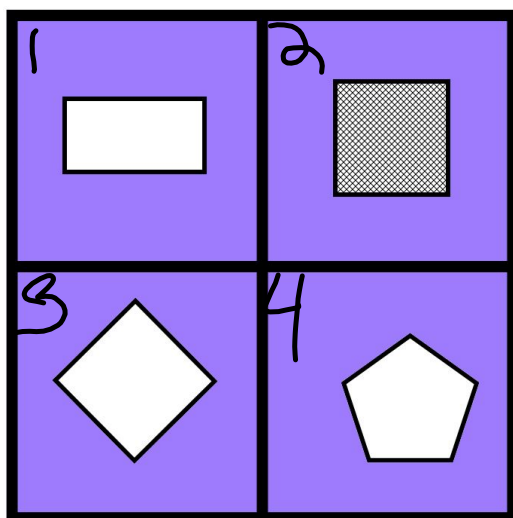


Quarter 1: Scale Models

numbers , shapes

Which one does not belong?



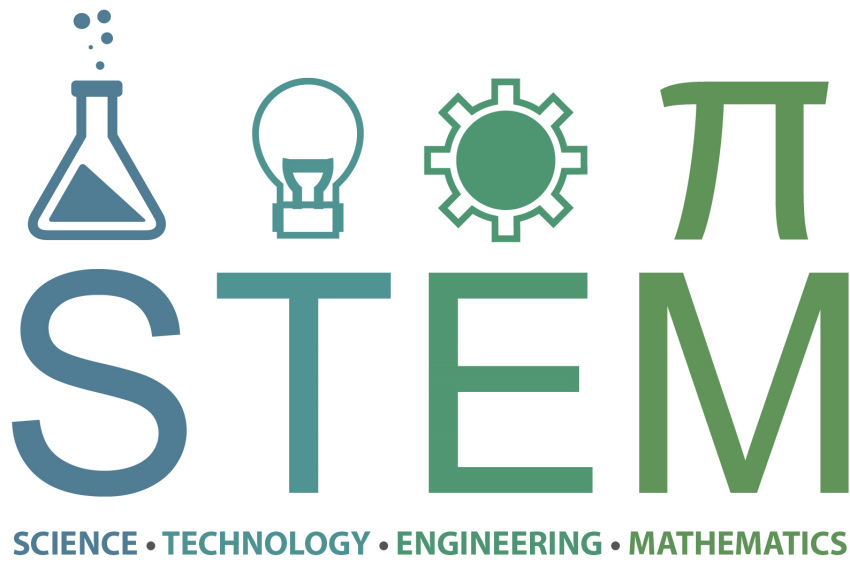
What is STEM?

STEM is an educational program developed to prepare primary and secondary students for college and graduate study in the fields of science, technology, engineering, and mathematics (STEM). In addition to subject-specific learning, STEM aims to foster inquiring minds, logical reasoning, and collaboration skills.

In the United States, the program helps immigrants with skills in the STEM subjects obtain work visas. In addition, STEM focuses on perceived education quality shortcomings in these fields, with the aim of increasing the supply of qualified high-tech workers.

Educators break STEM down into seven standards of practice (or skill sets) for educating science, technology, engineering, and mathematics students:

- Learn and apply content
- Integrate content
- Interpret and communicate information
- Engage in inquiry
- Engage in logical reasoning
- Collaborate as a team
- Apply technology appropriately



Building a Tower out of index cards

How are math, science and technology
related?

9/11/17

Purpose

In this exercise, delegates practice working together towards a common goal; making the tallest free standing tower given simple materials. The teambuilding game is competitive and requires creativity as well as good leadership, division of tasks, resource management and decision making. It also helps to improve communication skills.

Objective

Use index cards to make a tall freestanding tower.

What you need

Index cards for each team.

Equal supplies of tape and glue for each team.

Measuring tape.

What you will do

Ask groups to make the highest freestanding tower they can with their materials.

Allocate 15 to 30 minutes for this part. Measure the towers and declare the highest tower as the winner.

Warm up: Solve the following

~~$$\frac{14}{38} = \frac{x}{29}$$~~

~~$$\frac{1}{2} = \frac{y}{90}$$~~

~~$$\frac{1}{x} = \frac{2}{6}$$~~

~~$$\frac{x}{20} = \frac{15}{30}$$~~

$$38x = 406$$

10.7

$$2x = 90$$

$$x = 45$$

$$2x = 6$$

3

$$3x = 300$$

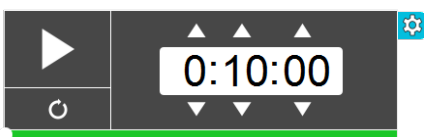
$$x = 100$$

~~$$20 \times 15 = 300$$~~

$$3 \overline{) 300}$$

100

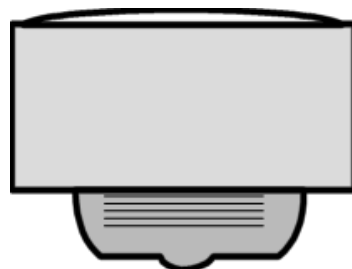
10 minutes to complete your towers



What did we Learn?

History of Technology Video

You need to complete the worksheet as you watch the video



Homework

In your notebooks,

Title it with today's date in the upper left hand corner

Title it with Index Card Tower in the middle

Write 2 paragraphs about what you learned yesterday and what you could have done differently.

