Mineola Science

Extravaganza Activity Book

Airsoft

AERODYNAMICS
GRAVITY
INERTIA
JOULES
KINETIC
MAGNUS
NEWTON

R	P	L	R	D	I	I	U	S	A	B	A	I	C	D
J	A	R	R	D	V	D	X	R	R	E	E	E	Y	Q
H	E	D	Y	F	E	K	T	D	R	R	E	S	Q	L
G	R	A	V	I	T	Y	I	O	B	K	O	A	S	Z
Y	S	U	C	Z	O	F	D	G	Q	P	E	I	D	T
B	T	L	Q	P	W	Y	N	H	F	D	G	T	M	N
O	Y	I	Y	O	N	C	C	C	F	R	K	R	P	E
O	I	O	C	A	C	I	T	S	I	L	A	E	R	W
X	X	U	M	O	T	U	Q	Q	C	S	Q	N	O	T
V	L	I	C	E	L	J	K	S	U	E	B	I	L	O
J	C	X	N	A	O	E	I	L	P	L	A	J	J	N
S	V	I	U	U	T	N	V	P	C	R	I	N	R	Q
J	K	O	L	S	U	N	G	A	M	M	I	X	V	V
B	I	E	Q	O	O	T	K	Z	G	I	J	N	P	E
D	S	H	Z	U	Q	F	H	D	B	S	P	W	G	B

Bernoulli's principle is the method through which pellets fly. It is, interestingly, also the principle through which airplanes attain lift. Bernoulli's principle states that the velocities of fluids increase with a decrease in pressure. In relation to airsoft, there is a fluid (air) above the pellet at a relatively high velocity, which means the pressure above the airsoft pellet is lower than the pressure under it, as there is a smaller amount of air flowing under the pellet as there is above it. Hannah, Matthew, Jeremy

Back To BASSics

Y	V	V	P	Y	E	G	R	P	Q	J	W	E	F	G
I	C	M	N	S	Z	E	T	C	X	A	B	D	Z	O
I	J	N	N	O	K	X	L	C	V	P	H	U	Q	Q
B	H	Z	E	A	C	O	L	E	Y	C	C	T	F	Q
J	M	X	E	U	F	N	L	O	L	N	E	I	F	U
W	J	P	G	A	Q	E	H	Z	S	T	N	L	Y	T
N	S	L	S	C	N	E	W	L	O	A	S	P	Q	M
T	R	O	U	G	H	C	R	A	U	L	G	M	I	X
H	M	W	T	A	D	Q	W	F	N	N	X	A	D	Y
Y	R	H	S	O	A	V	H	A	D	A	L	I	U	Z
R	W	V	A	A	N	A	D	B	V	C	Q	H	W	I
N	O	I	T	A	R	B	I	V	R	E	R	W	G	D
H	C	T	I	P	U	E	P	E	S	I	S	A	W	Q
P	I	Y	M	Y	T	M	S	S	E	S	T	R	C	R
Y	F	I	Q	N	G	T	H	Z	M	S	K	W	V	D

AMPLITUDE
CREST
FREQUENCY
PITCH
SOUND
SPEAKER
TROUGH
VIBRATION
WAVELENGTH
WAVES

The way you hear sound is by the vibrations and waves of the speaker. The lowest sound is bass.

Created by: Sabria, Chloe, and Claudia

Blacklight Fun

T E L I H M T U Y R F U B E K
I E F O T D U D J M O V P C C
G O L Q R A D I A T I O N I E
G X X O U K W X F Z T S R X C
I T V R I E Z C T V S C Y L N
P N I S C V V E Y V U S K N T
K E S F O P A A A I K N F H W
W C I Y C S C R T S F D G T O
O S B N G F P A T I O I T J L
W E L P O C D E J L L R T F G
A N E F Y E K S C K U I O U H
X I Y G R E N E C T M T L D K
M M R G S Q A A X E R S A C G
L U R Z Q O L Z H A P U Q E V
T L J Q B B W A Z H N C M W M

BLACKLIGHT
CIRCUIT
EMIT
ENERGY
GLOW
LUMINESCENT
NEON
RADIATION
SPECTRUM
ULTRAVIOLET
VISIBLE

Some of the things that glow under a black light include white paper, white shirts, and even neon colors. These substances glow because they absorb the ultraviolet light given off by the black light and then re-emit it.

