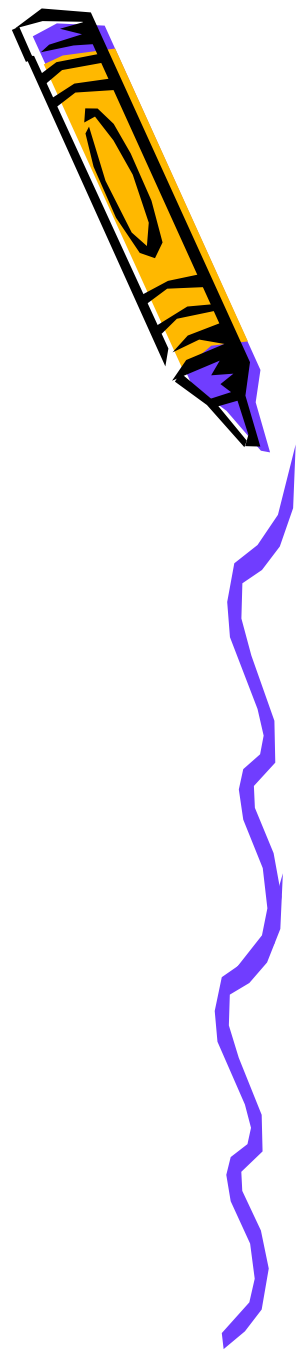


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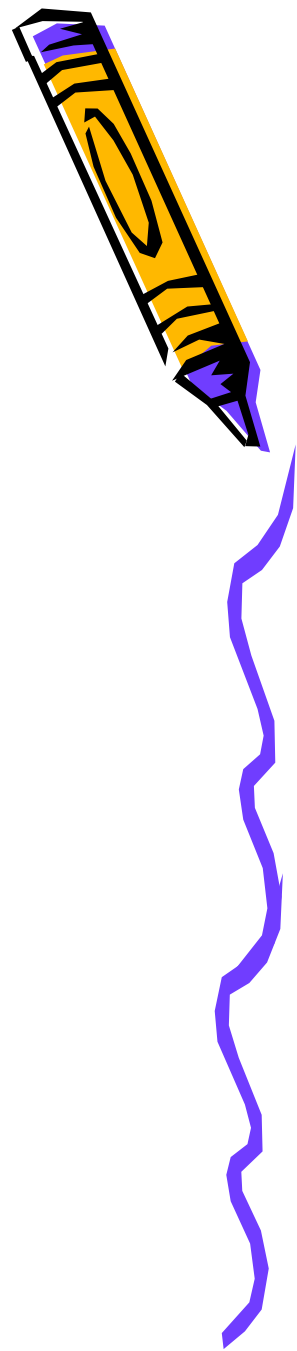


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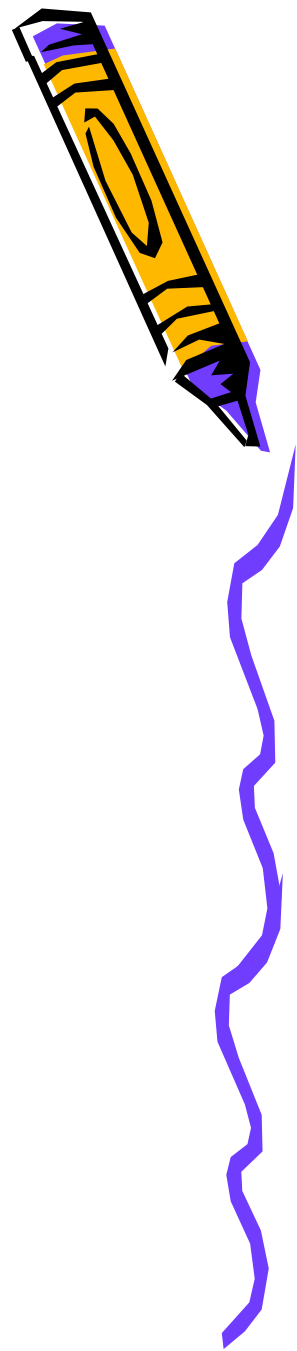


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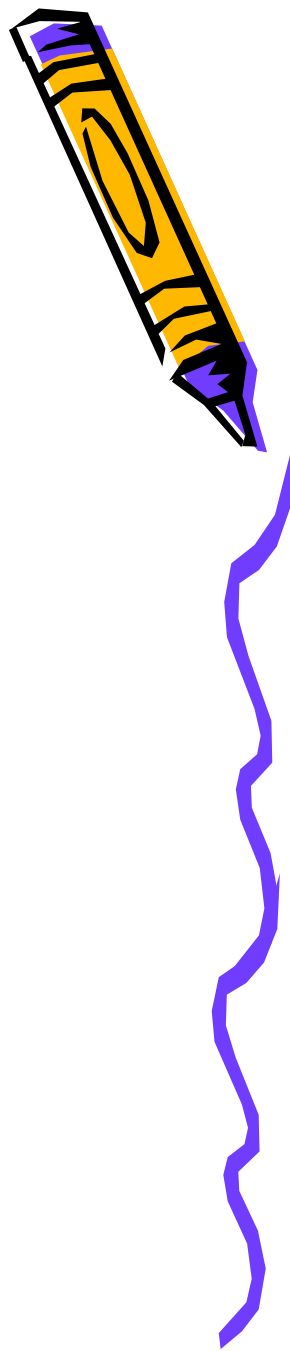


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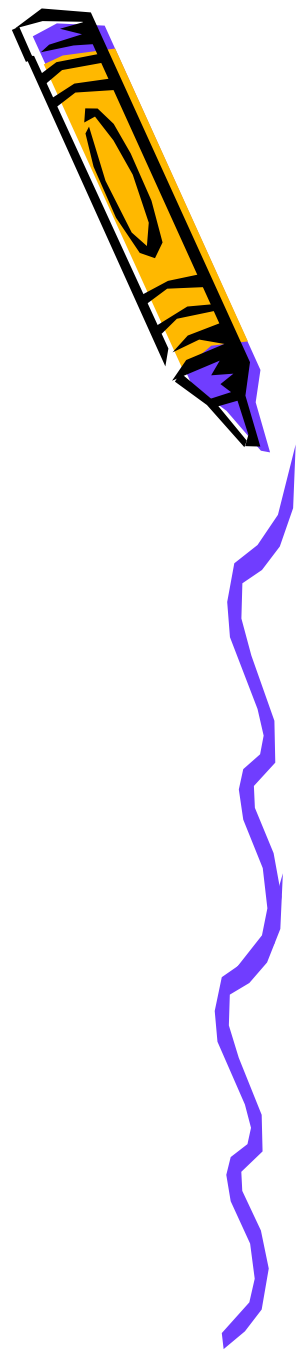


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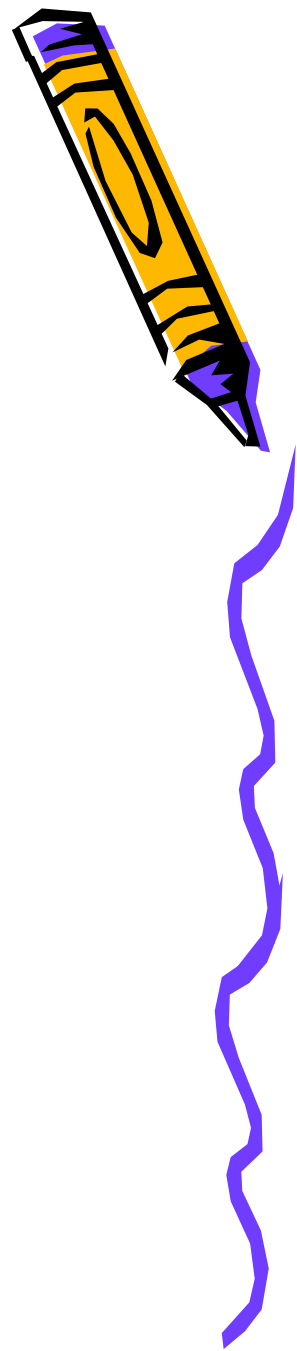




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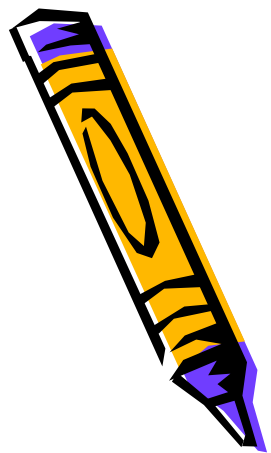
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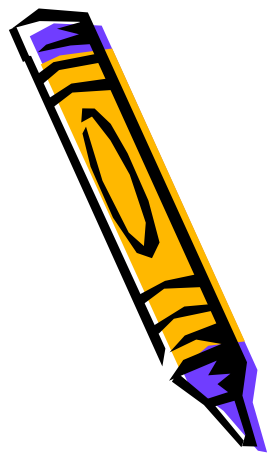
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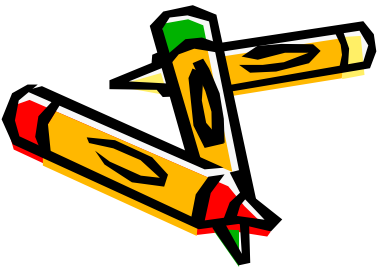


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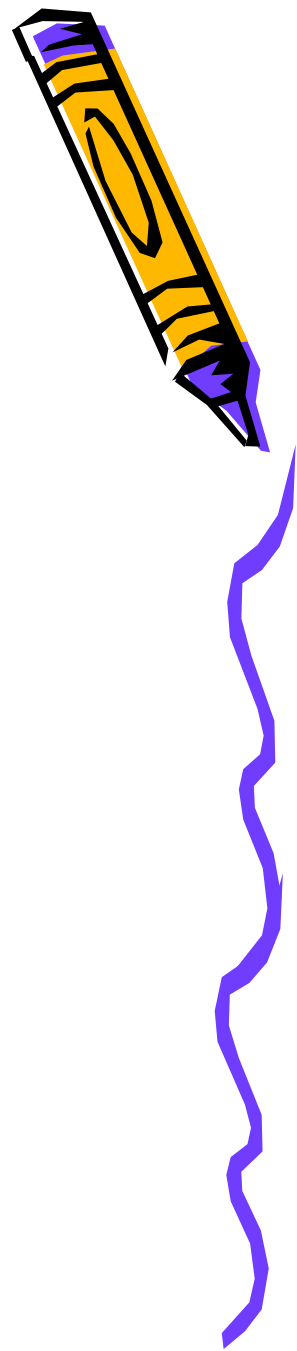




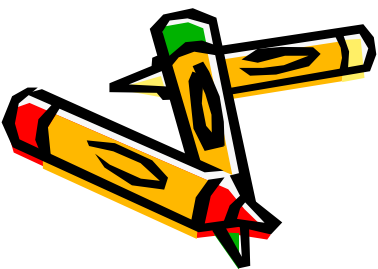
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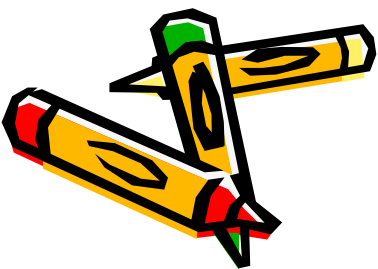
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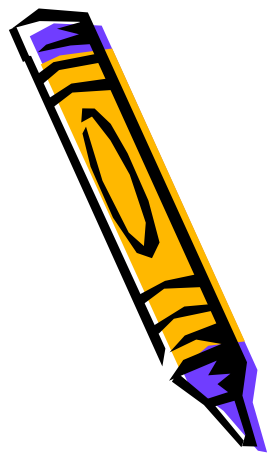
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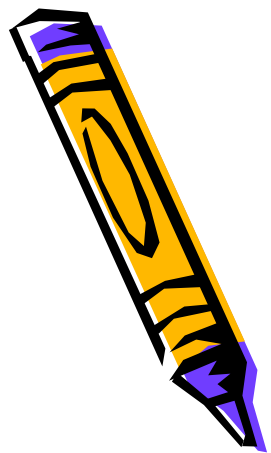
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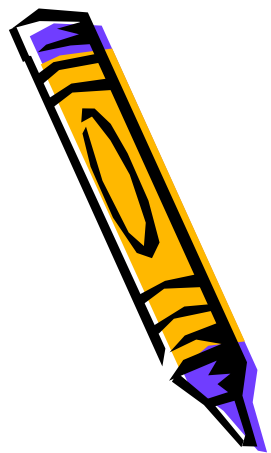
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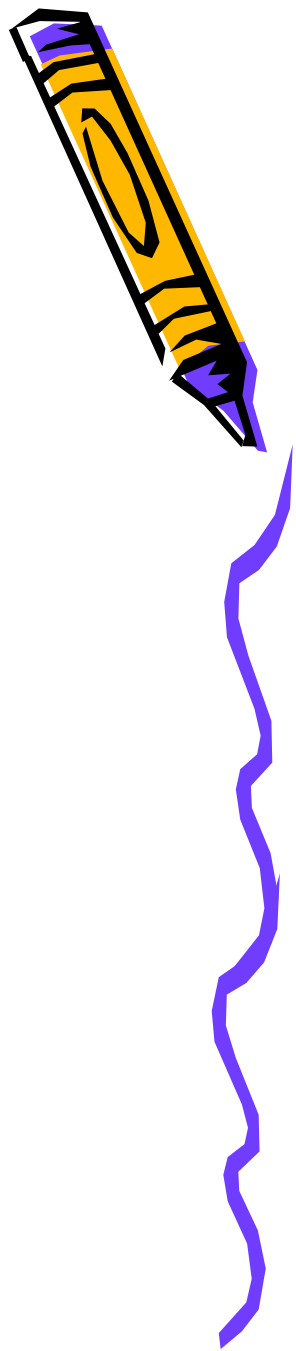


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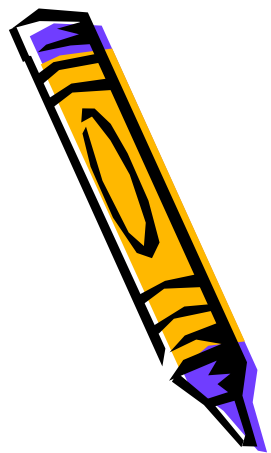
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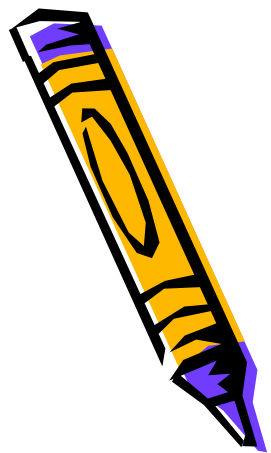
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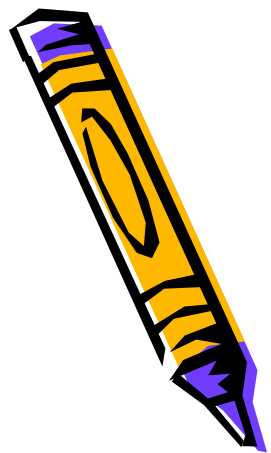