Be ready to share with the class.

In your notebooks,

Title it with todays date in the upper left hand corner

Title it with Index Card Tower in the middle

Write 2 paragraphs about what you learned yesterday and what you could have done differently.

Be ready to share with the class.

<http://blogs.fairview.k12.oh.us/caldou468/2015/12/15/stem-index-card-tower-challenge/>



https://www.youtube.com/watch?v=M2_bPQuRZE4



Day next

Define innovation,proportion,ration, scale factor,
Dilation,
Technology,
Economy, agriculture, industrial,
Environmental impact, simulation,
Synthetic and composite materials,
Models,
Energy,
Matter, framing, information flows,

Innovation: *New way of doing things.*

Proportion - comparing 2 ratios $\frac{5}{4} = \frac{100}{x}$

Ratio - comparison of 2 things
ex. Boys:Girls 5:4 $\frac{5}{4}$

Scale Factor - multiplier to make something bigger or smaller

Dilation - changing the size of an object

- - same shape different size

Technology—anything created by the human mind

Economy—The world's money system

Agriculture—Farming

Industry—any general business activity

Environmental Impact - any change to the environment

Simulation - practice run

Synthetic Materials - mixture

Composite Materials - all natural

Models - *example*

Energy - *an exertion of power*

Matter - *something that occupies space*

Framing - *skeleton of an object*

Information Flows - *how information gets from one point to another*

HW: Journal Topic: My Technologies

Research 3 different technologies that interest you and write one or 2 sentences about why you chose it and what it is.

Monday Sept 25
 NUP:



Are these statements true or false?

$\frac{3}{5} = \frac{10}{20} = \frac{3 \cdot 2}{5 \cdot 4}$

1) 3:5 and 12:20 are equal ratios.

True False

2) $\frac{4}{5} = \frac{16}{18}$ $\frac{8}{9}$

$\frac{7}{10} \div 2 = \frac{3.5}{5}$

3) 6 for \$0.85 is better than 8 for \$1.00

4) 7 miles in 10 minutes = 3.5 miles in 5 minutes.

5) If two triangles are similar, their sides are the same length.

6) If $\frac{x}{15} = \frac{12}{36}$, then $x = 3$.

7) If cross products are equal, the ratios are equal.

8) $\frac{3}{5} = \frac{6}{10}$, so $3 \times 6 = 5 \times 10$.

Come up and write down what technologies
you looked up!

Phone
fridge
toilet
Phone
toilet
toys

roku
laptop
PS4
cars
toilet
Sink

computer
phone
+V
car
motorcycle
lightswitch

washer
TV
Car
Phone
house
car
Phone
washer
toilet

How has each of these technologies stimulated economic competition?

Wednesday September 27

WUP: Solve for x

1. $-4x - 3 = 12$

$$\begin{array}{r} +3 \quad +3 \\ \hline -4x - 3 = 12 \\ +4x \quad +15 \\ \hline -4 = 15 \\ \hline x = -\frac{15}{4} \end{array}$$

2. $2x + 5 = -21$

$$\begin{array}{r} -5 \quad -5 \\ \hline 2x + 5 = -21 \\ \frac{2x}{2} = \frac{-26}{2} \\ x = -13 \end{array}$$

3. $1x - 6 = 4$

$$\begin{array}{r} \cancel{1}x - 6 = 4 \\ \cancel{1}x \quad +6 \quad +6 \\ \hline 1x = 10 \cdot 2 \\ x = 20 \end{array}$$

How has each of these technologies stimulated economic competition?

Thursday September 28

WUP:

A	U
N	T

How has each of these technologies stimulated economic competition?

Friday September 29

Agenda

Hand out laptops

work on your paragraphs

Monday October 2:

MATH MONDAY!!!!!!

Tuesday October 3:

TEAMWORK TUESDAY!!!!!!

Pick your partner

Select: 3 pieces of computer paper

Fold one paper into a triangle

Fold another into a square

Fold the last into a cylinder

Slowly stack books onto one of the columns and record how many it can hold. Repeat for the other two columns.

: cylinder can support the most books because it's walls don't have any edges. The force of the books cannot become concentrated in a particular
a. The load is distributed evenly. In other words, all parts of the cylinder are sharing the load of the books. All parts of the cylinder, therefore,
tribute to it's overall strength until, finally, it collapses.

: square and triangle deform more easily. They shift the weight of the books to their edges and corners, which deforms their walls and leads to a
ck collapse. They are unable to carry weight only at their edges.

/e you noticed columns in buildings and other structures, like parking garages? What shape are the columns? Are they on the inside of the
lding/structure to serve their practical purpose of supporting beams or arches? Or are they exterior columns which lend support but also beauty to
structure?

ly architects in several ancient civilizations used columns in architecture including the ancient Egyptians, Persians, Greeks and Romans.

Wednesday October 4

3	27
123	31

NUMBER 2

Thursday October 5

Get your computers and got to Kahoot.it

Lets Define

What is Global Growth and
interdependence?

Relying on other
countries

[Global growth and interdependence
is when the world advances while
relying on other countries.]

How a your technology created global growth and interdependence?

Look up two facts on line that make this true.

innovation, proportion, ratio,
scale factor, dilation, technology,
economy, agriculture, industrial,
environmental impact, simulation,

synthetic materials, composite materials,
models, energy,
matter, framing, information flows