Created by Sara, Esme, Ana, Cazz

Bubbles

K U M S H M O L S K N M X F F
S M F T E Q M N C Z J J N F P
G U H Y O L F B T U R K Q R O
L R R I N A U Y U O W U I X E
G E E F A H U C G Z U D T P B
V S V J A M J V E X O U I O H
B G A Q P C S W R L R J Z H O
M E P J D H E L M B O H T S U
L E O B A H L T U Z M M V Y O
I N R C F Z D L E D U F T P J
F M A O U P E P R N C I W K T
P Q T H N N D E E P S D N I W
A R I F C O V Q A N Q I G O S
O B O E P P E J E T Z M O A B
S C N Z X W V D F L U I D N S

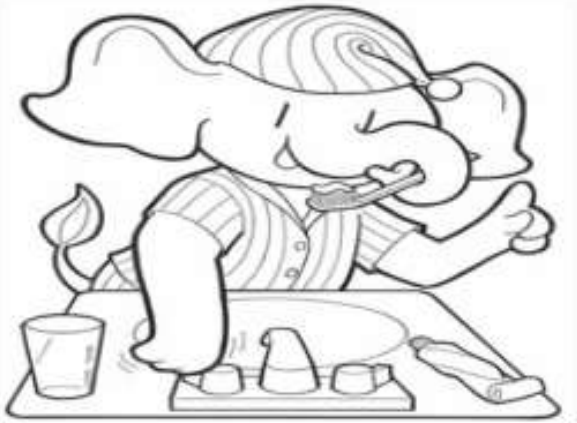
DENSITY
EVAPORATION
FLUID
GAS
MOLECULES
SOAPFILM
SURFACETENSION
TURBULENCE
WINDSPEED

What makes bubbles round? When air is blown inside a bubble it is pushed outwards in all directions. This causes bubbles to become round. Bubbles are made up of a thin film or skin of soapy water. This thin film/skin that holds the air inside of a bubble is stretchy and when the bubble is stretched; it pulls tightly. This type of pull is called surface tension. Andrea, autumn, Bree, and Jade

Magic Chemistry Show

R A L U C E L O M E W E L B C
W M Z A O P Y P X R D V U E S
U R U D T C H O R I D L M A F
E X J I B O T U X Q R X I K M
F K Q O S H M O L P S T N E A
S Z L O E S R I Q Y J P E R C
Z K M R V E A B C P U L S S N
L Q M H P B O T W T V F C H Z
A I W A K X G K O V G J E M Q
C S I O Y Q M A S P Q B N S Q
I G O G G L E S D C H I C J Z
M I E K R Q V P F S U L E U T

ATOMIC
BEAKER
CHEMICAL
EXOTHERMIC
GOGGLES
LUMINESCENCE
MOLECULAR
OXYGEN
PEROXIDE
POTASSIUM



Elephant's Toothpaste works using yeast. The yeast works as an accelerator to release the oxygen molecules from the hydrogen peroxide solution. The oxygen-filled bubbles are actually the remainder of what happens when the hydrogen peroxide breaks down into water and oxygen. Since there is an exothermic reaction the bottle feels warm to the touch.

Created by Tiara, Melea, Isabella, Kelsey

"Shocking" Electricity

N E A Z K Z P V J Q D Y D L R
N O G H L X P J M E T B A C E
R N I R G P H U G C G I K D W
P P U T A H J P U G T T Y X O
A L O Y C H R J O N O C H N P
P G A S Y U C L E L I P I M Z
D Q B A I W D T S R B Y F S Y
X L V F B T O N C I A L T N R
K U C J B P I U O V T J R O C
A Z V C X Z I V C C T O Z R S
F Q V J A T B G E E E M G T C
S N O T O R P O W T R W R C F
N E G A T I V E T Z Y G A E C
Z M E K B K E K C H R R O L P
Z I W T F M B R K I L A Z E Y

BATTERY
CHARGE
CIRCUIT
CONDUCTION
ELECTRONS
NEGATIVE
POSITIVE
POTENTIAL
POWER
PROTONS

Fun Facts about Electricity for Kids

- One flash of lightening could power 1000 houses for a whole year.
- Electricity travels at the speed of light, which is more than 186,000 miles per hour.
- In a power plant, electricity is mde when steam from boiling water makes huge wheels spin in a turbine.