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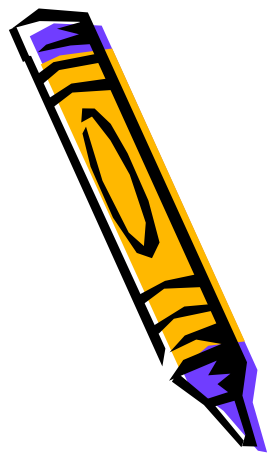




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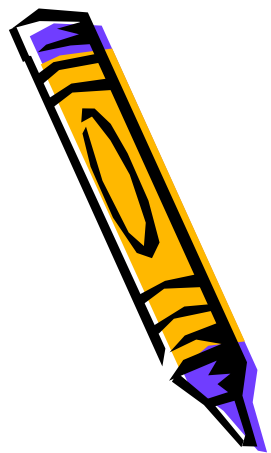
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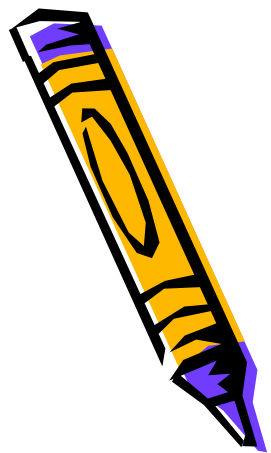
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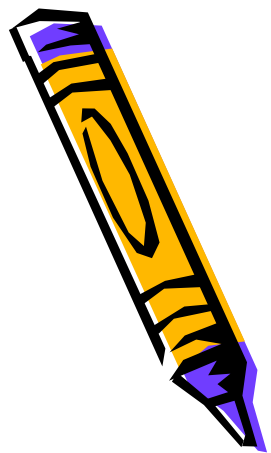
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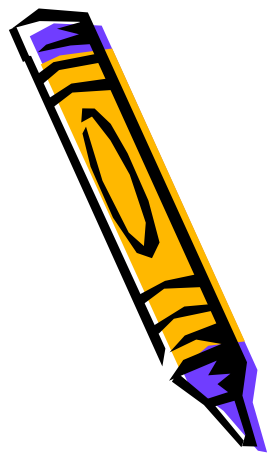
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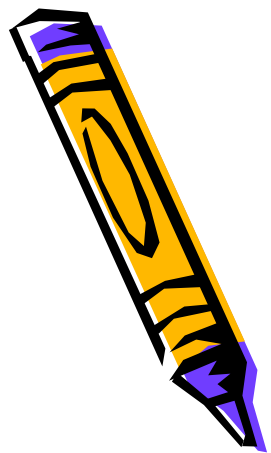
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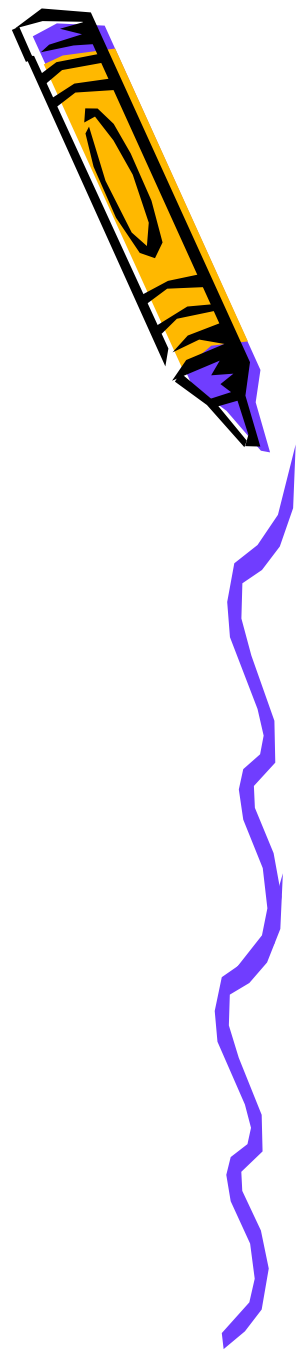


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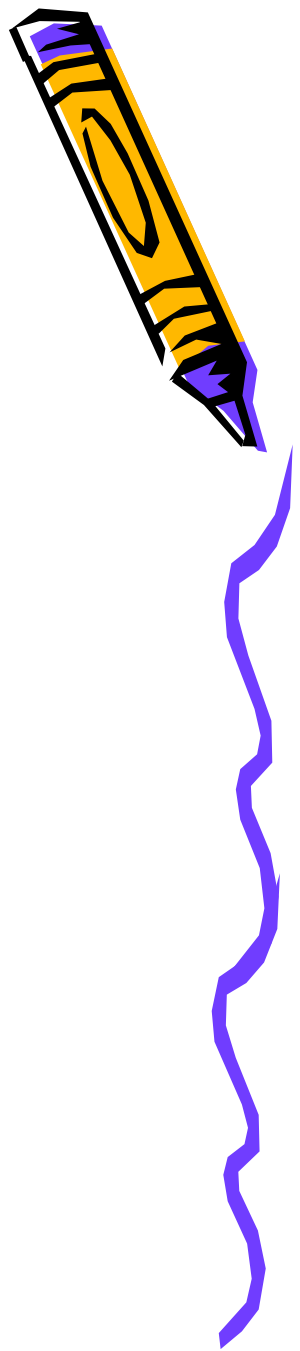


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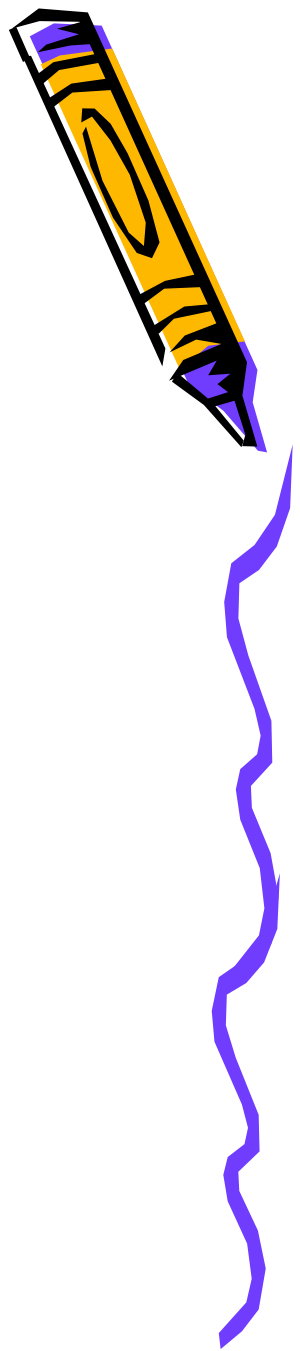


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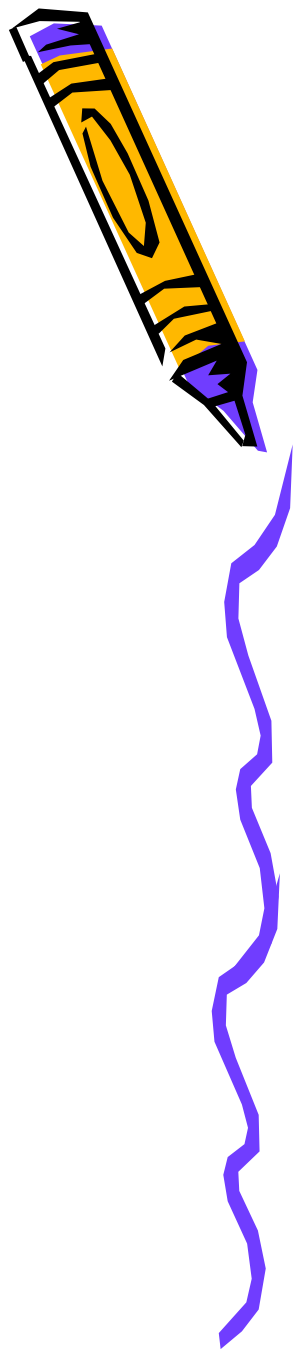


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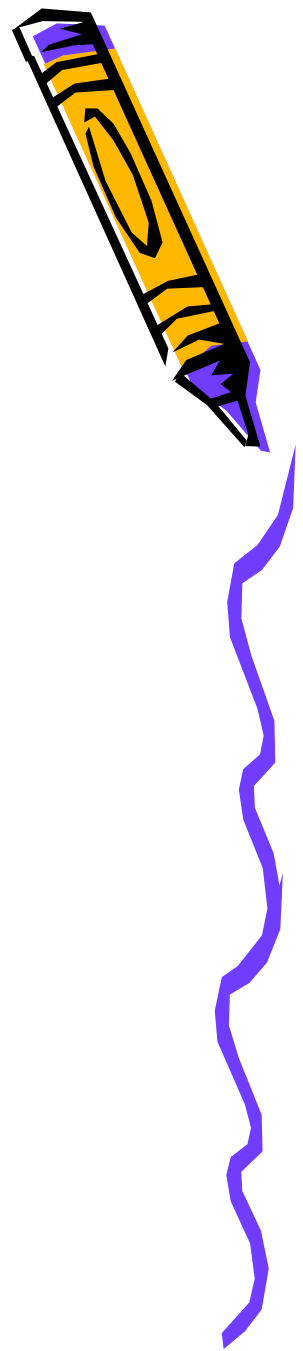


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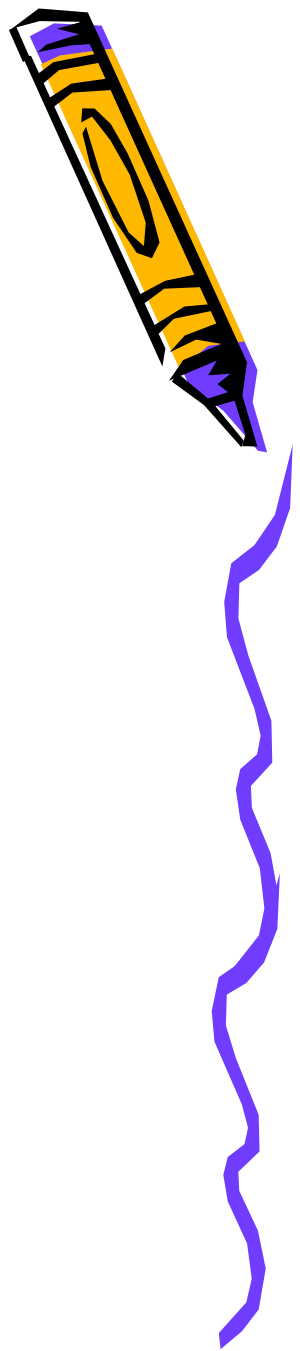


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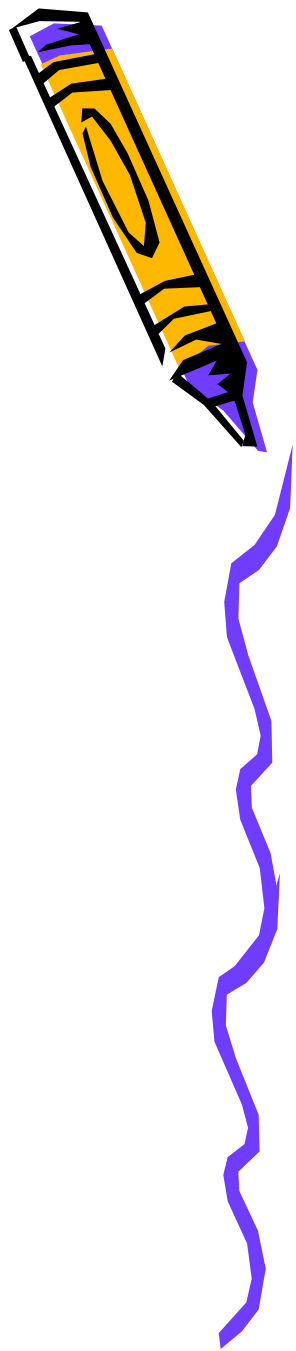


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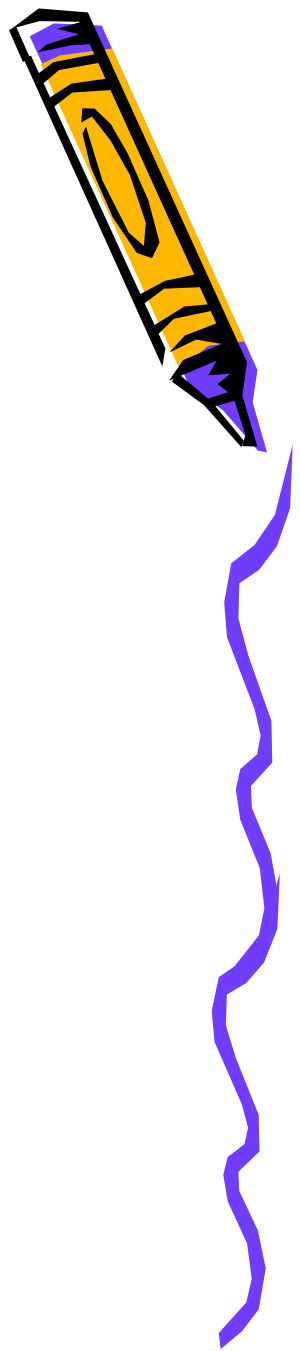


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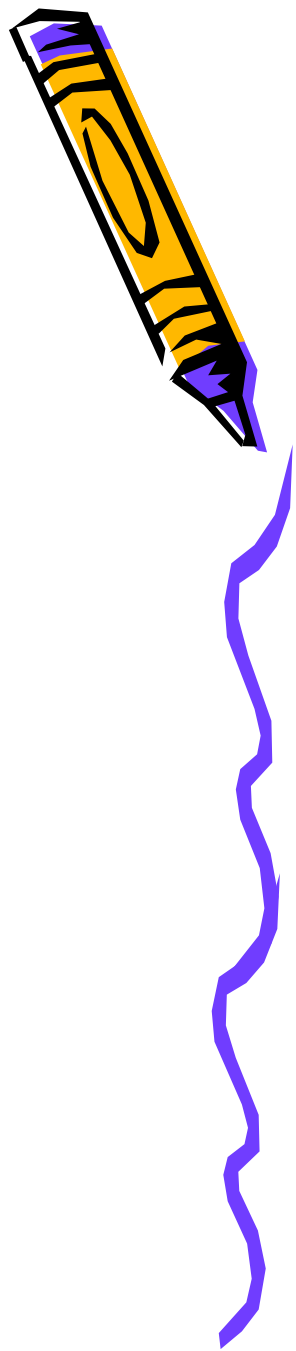


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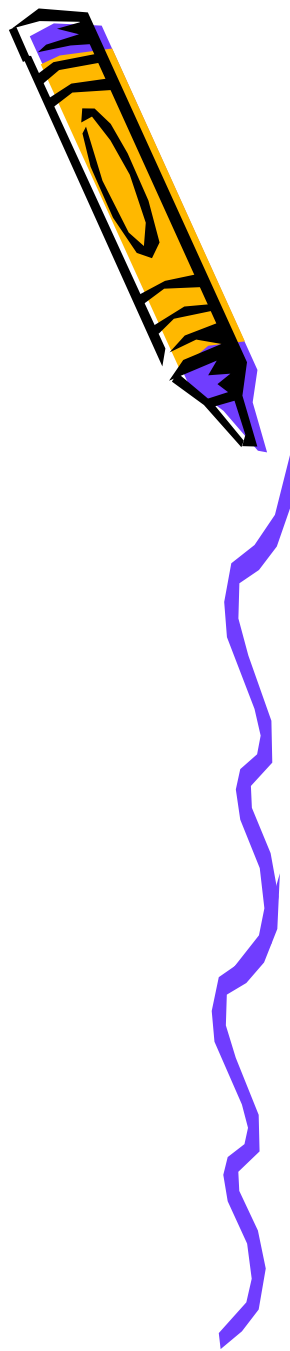


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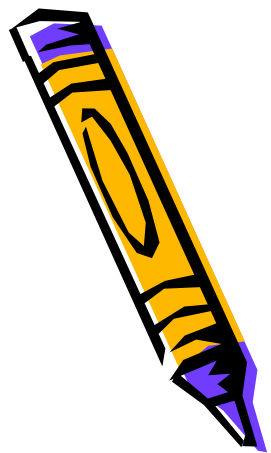




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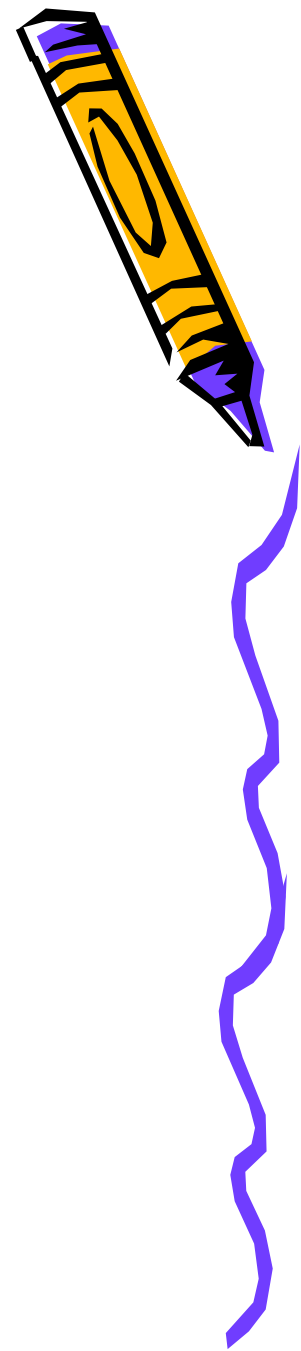


STOP



One Minute Drill

Get ready again!!!

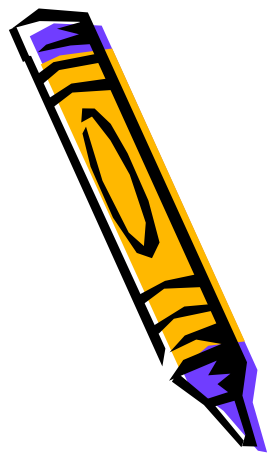


One Minute Drill

Write down what they
invented.

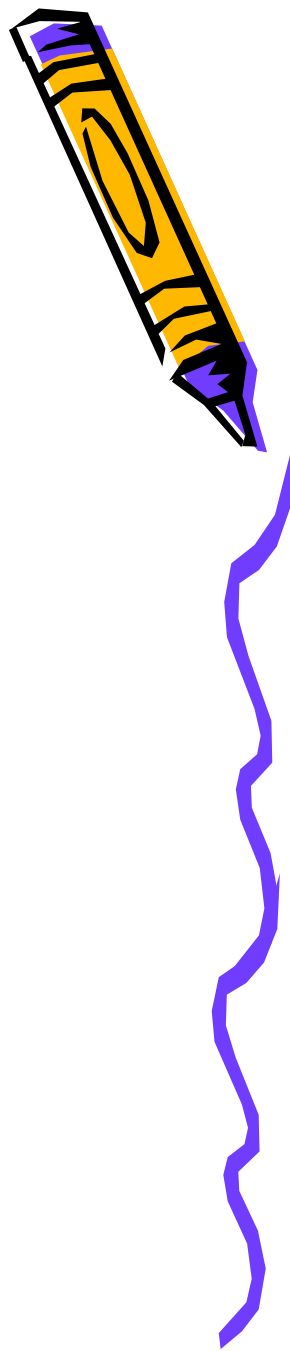


READY





SET



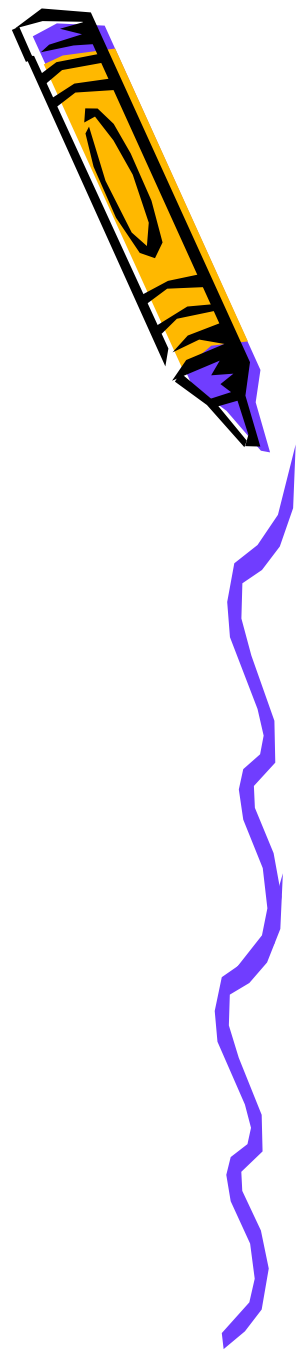
GO



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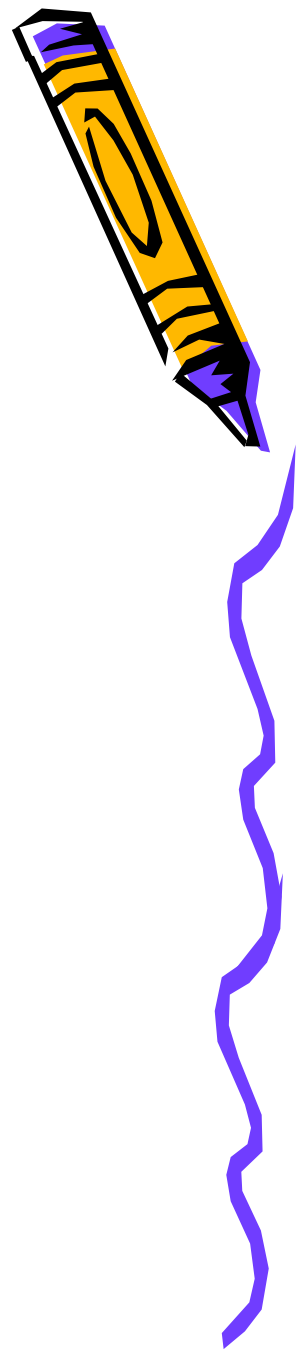


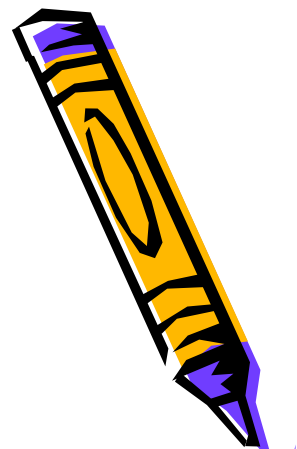
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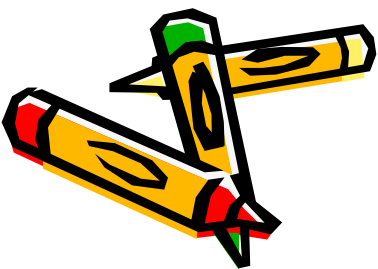


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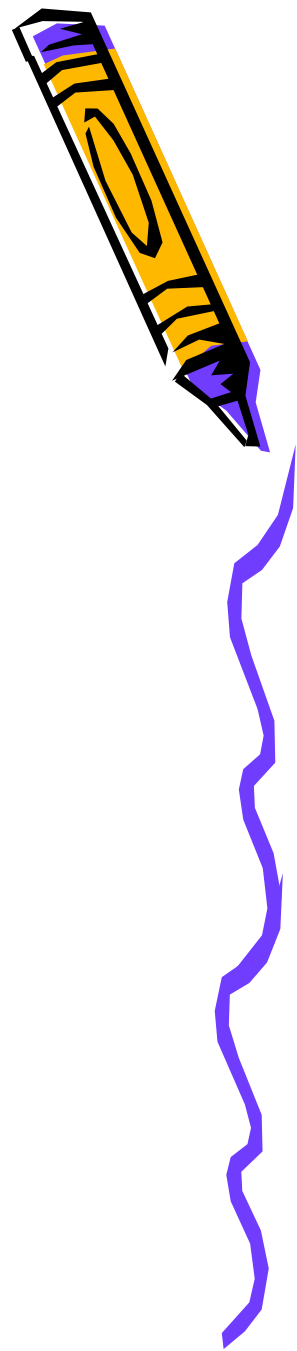


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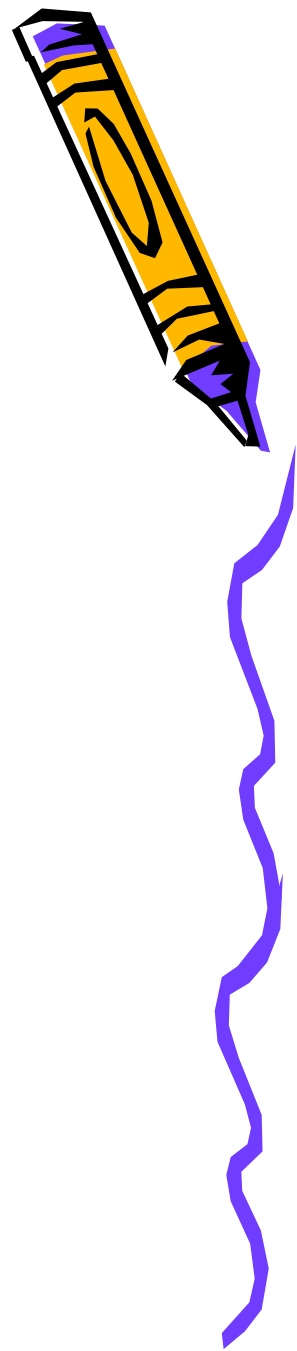


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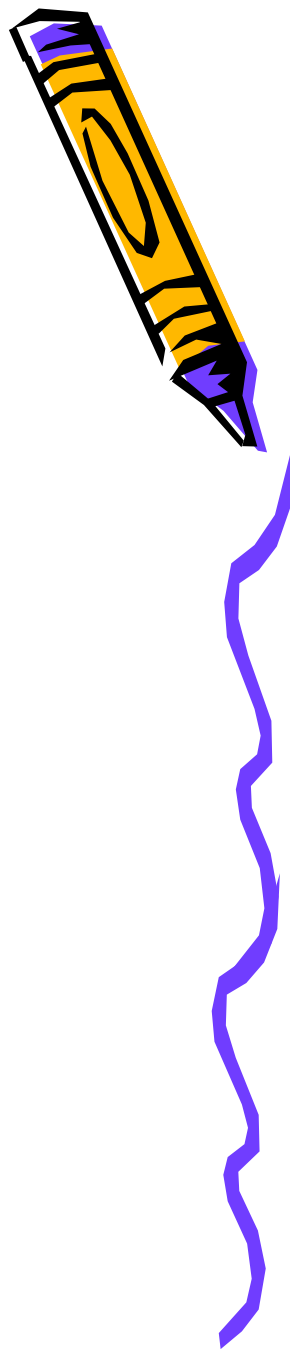


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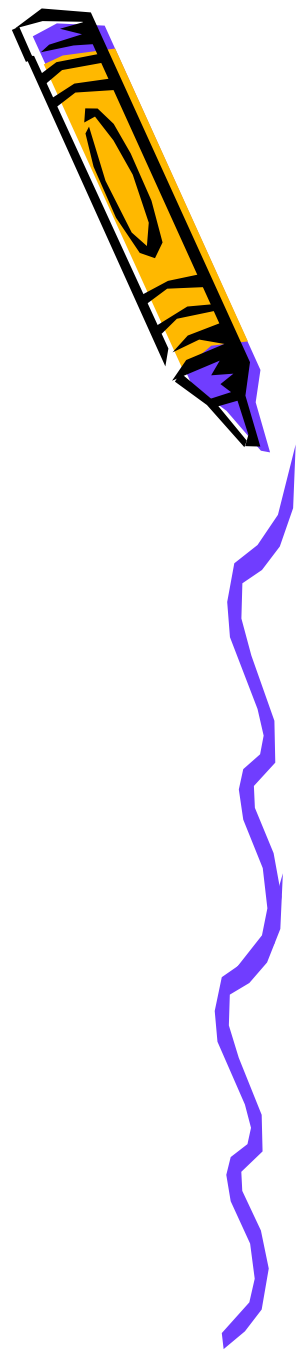


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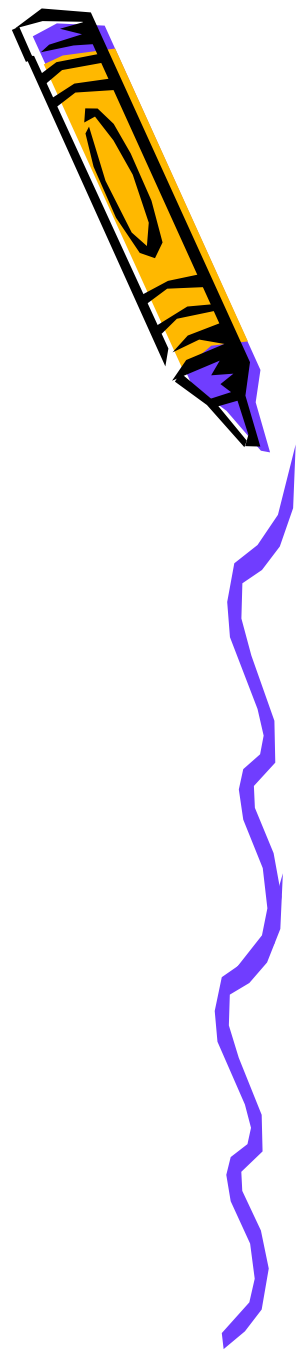




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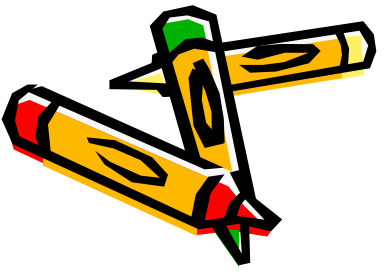