Created By: Johnny, Brandyn,Connor,Kobe

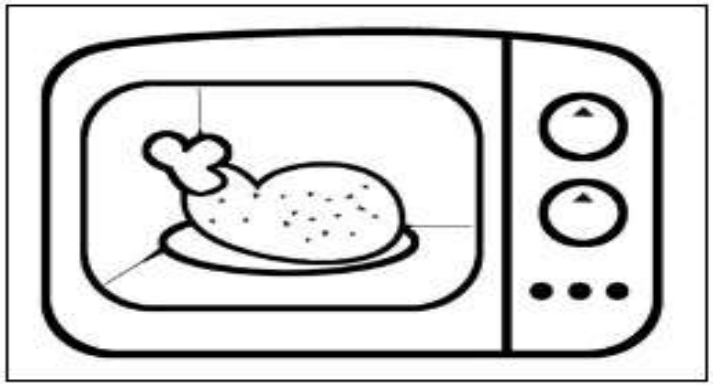
Exploding Microwave

By Hunter Griffin and Dylan B

E H S S Z H E M A I X H P O E
M C E C P Q T W X G S Y S L T
S U V X F E A G N X D B E G E
L A A B X V C U N R K C B C Q
W U W T E P U T H E T U S Q A
Y Q O S F U L A R R L O M Y L
B L R W L W Z R O U B E C C M
E Y C B X T M M S F M N V F X
N D I R A D A R F V E N D A X
E T M V T G I E V U Q F Y I W
R V A W N S H L Q O C B Q W Y
G L X E X K F E D X P P Q V Y
Y H T I H N R A D I A T I O N
O I O O Z F C Q S T J H K U B
C R O T C U D N O C I M E S W

Find Them All

ELECTROMAGNETIC
ENERGY
FREQUENCY
HEAT
MICROWAVES
RADAR
RADIATION
SEMICONDUCTOR
SPECTRUM
WAVELENGTH
WAVES



The microwaves continue to heat whatever is inside and the hot spots get even hotter and the electrolytes surrounding them become supercharged, forming plasma - an electrically charged gas - which bursts in a fireball.

Paintball

S H T K J F T G O D Y B L L X
S C Q K O P Y Y E S E M A E Y
P F I R E U J S O M P Y T X F
E J C M I W S A T T G F E K N
E E P C A E S S A M P N P U O
D Q K R R N D I R E C T I O N
L C U P E V Y V E B T W R P G
Y H M V I S P D B L Y R T H S
N O A E R H S B O E H R N Q U
C X X Z Z Y Z U C R M X E W L
X N Q P H E K J R Y E R C B G
F F J V E N M U R E G A O T M
Y N W N O I T A R E L E C C A
A R L G W K Q U D K O H E B O
S T Q A Z G Q W L E C A I V O

FPS
Acceleration
Force
Speed
Direction
Centripetal
Compressed
Mass
Aerodynamics
Pressure

A paintball gun uses pressure to force out paintballs at a very high speed also known as FPS (feet per second). The paintball explodes on contact due to the high force of impact and thin plastic coating on the ball. Tad, Colt, Devon