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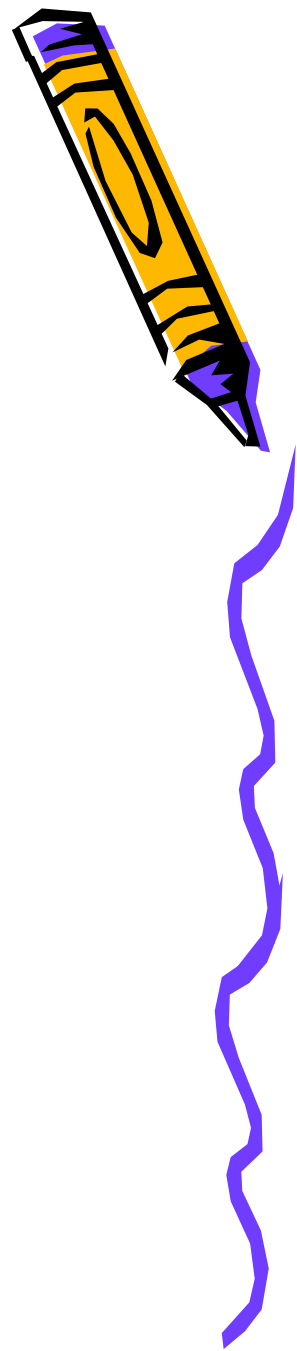




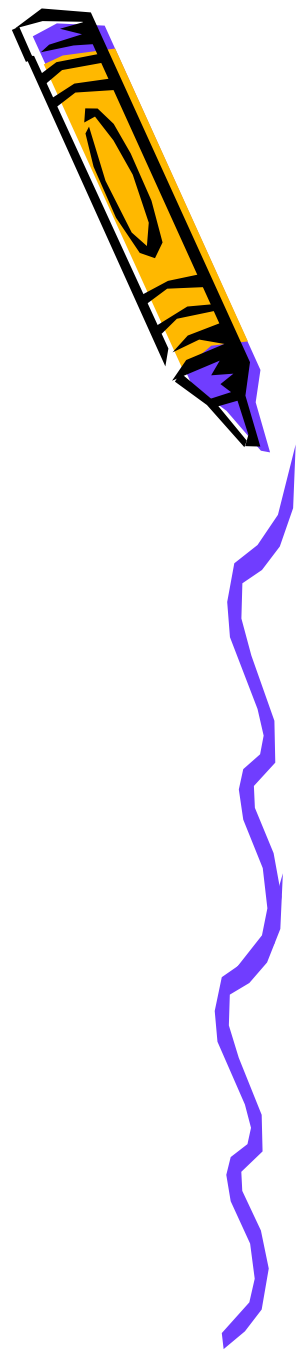
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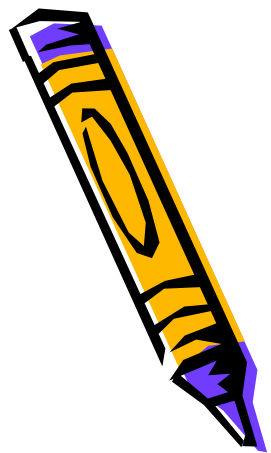
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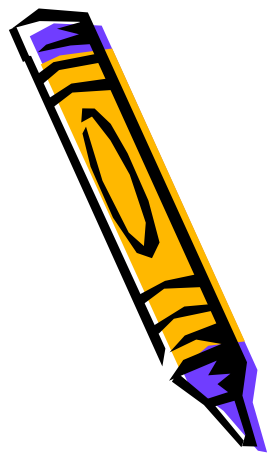
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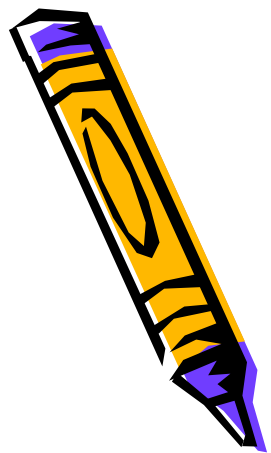
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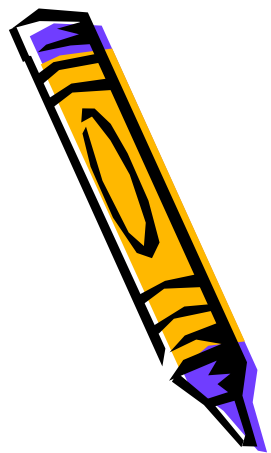
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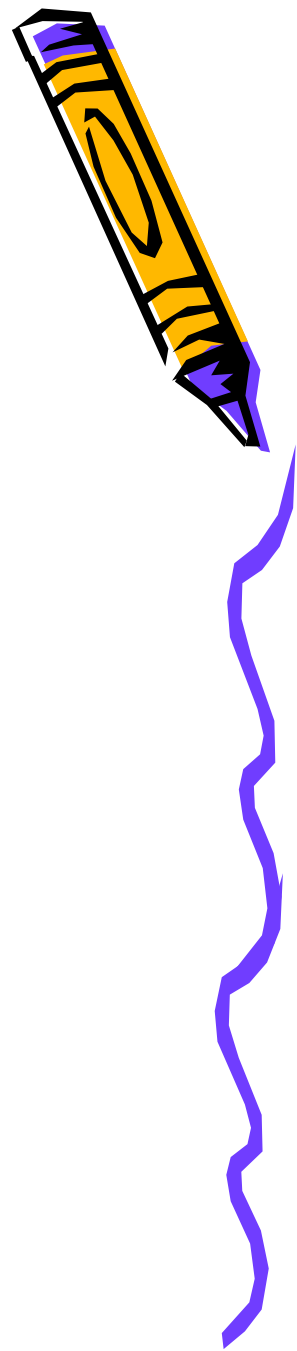
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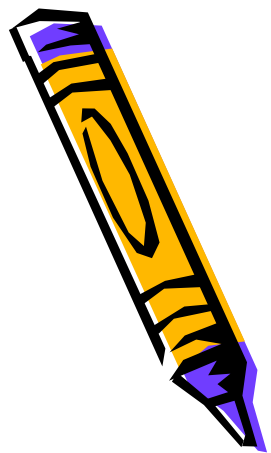
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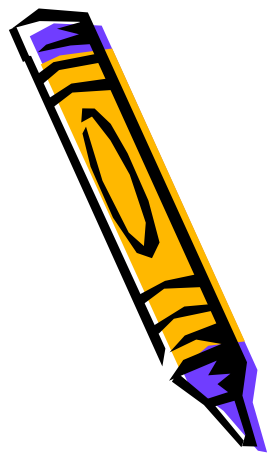
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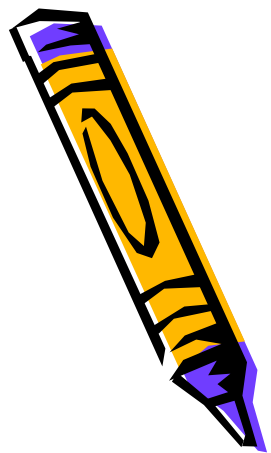
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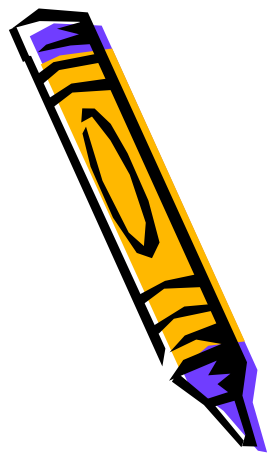
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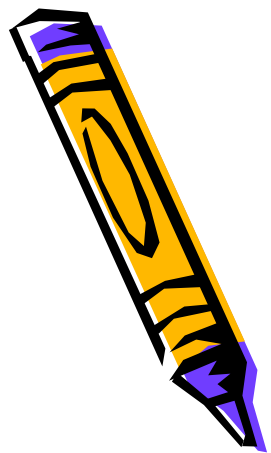
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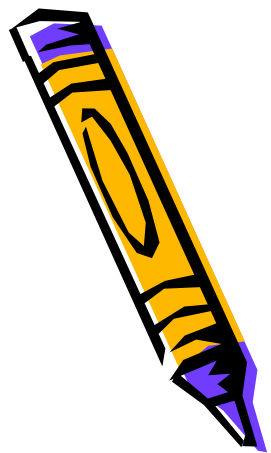
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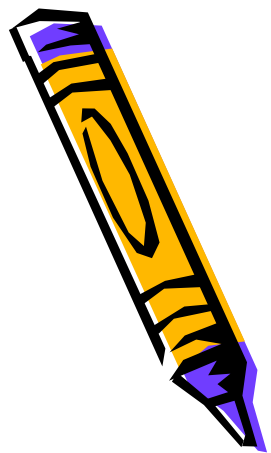
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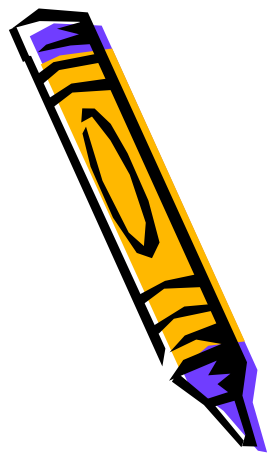
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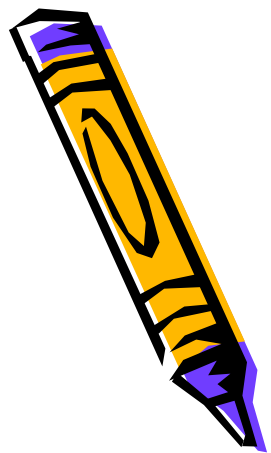
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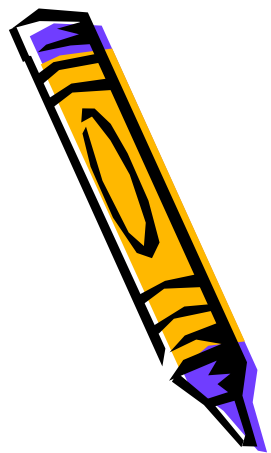
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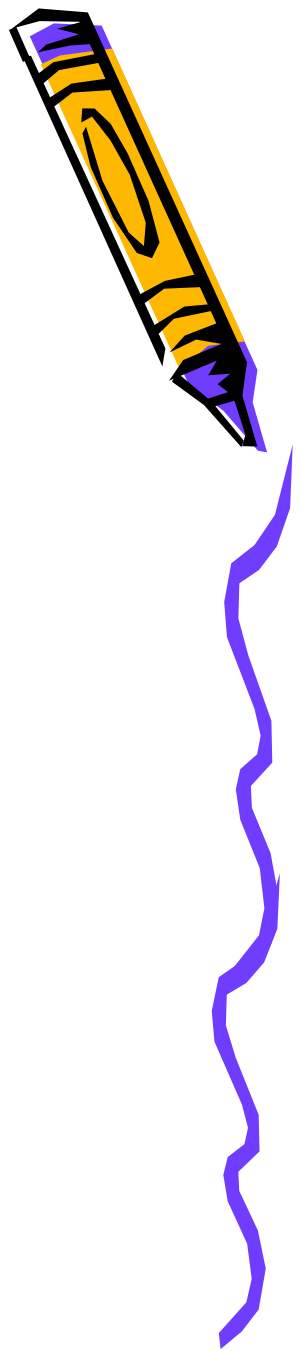


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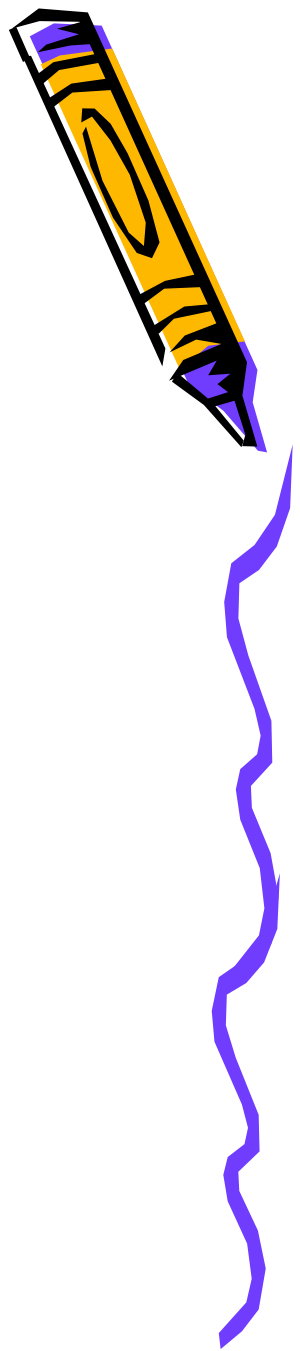


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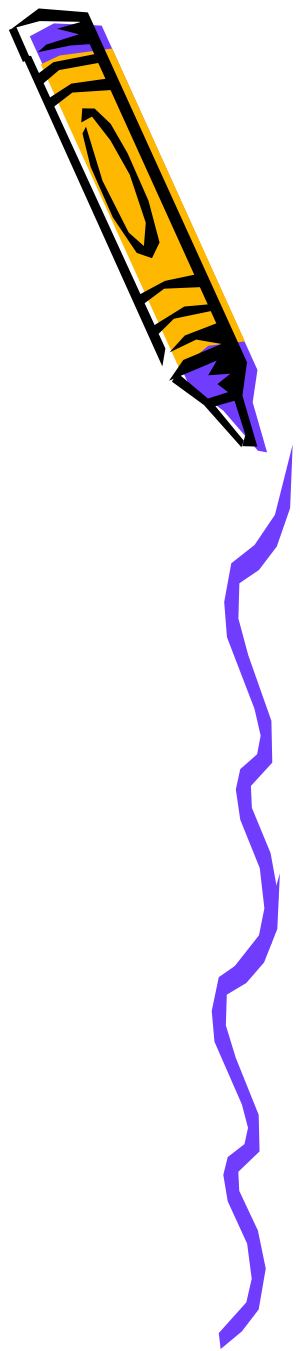


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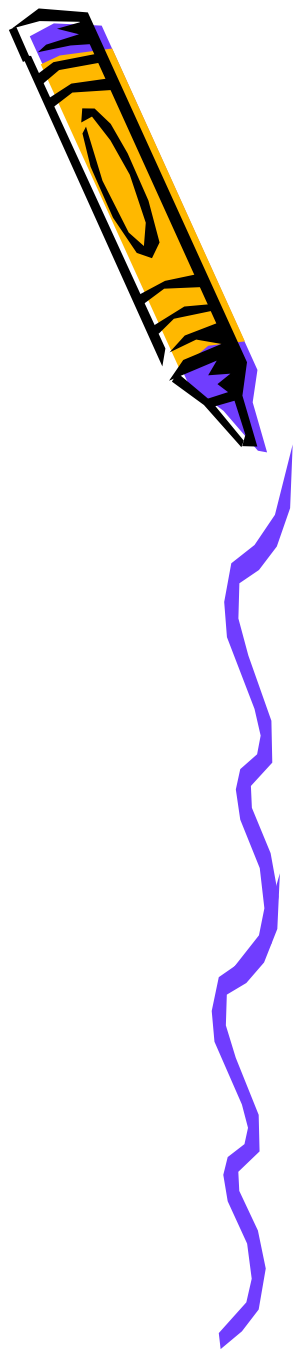