POPCORN PHYSICS

N	G	E	R	L	P	F	E	R	G	X	E	E	T	E	S
O	S	L	Q	X	R	V	I	R	E	H	H	N	R	Q	T
I	J	A	U	G	S	C	Y	Y	E	S	C	U	C	Y	O
S	T	I	E	H	N	E	R	H	A	F	S	E	X	P	S
O	O	H	L	J	M	L	B	Q	J	S	K	C	I	I	C
L	Y	P	O	Z	A	S	T	E	E	K	O	V	X	M	R
P	D	U	F	M	B	I	O	R	M	D	G	N	I	S	Y
X	Y	O	F	I	K	U	P	T	A	E	H	R	N	V	D
E	Q	T	O	E	F	S	W	Z	K	G	A	C	I	O	O
C	U	B	R	V	S	G	O	I	M	O	T	K	B	L	Y
K	I	N	T	F	I	Q	I	U	O	E	M	J	Q	X	Z
B	E	E	N	L	C	A	S	P	O	P	C	O	R	N	A
L	H	J	S	T	E	T	N	A	N	U	L	G	M	Y	G
A	Z	W	O	H	X	V	P	U	S	T	C	U	R	N	Y

CELSIUS
STEAM
THERMODYNAMICS
EXPLOSION
FAHRENHEIT
HEAT
KERNEL
MOISTURE
POPCORN
PRESSURE

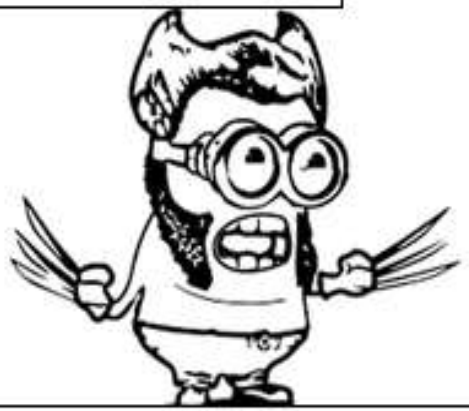
When the popcorn reaches a temperature of 180 C, the pressure inside the kernel is around 135 psi, which is sufficient pressure to rupture the popcorn hull, essentially turning the kernel inside-out.

Zane, Dalton, Pablo

Refraction Action

R	T	H	Q	N	C	M	T	O	D	S	M	X	K	A
S	E	H	F	E	S	U	P	H	Y	E	B	E	L	C
Z	I	F	G	I	Z	T	Z	V	O	V	W	V	Y	T
W	E	B	R	I	I	B	M	I	B	A	A	U	S	A
T	V	P	E	C	L	G	T	P	D	W	Y	J	K	L
K	V	Q	A	A	U	L	P	X	H	U	C	D	D	Y
M	O	L	B	E	N	D	E	E	W	Y	S	E	P	C
Y	C	J	R	T	E	C	W	N	H	R	S	I	K	U
A	W	R	P	I	I	R	T	M	S	A	G	I	A	R
P	H	E	N	O	M	E	N	O	N	I	B	N	C	H
P	J	W	X	L	F	H	T	K	Y	N	L	P	J	S
S	K	I	U	Y	J	O	U	E	J	B	Q	K	A	D
M	U	I	D	E	M	S	G	L	I	O	E	H	H	X
E	A	A	C	S	R	V	Z	O	T	W	R	Z	W	D
D	G	O	U	V	F	O	K	S	U	N	T	D	I	O

BEND
LENS
LIGHT
MEDIUM
OPTICAL
PHENOME
NON
PHYSICS
PRISM
RAINBOW
WAVES



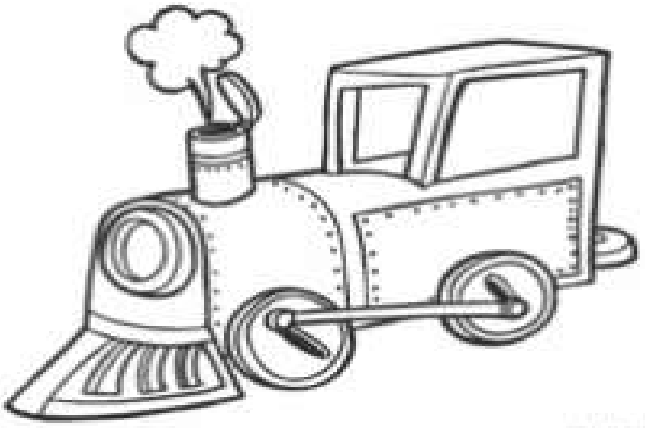
Refraction is the bending of light. The goggles work with lenses which are glass or plastic by bending the light.

Created by Wylie, Sydney, Sara, Alex.

Rainy With A Chance Of Clouds

D T M X O Z X X E I V D C A Z
E O D E A B Z R S Y B D L V T
I I U G W T U U M S E V U M C
R R R B P T Z B O O M E A C Q
U E Y P S N N R K K M Q L B B
O W E I E X P G E B B S Z X S
O J O C E L L N G U O B G B F
Z M R T D R S C R U W Y U F L
A O R F G V I U K E G E U N U
F O A F O R E N E R G Y Z M V
V I R E C G W N Z L F N U W R
R C K U F H I O T M T M X I O
J P L C L O U D L K G Q Z X Y
J A X G W Y B D N F L Q U S P
R C N C W K N U B D S M O E D

AIR
CIRCULAR
CLOUD
ENERGY
FLOW
FOG
FORCE
MOISTURE
SMOKE
VORTEX



The smoke ring is another vortex, just like the one in the tornado tube, except this time it has been bent into a doughnut shape called a torus. The air on the outside is moving faster than the smoke, so holds it in the ring shape.

Created by: Tristan Rychlik, Lowell Birdsong, Austin Dendy

El Cooko

R P R N S H M U T D O X Q Z C
L F A D N M F F I R T X R K I
I A A R O Y C Z K A I U N E T
N B M Z T M O L E C U L E S E
F J E Q O I I H C U K L U S N
R A L X H Z C A P P S J B F G
A G X A P G J L N S S B O J A
R F F L M C G O E P Q M B H M
E Y O X M R I L E S K A U W O
D A I K R T E C A O F X N P R
R B T C A W T H Q S J X H C T
P I Y I O R D E T L E D W H C
A Q D Q U R E F S N A R T Q E
H A J M C M J M Z I J Z J X L
R T Q W C L G H G V W M T H E

ELECTROMAGNETIC
HEAT
INFRARED
MOLECULES
PARTICLES
PHOTONS
RADIATION
SPECTRUM
THERMAL
TRANSFER

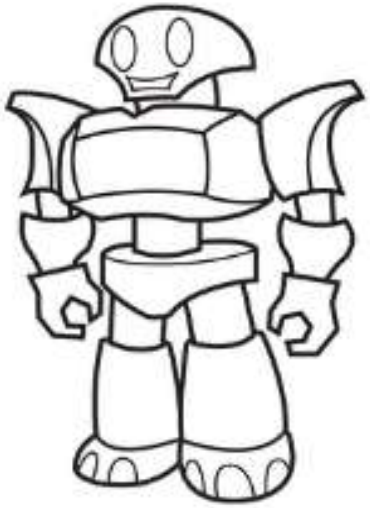
Thermal energy is produced by the movement of molecules in an object. You see, all objects are made up of tiny particles called molecules. In cold things, like ice cubes, the molecules move very slowly. In hot things, like a hot drink, the molecules move very fast. The thermal camera shows hot as white and cold as blue.

Bri, Seth, Garrett, Shane

MAD MAX ROBOTICS

L C M I O R K R R K R U L U R
Y A X X C Z E V G O X G M O E
N Z C Y I T B B B W K N W A L
I V X I U C U O L G V N W P L
G C T P N H T J K B U X C N O
G K M G H A L P O Y X Y M S R
J O L L E E H W S X F U E O T
C R O S R L Q C S Z R H I O N
E E T J I A H Q E I D Q X Q O
A L K S W J E A P M G U B W C