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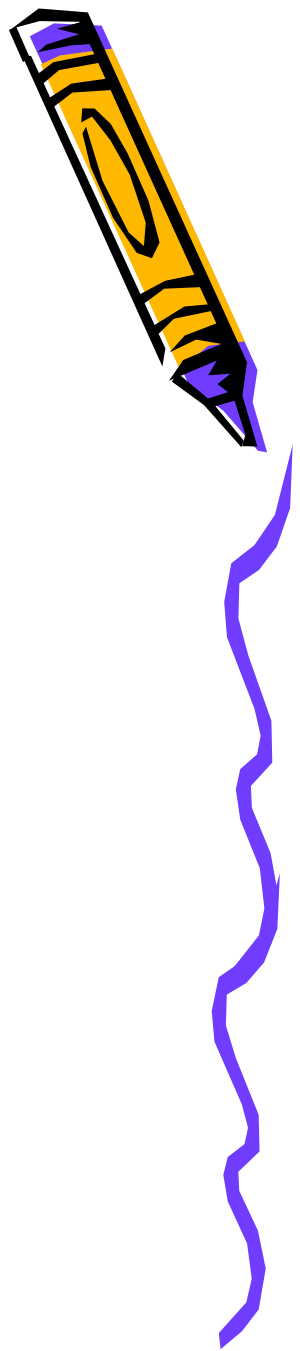


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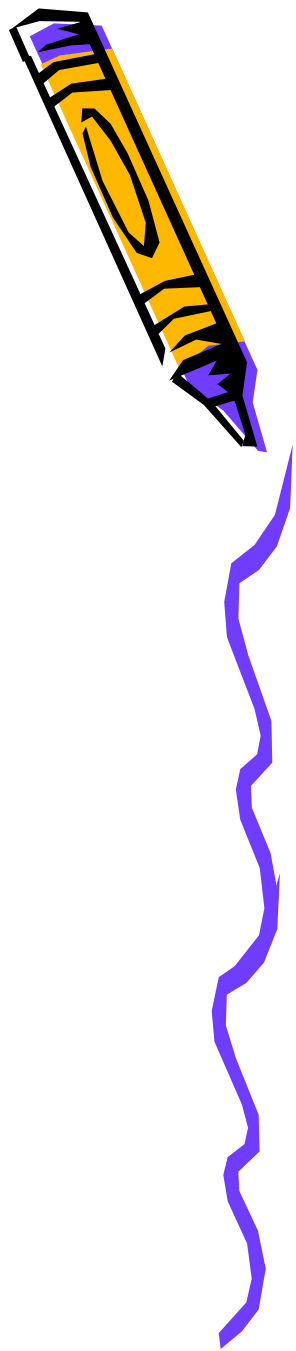


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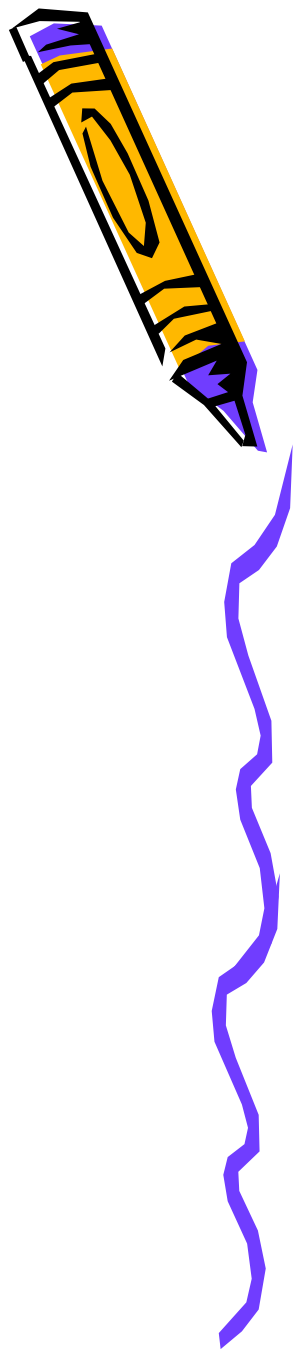


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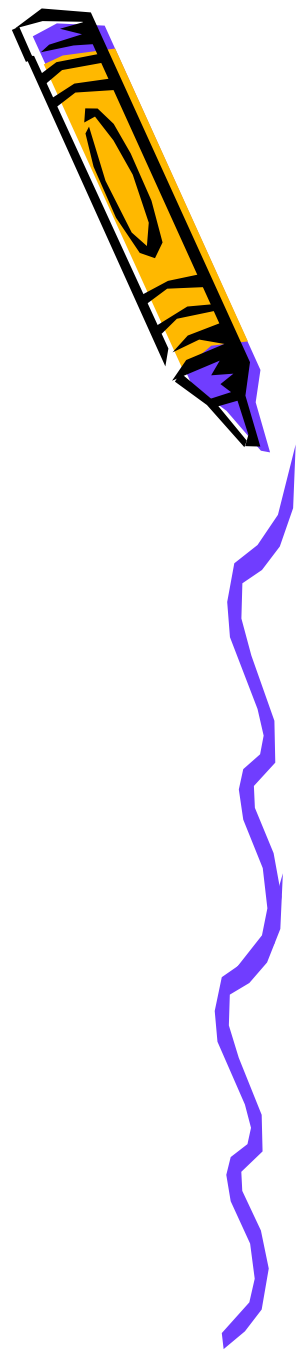


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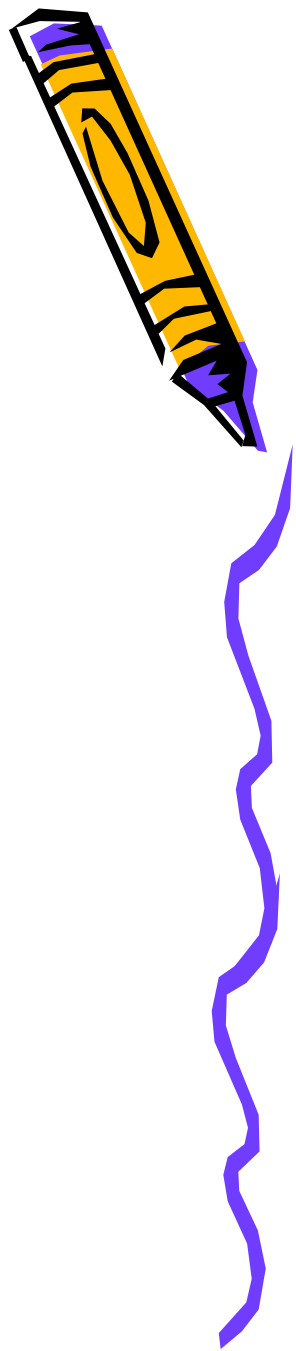


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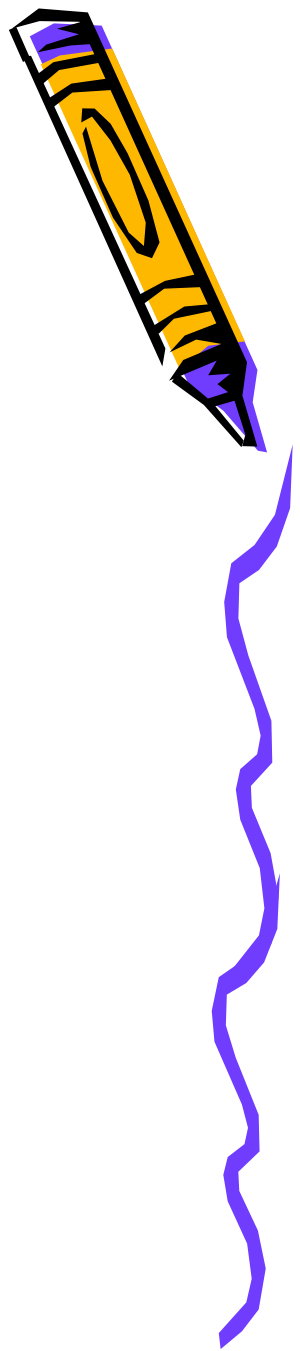


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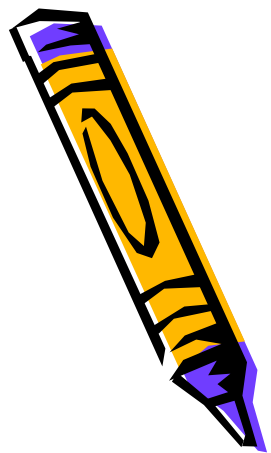




1



STOP



**Discuss the
inventors and
their inventions**

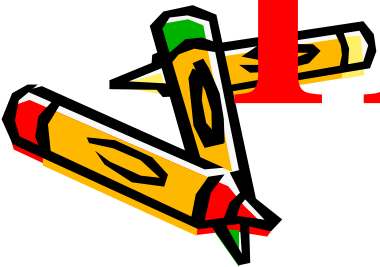




ALEXANDER

GRAHAM

BELL



TELEPHONE



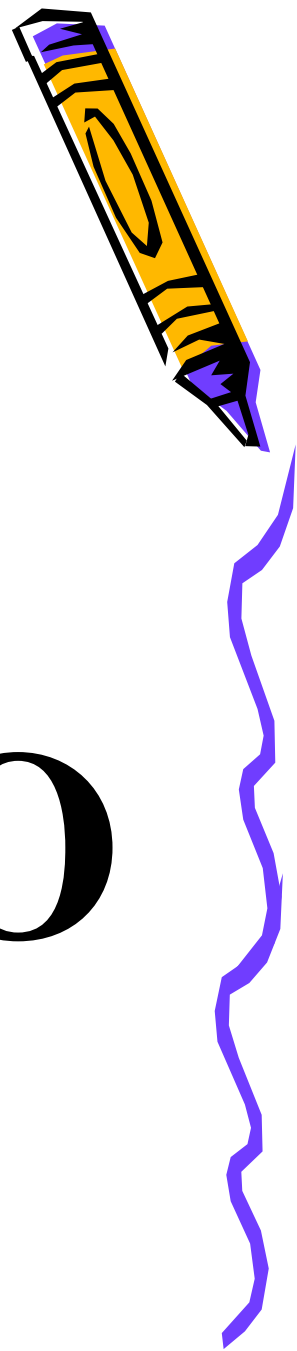
GEORGE

WASHINGTON

CARVER

PEANUT BUTTER





LEONARDO DAVINCI



**WALT
DISNEY**

**MULTIPLANE
CAMERA**

MICKEY MOUSE

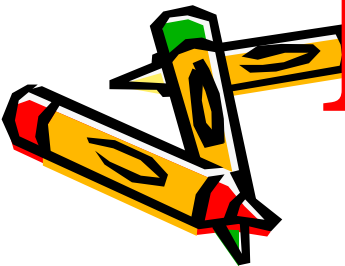


THOMAS

EDISON

PHONOGRAPH

LIGHTBULB





**ALBERT
EINSTEIN**

ATOMIC BOMB



**HENRY
FORD**



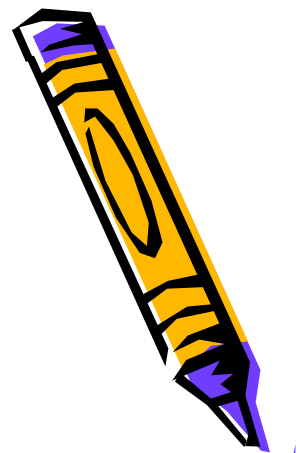
**BENJAMIN
FRANKLIN**

**BIFOCALS
LIGHTNING ROD
ODOMETER**



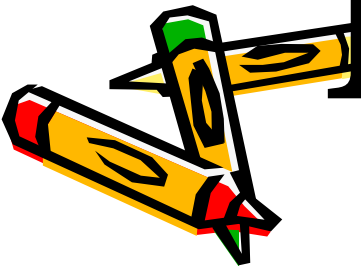
**JOHANNES
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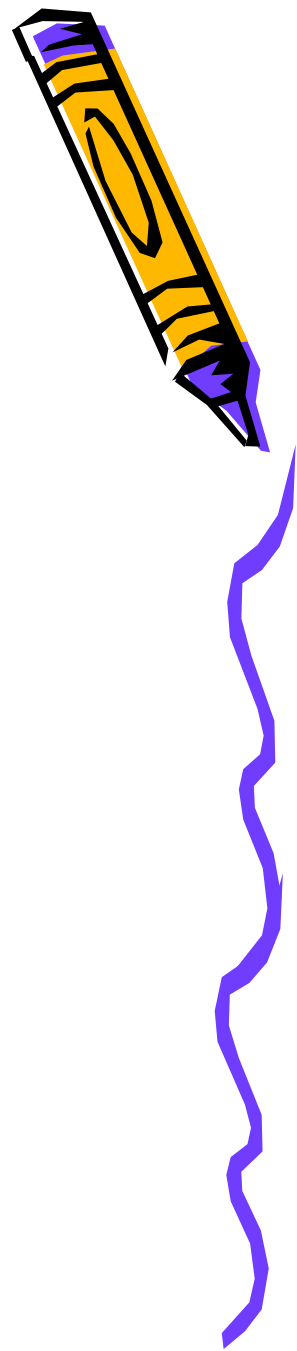


LEWIS

LATIMER



**SIR
ISAAC
NEWTON
REFLECTING
TELESCOPE**



**LEVI
STRAUSS**

BLUE JEANS





ELI

WHITNEY

COTTON GIN



WILBUR &

ORVILLE

WRIGHT

AIRPLANE

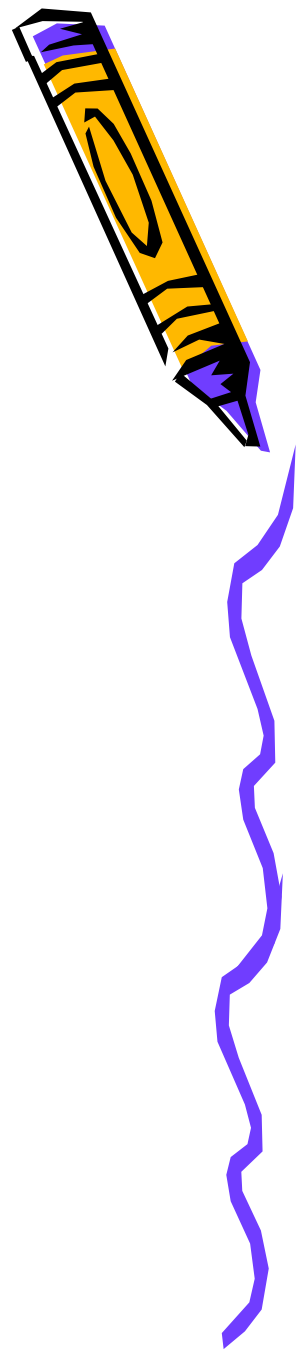


Invention

“A new and unique product created by an inventor ”

Examples:

- Train
- Computer
- Telephone
- Engine

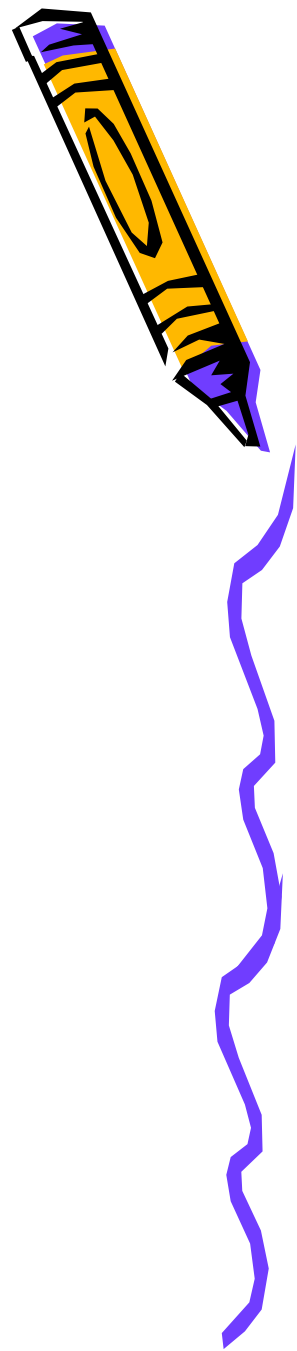


Innovation

“The process of altering an existing product or system to improve it”

Examples:

- Bullet Train
- Laptop
- Smart Phone
- Electric Engine



Science

"Science is the study of the natural world."