Brain
Wire
Wheel
Sensor
Computer
Mechanical
Controller
Signal
Radio
Robot



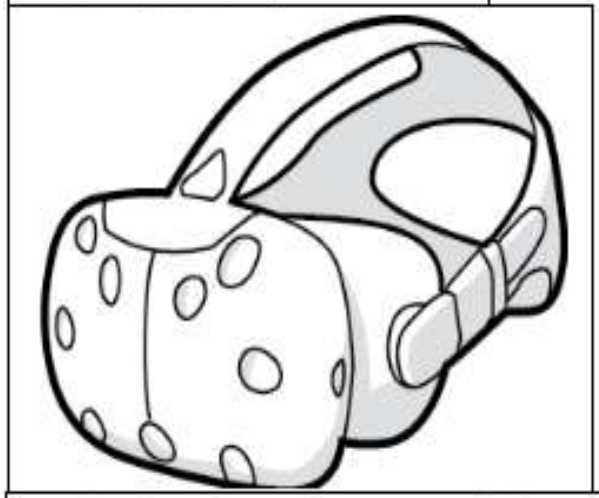
These robots are VEX robots. They work by sending a signal from the transmitter to the brain of the robot. The brain is connected to the motors, which move the wheels. When the signal is received the motors turn. Created by: Tish, Alyssa, Caden

Virtual Reality (VR)

"Explore a new world"

W Y W T W F E S L M T G O A T
A Q K Y X T L Q P F H T Z B O
V L G G D K E M K I E U J R W
E L B Z Y J C B F C B A J O P
S Z Y A F B T N H U F L Q C P
L P L T F W R N L A U T R I V
A F P T I L O Z L B J T R D R
U H Z U L L M A C I B C T X Z
S W L A O R A B M M G E T P U
I Z G G F V G E J S S H B T N
V P Y R I N N R R F M C T A A
M O T I O N E A F W Y C W J F
X S J D T K T O P Q B S M V G
Y P D I Z Y I F I P S L C W D
P O C A Q U C R Q X V L C N H

ELECTROMAGNETIC
LIGHT
MOTION
OFFSET
REALITY
TECHNOLOGY
VIRTUAL
VISUAL
WAVES



Virtual Reality is the use of computers and other technology to play with your senses, mainly sight. It uses light and lenses to give you a feeling that it is real. **Made by: Alan, Juan, and James.**

Water Rockets

E H C A G F T A S A F S O L B
R H V H O U Y U B S Q S T K J
U S L R N O T Z M I Q A K T P
S D C D I O D H U U E M H K N
S E A P G X H S R M W G A A D
E J E P O W R K M U I K J S O
R K B A Z N U W N L S U V M I
P R B L U I D N F C N T O M T
W I E R A F B T C W O E L H A
Y R Y V P N O Z Z L E R U E X
N X Z E Q Y R R A Z U W M F K
Q I F U X N M E E O C X E E K
W Q X P L U Y J T T S I N B R
U O X H S P N N W N A T M O G
I B J P G D E E P S I W J I F

FLIGHT
FORCE
INTERNAL
MASS
NOZZLE
PRESSURE
SPEED
THRUST
VOLUME
WATER

As you pump air through the water the pressure inside the bottle builds up until the force of the air pushing on the water is enough to force the cork out of the end of the bottle. The water rushes out of the bottle in one direction while the bottle pushes back in the other. This results in the bottle shooting upwards. Created by Maiya and Caitlyn

PETTING ZOO

BY : SHELBY & VALERIA

Z U H A K I T O U D G D J U J
J S S E V O Y Z M N E I Y E R
K O J M R F S E H T G L U J G
U A F L J B C X A A Y S S B T
J N R E R M I C O L K W D S B
K L C A R N I V O R E I N E N
Q B A A E T H R O N Q N A K E
I C Q M S K G D V R G V L I C
F U R E M A I R E O E I G M P
E J M G N A P F R M M O A G U
R O S I G Q M U T Z B Z U Z N
D K S G Q N Q Y E O U X H J B
G M E E O F C I B U S K M K B
Z S E I C E P S R U J Q B N O
F F T H B R J K A A D K L V G

CARNIVORE
DOMESTICATED
FUR
GLANDS
HERBIVORE
MAMMAL
MILK
ORGANISM
SPECIES
VERTEBRA

Mammal Facts: Mammals are warm-blooded animals. All mammals have hair, even dolphins and whales that live in the ocean. Most mammals are born live, not from eggs. Most mammals are helpless when they are babies. All mammal babies drink milk from their mothers. All mammals except ant eaters have teeth.

Wii Light Your Day

X K T C A S X M J K B S Z V C
C W C W K Y P Y G T S L Q I H
H E A T F T O E G J L J T S L
I N F R A R E D C J D E H I H
W N J U B B S D B T N J G B G
F Z N E O Y X P V G R V I L F
U G W P O M V E A W R U L E Y
S T X Z O J Q M S K P Y M N M
Y G G O G X O E Q H N D F C H
Q P Q W P R V L Y R O S N E S
B P I L T A W S A K J E N Y N
S Z R C W K I H A N L K H C K
J F E C A C W C T N G E U Y P
L L W K S F U R V T A I M W L
E O B T B H N W Q A D U S U C

ELECTROMAGNETIC
HEAT
INFRARED
LIGHT
PHYSICS
SENSOR
SIGNAL
SPECTRUM
VISIBLE
WAVES

Infrared (IR) radiation is a type of wave with electricity. The wave is longer than light which humans can see. Most remote controls use infrared to send the control signals.

Created by Zach, Orion, and JT

Roasting with Friends

E O R N W W T T K C T U P H H
D R U E F F H T S N I D H X X
M R U K A E L C B O E U Y S X
V C I T R C I T M B H Z S I V
D R L M A M T D P R N K I I Q
U T A S A R J I T A E H C S P
M L K N U F E A O C R U A H G
J N Y L T I E P C N H V L K T
U D B E F H C H M C A B O N D
C H E M I C A L O E F V J J M
T S U B M O C W E Z T L R H G
Q M W I Y F D T J C E V X F S
G X Y V K J A J R Y D N S R U
I I V S S Y W C M G R R S V H
E P J J A B A K I E V X C F T

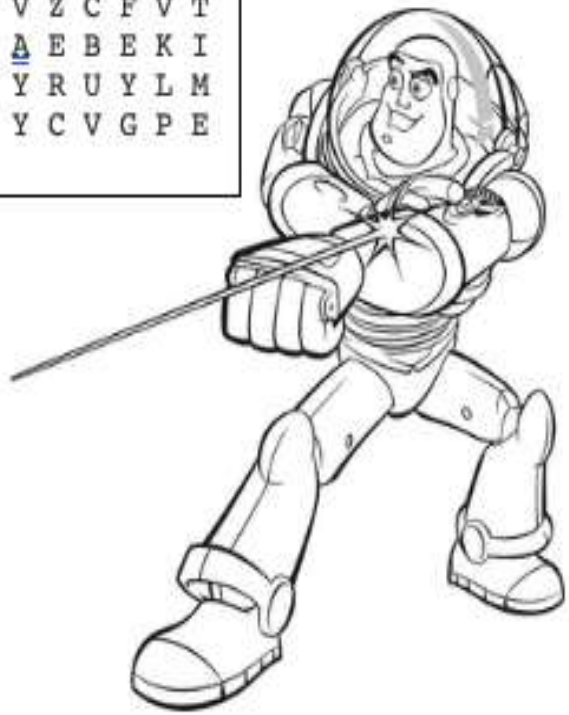
BOND
CARBON
CELCIUS
CHEMICAL
COMBUST
DYNAMICS
FAHRENHEIT
HEAT
PHYSICAL
REACTION
TEMPERATURE
THERMAL

The swelling - as you heat the **marshmallow**, the moisture inside expands, which causes the **marshmallow** to swell. The escape - as the moisture expands, it creates tiny holes in the **marshmallow**, which allow the moisture to escape as steam. Created by Edwin, Daniel, Max, Israel

Lasers and Beyond...