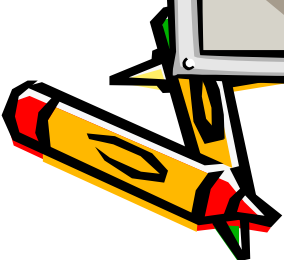
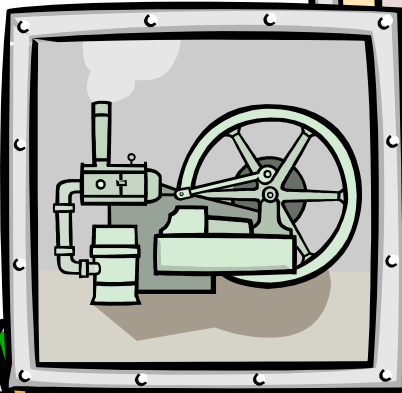
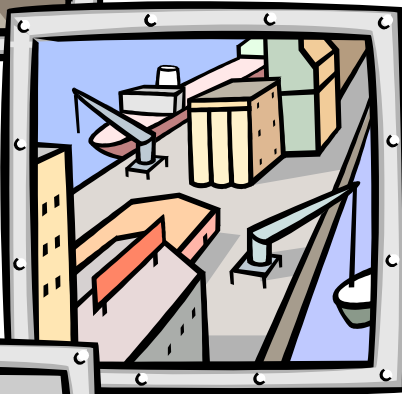
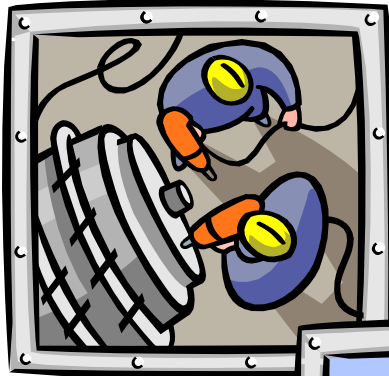
- We study our world by observing, identifying, describing, investigating, and explaining what they see and experience.
- Scientific study helps develop new cures for diseases, new products for consumers, and new ways to work and live.



Technology

- Technology is not just computers.
- Technology refers to human invention and innovation in action.

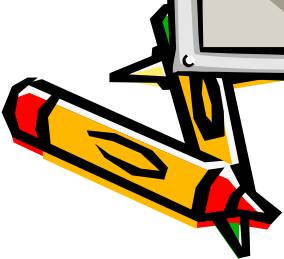
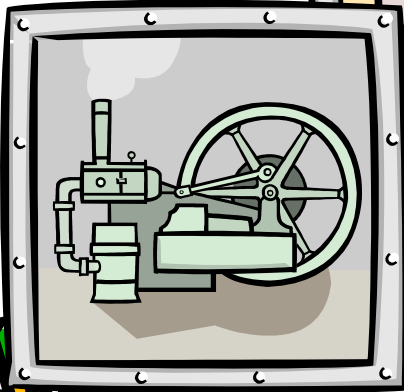
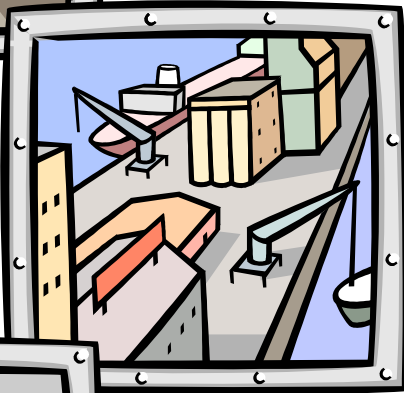
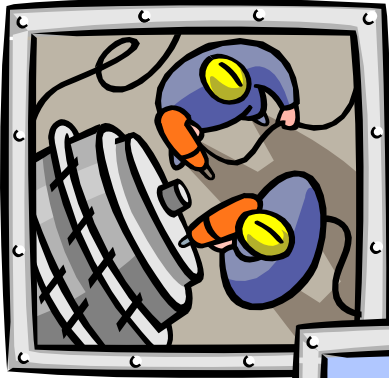
"Technology is the use of knowledge to turn resources into goods and services that extend our capability."



STEM

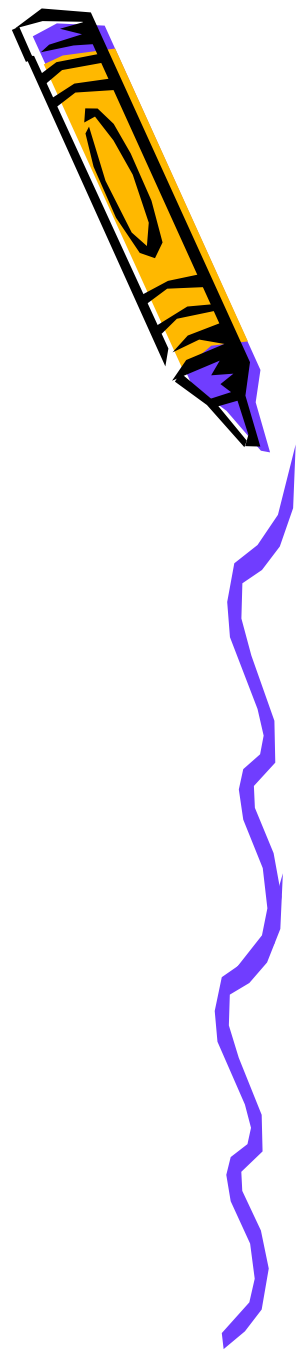
- Science
- Technology
- Engineering
- Mathematics

“Together STEM fields help fuel the invention and innovation process in our country”



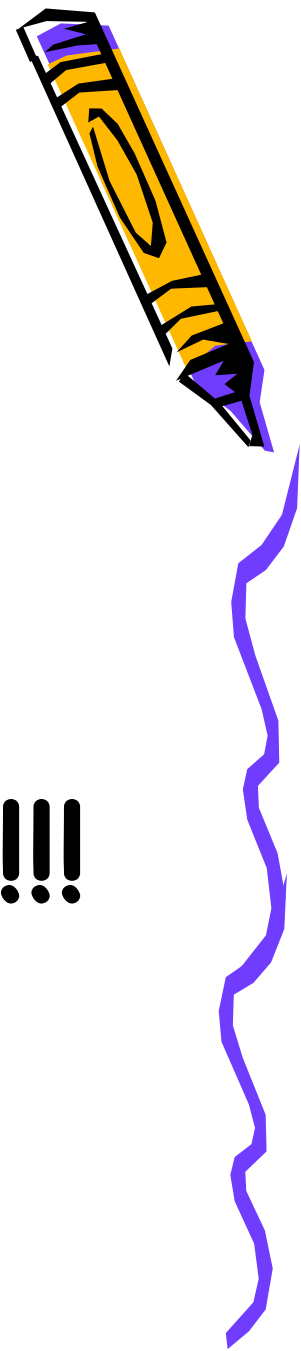
Innovation vs. Invention

- Read the article by Bill Walker
- Answer the questions from the article
- How does celebration sessions compare to your group work?



One Minute Drill

Last time, Get ready!!!

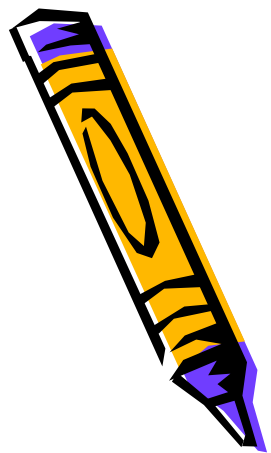


One Minute Drill

Now the hard part, pick one of your inventors and write down how his or her invention may have impacted the way people lived, worked, or produced things.

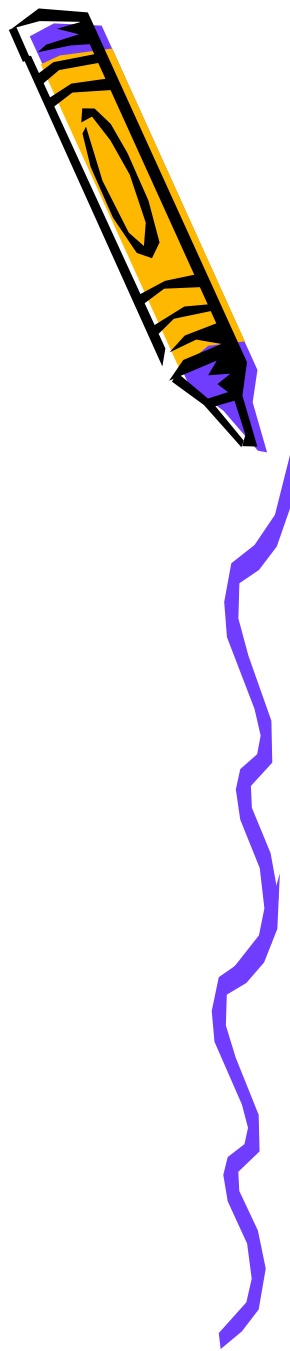


READY

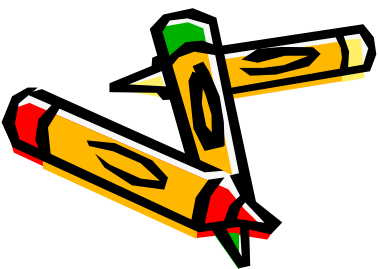




SET



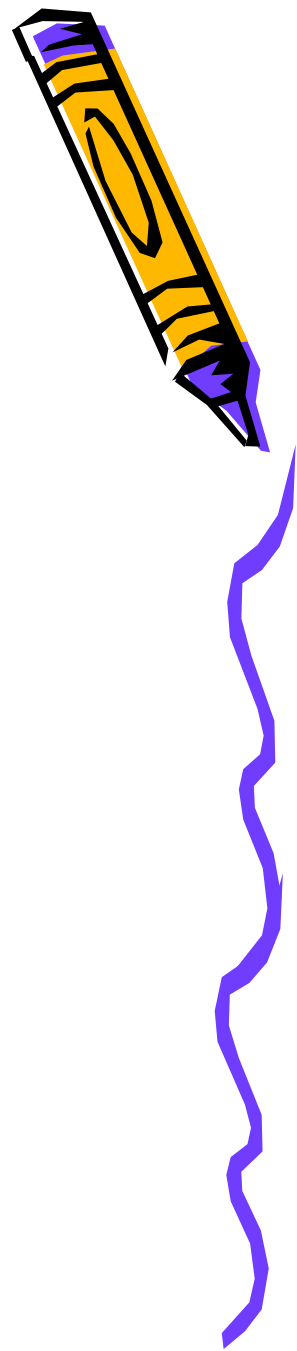
GO



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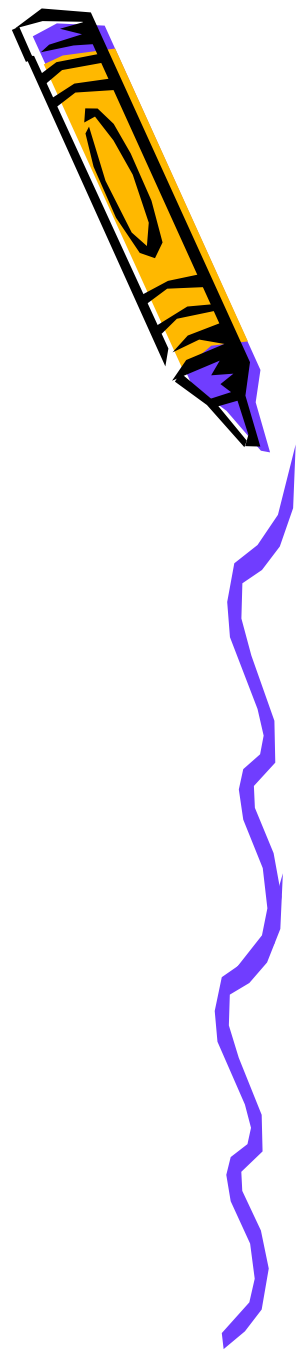


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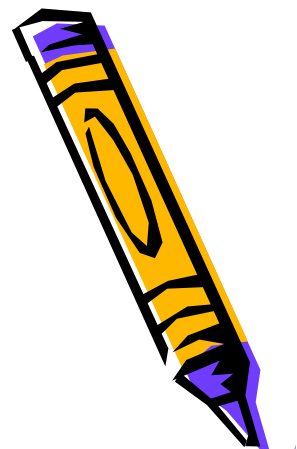


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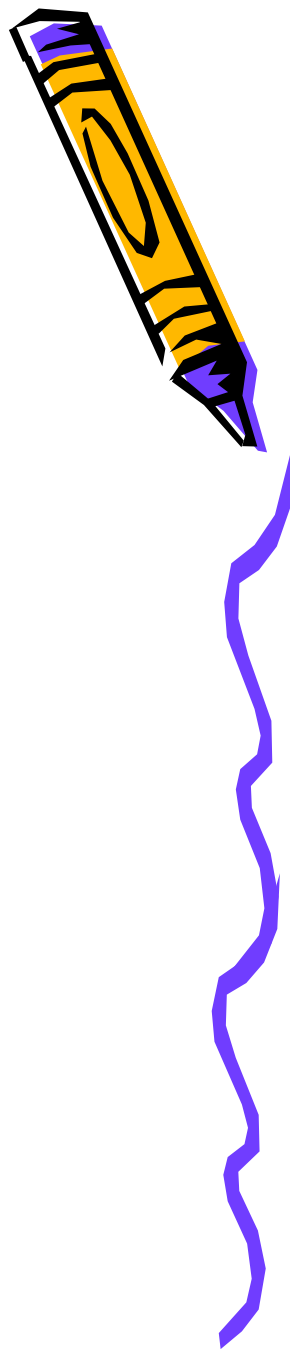


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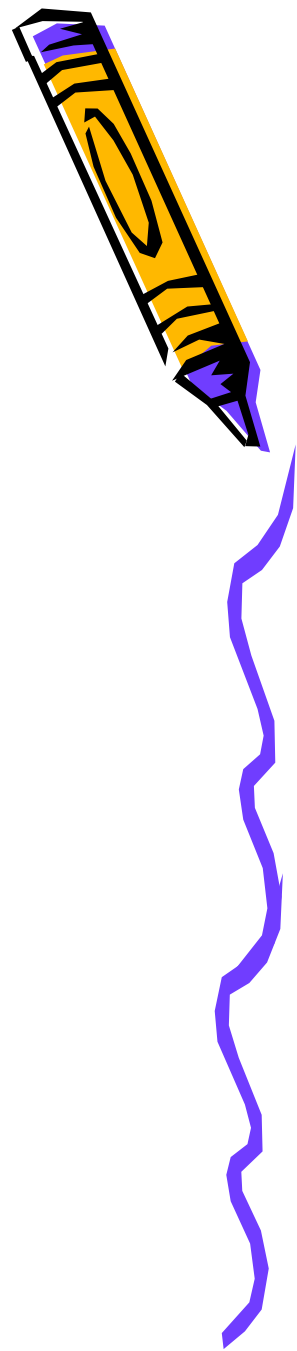


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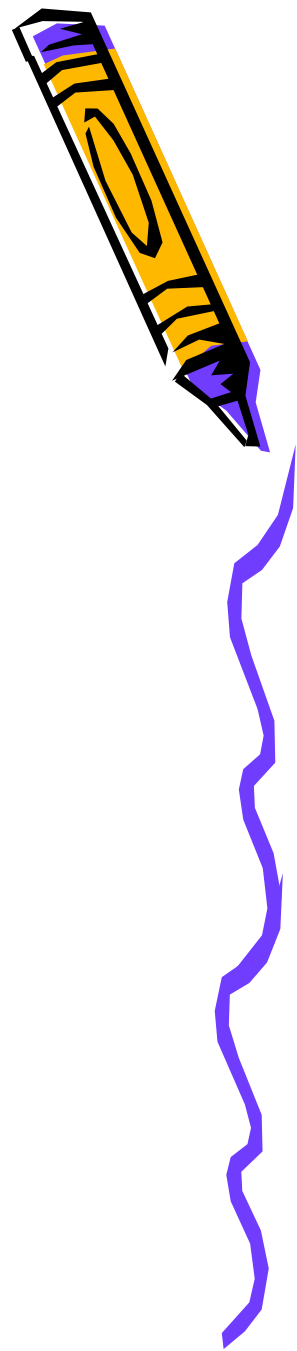


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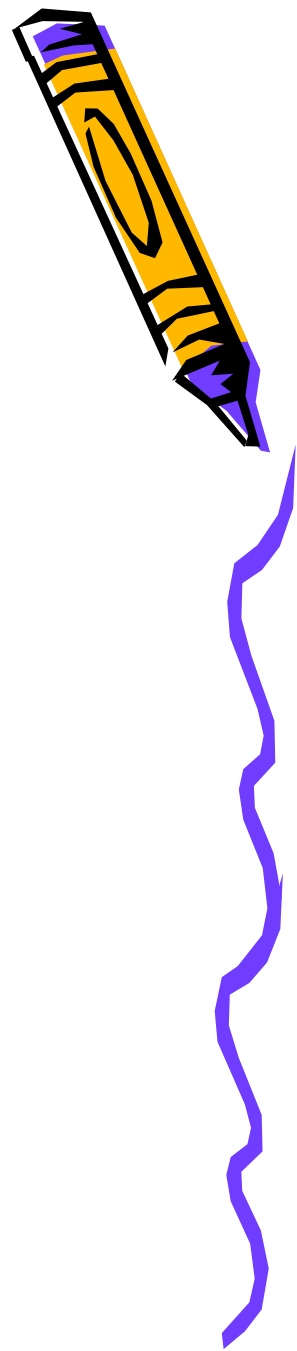


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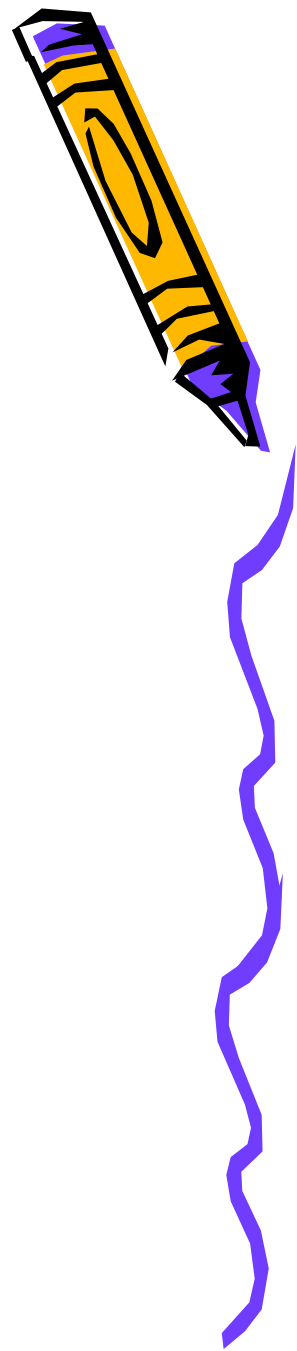




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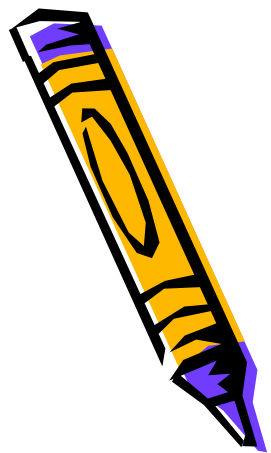
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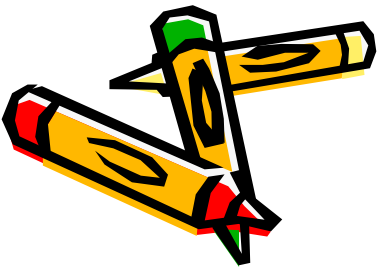


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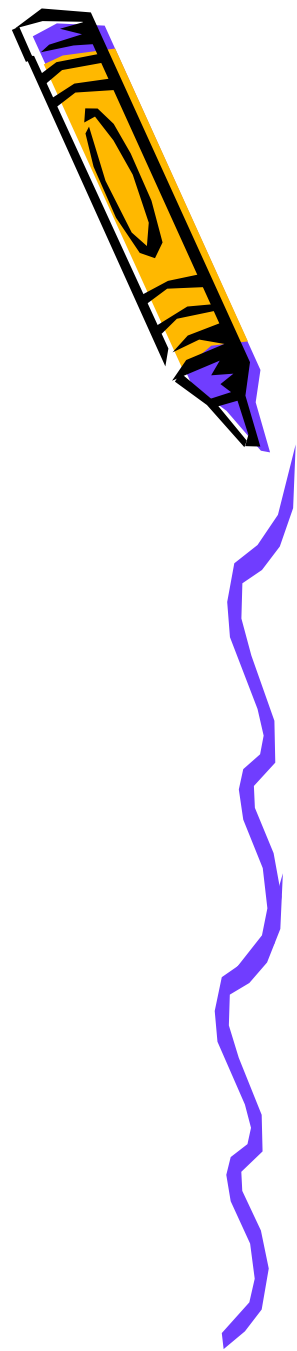




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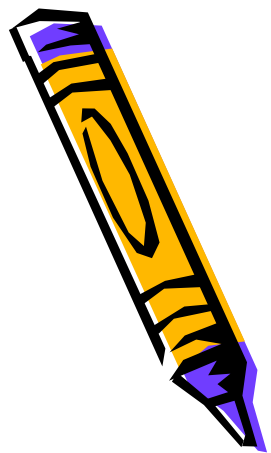
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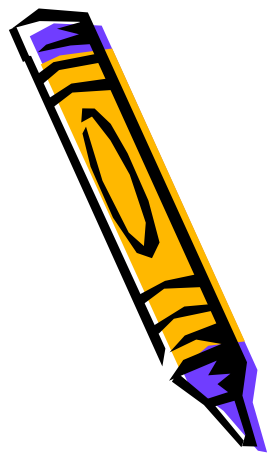
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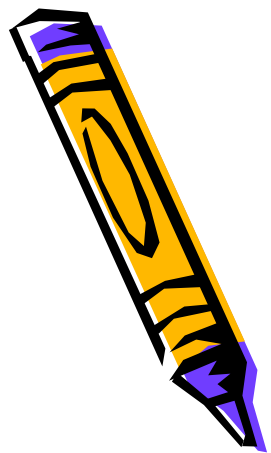
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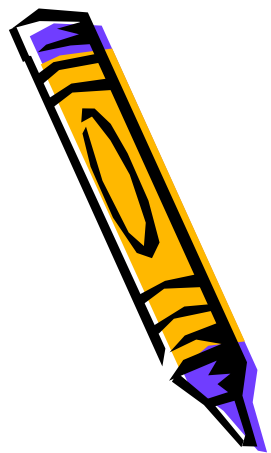
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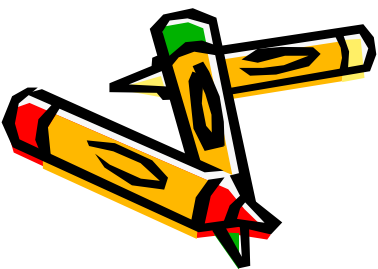
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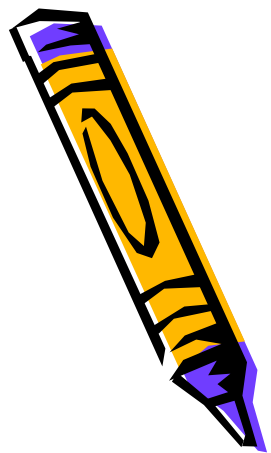
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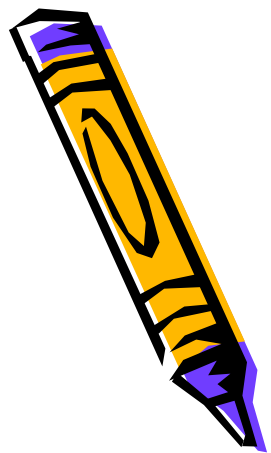
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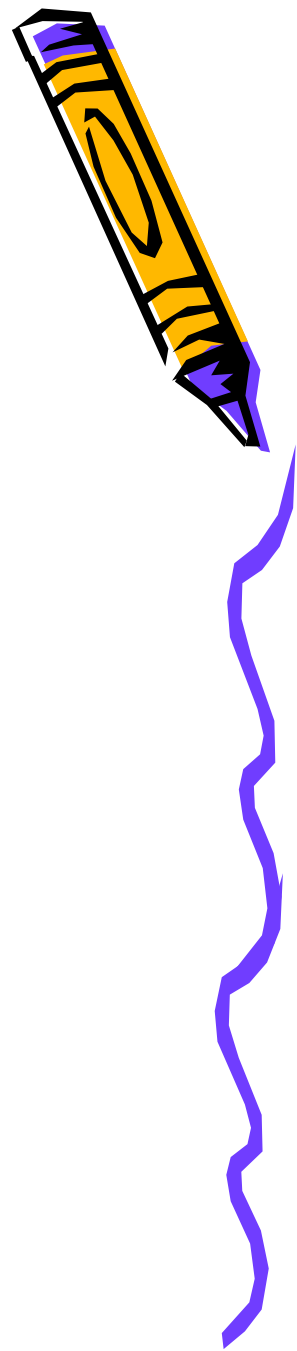
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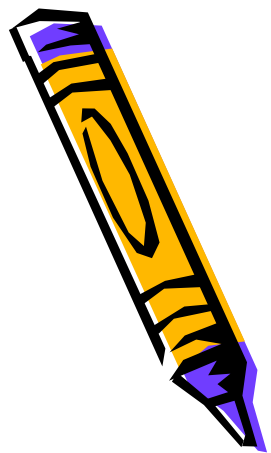
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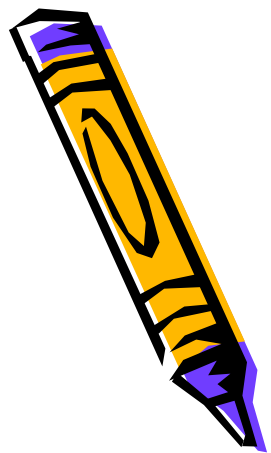
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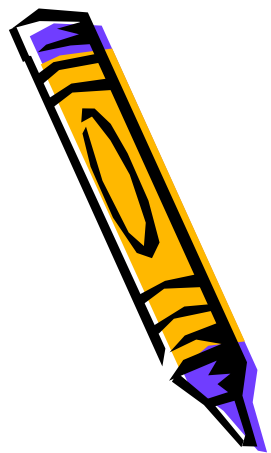
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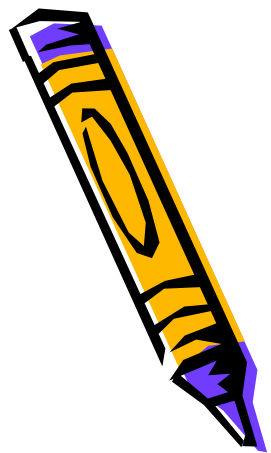
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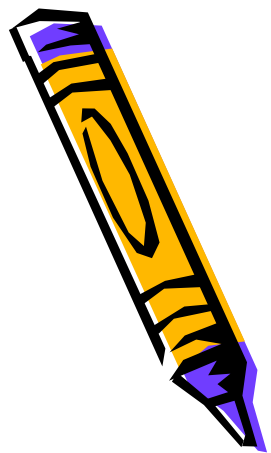
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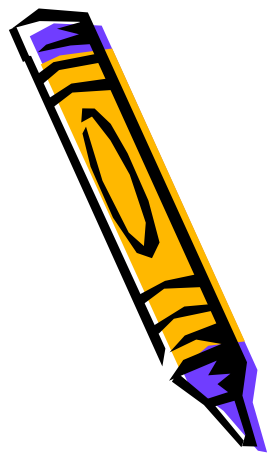
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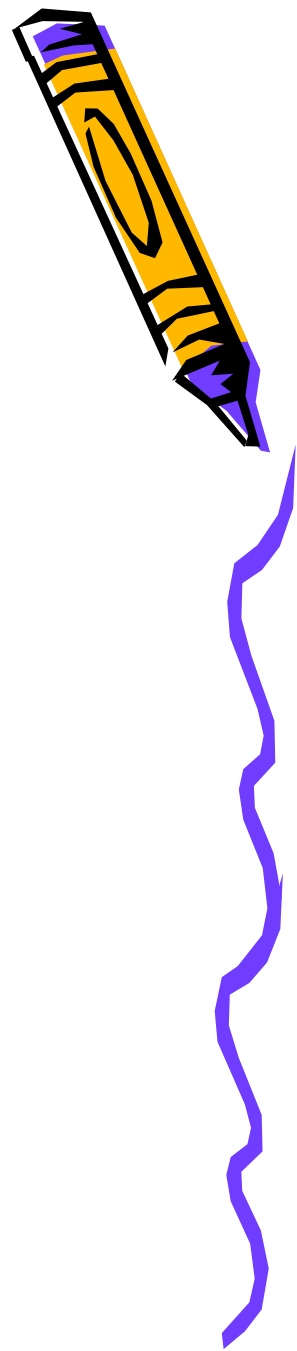


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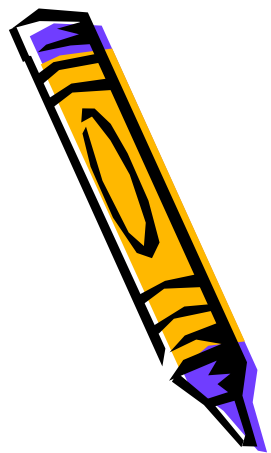




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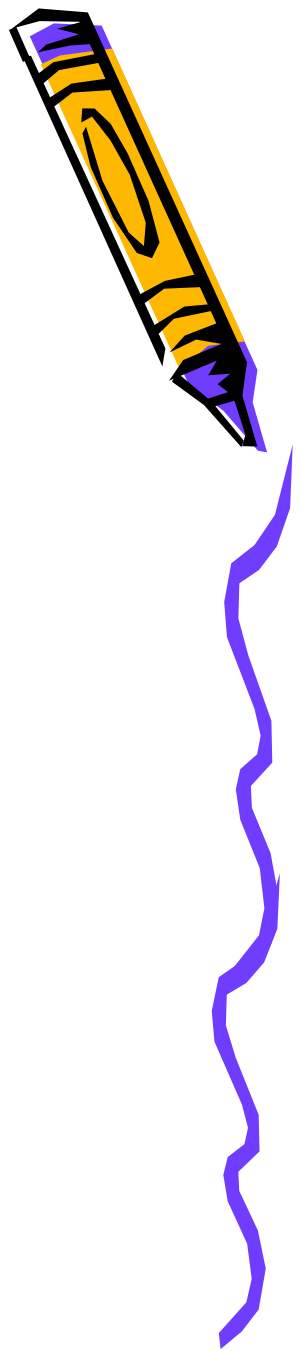


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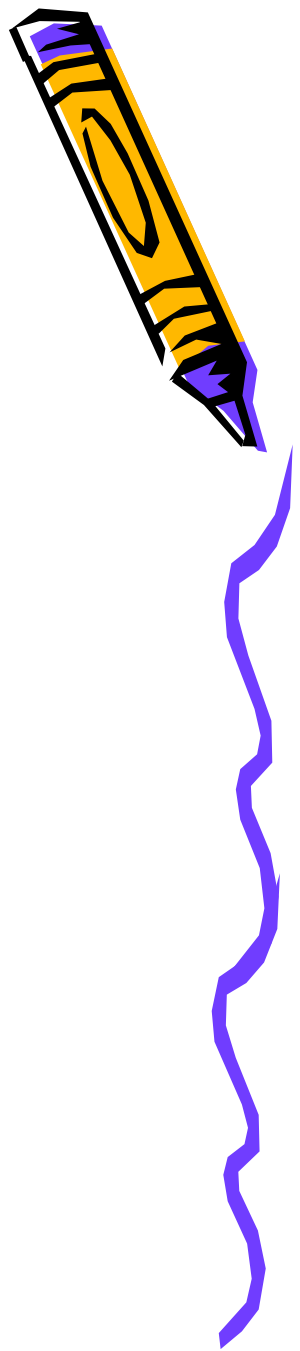


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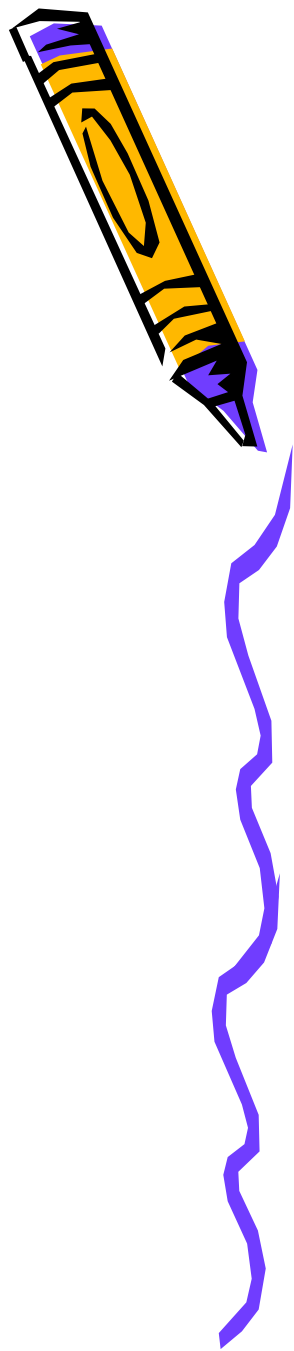


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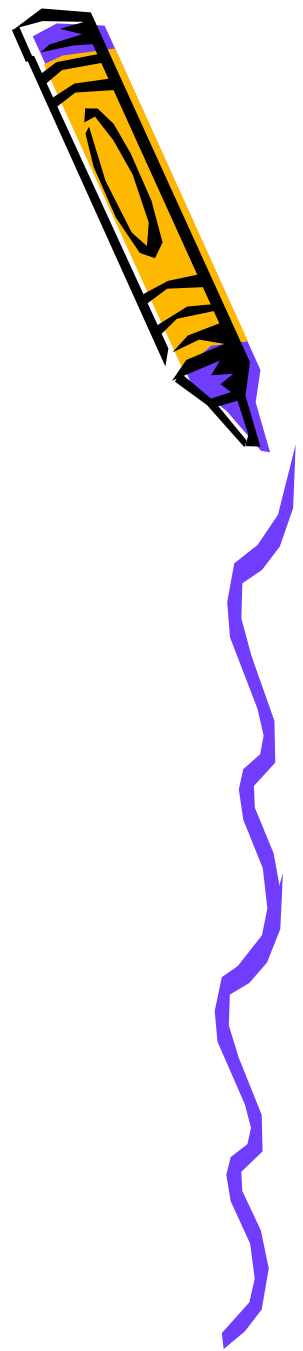


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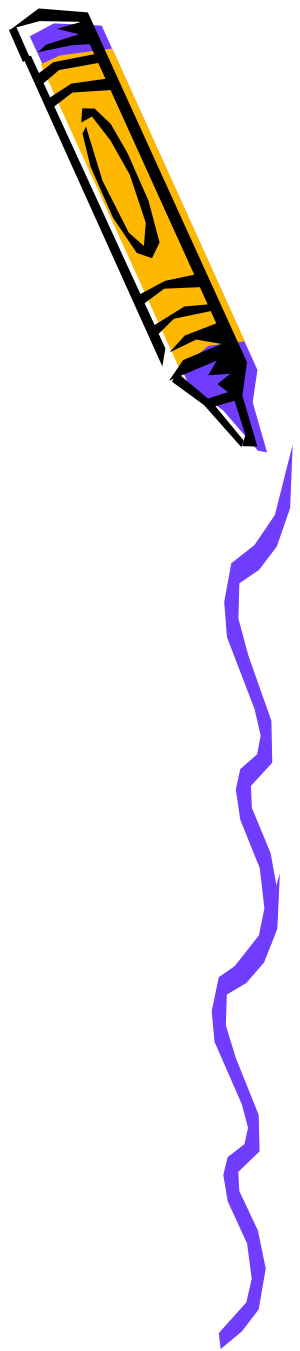


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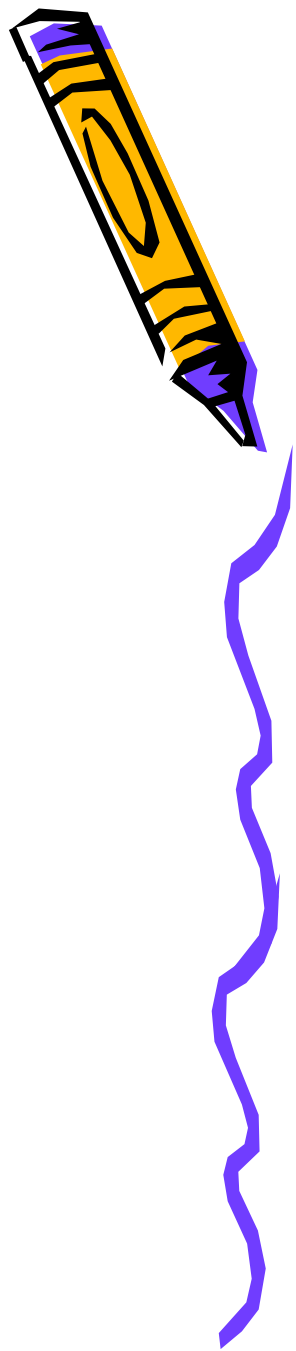


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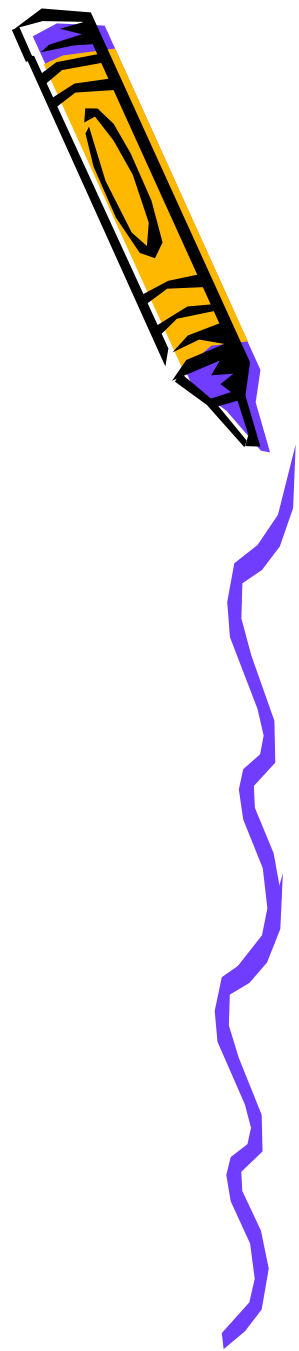


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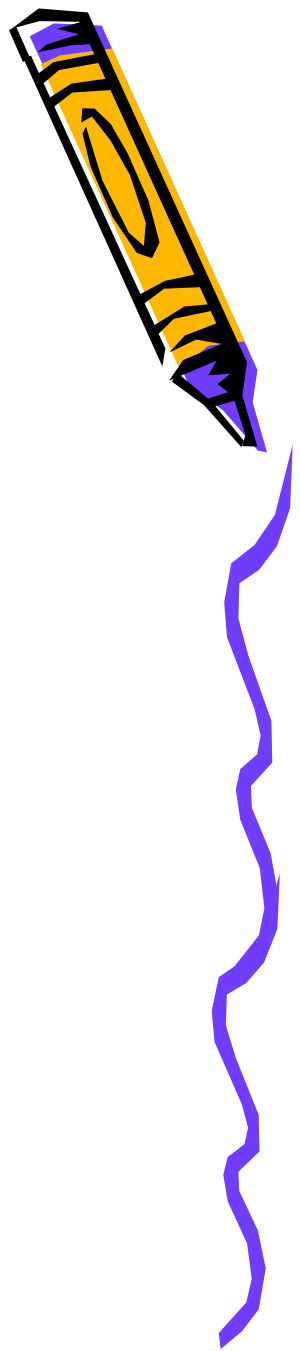


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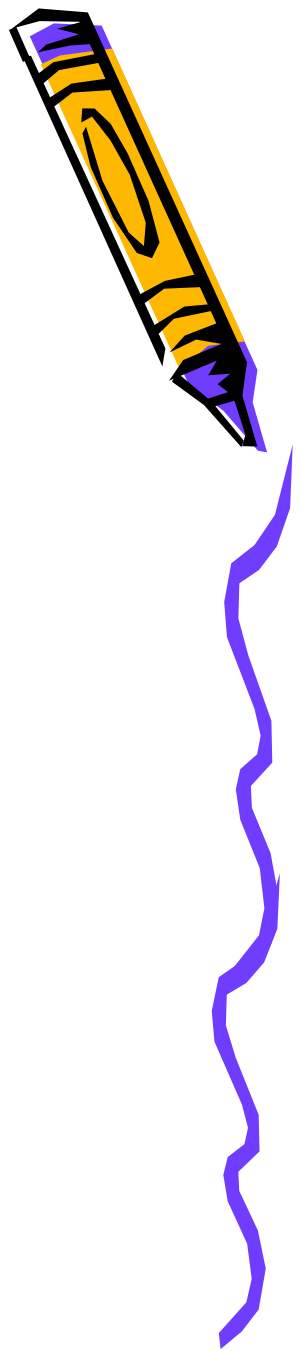


2





1



STOP

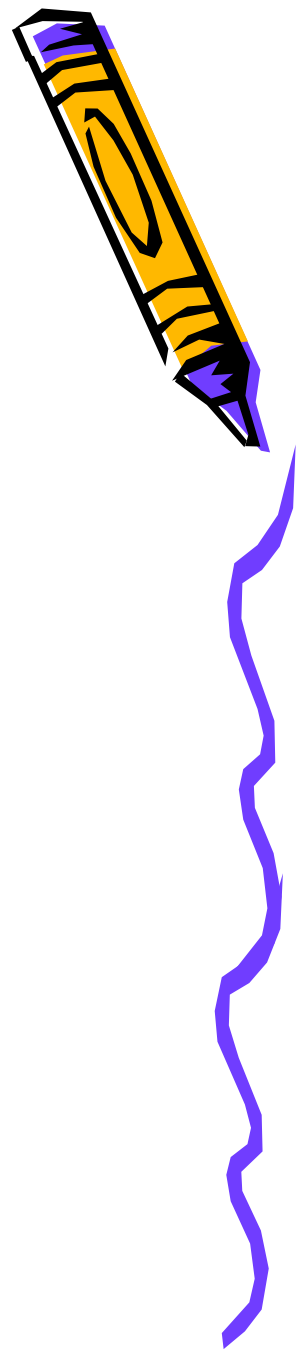


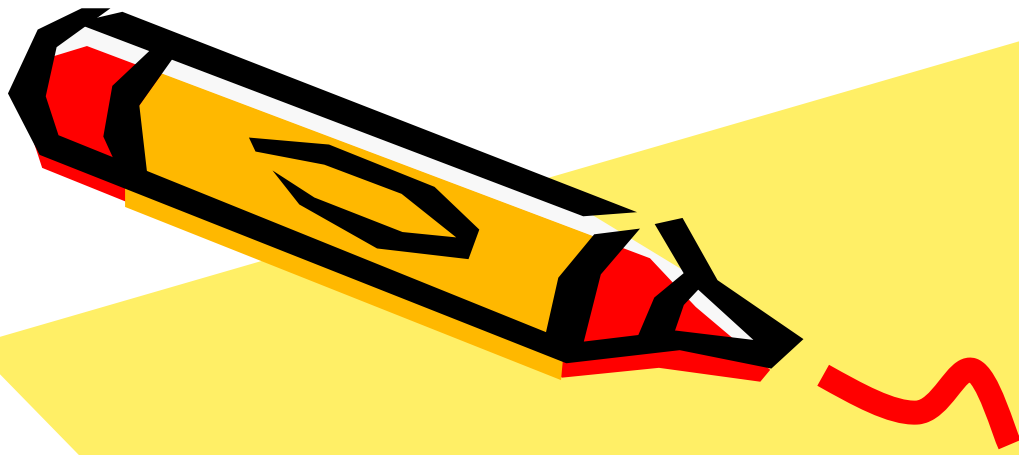
**Discuss the
impacts of their
inventions**



Essential Question

What is invention and innovation?





Conclusion

ENGR 7-2 Lesson 1