C R S D Q C F J P G A R A P J
W I X H C G Z P S F S C O H B
P Y T D G O M M N N D U M O A
K E G E F K P Z O K W H Z T M
T R A X N F N R Y Y X H M O H
H T G V N G T L A S E R S N Y
N F L F H C A E Q S A Q Q P R
O B W O E J F M F C H X L R A
I U R L A V N T O D T I B G H
T M E I M P A N A R G I Q C Z
A S K C G W N I T H T K K O X
I V M T Y H W Y T V Z C F V T
D T R O Z B T S M A E B E K I
A Q K X T R O Q T Y R U Y L M
R R X J V A K S U Y C V G P E

ATOMS
BEAMS
BRIGHT
ELECTROMAGNE
TIC
ELECTRONS
EMIT
LASERS
LIGHT
PHOTON
RADIATION



A laser is an instrument that can produce a powerful beam of light. The word laser stands for the scientific words that explain how a laser beam is produced: "light amplification by the stimulated emission of radiation."

Ice Cream

X Q E N D V D A O N C F T Z L
D I L O S N I Q C F J H I T I
I W R M F K O A A B E L N P Q
M F V X I V W B D R O A J N U
E R U T A R E P M E T C O T I
N G J X P T V O T P W I R Z D
D O Q T O X D Z E I T S U C R
M G I V U Y R A P C L Y M G B
I I W T N Y B T A P S H B S V
S Z X A U S J E A Z B P T C I
J D M T O L R M O L E C U L E
G I E R U E O A B O Y F D I P
C H B B U R A S A G H O N M J
E I J A O R E G B O E E E A W
H P O C M R V D B D A R Y C Q

ABSORB
BOND
LIQUID
MIXTURE
MOLECULE
PHYSICAL
REACTION
SOLID
SOLUTION
TEMPERATURE
THERMODYNAMIC

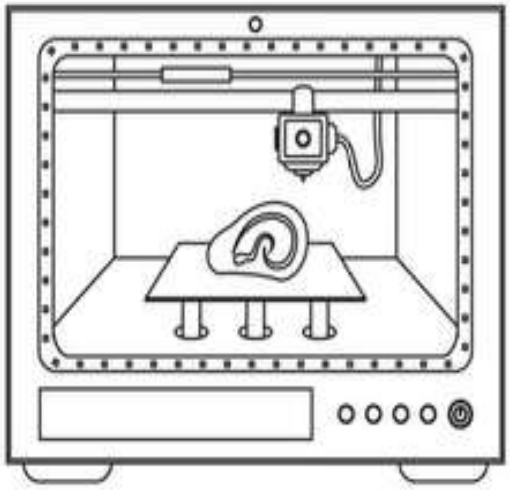
The magic is in the salt and ice mixture in order to make your homemade ice cream, your ingredients need to get really cold and well frozen. When you mix the salt and ice you are making a solution. Adding salt to the ice lower the temperature at which water freezes. Created By Alyssa, Julissa, Micah and Pennie.

3D Printer

P N P H M P S Y T K E V E O C
T R O Q F J V K N L R C Z A I
C N I S W G T Y E X H P T R T
M R E N W T P C R W Q G W Z S
L O A M T Q T L M Y V N D J A
N W G S A R O A S H A P E S L
Z N I V I L R E T U P M O C P
A B B C Y G I Y H M G W V F H
P K I P O C J F R S Z C Y H M
K T G R G D Z C E H Z L R H U
Y C P T B X X E E M U Y B K U
A D N O L V S A K Y I N L W X
B A O R E P T D A C H K P T X
R Q I G H Y F P X R S F W S Z
K L J Y W F C C V O Q Z Z U G

CAD
COMPUTER
ELECTRICITY
FILAMENT
HEAT
PLASTIC
PRINT
PROGRAM
SHAPES
THREE D

3D printing uses a **printer** to create three-dimensional objects, for example, a cup or Yoda doll or phone case. **3D printing** has these qualities: Objects are created by adding or depositing layers of material, not subtracting or cutting out pieces from a block of material.



3D Printer

Created by: Cameron Wise, Alex Rojas, Tyler Stanford

SLIME

N P N N W P I Q Z F U V W N T
L O O E D V H N P S I C W O C
F H N A M W J E O S E M O I O
K A N M K D F L C E T F X T M
A C E K T G I O M G R L H C C
M B W Z A D S O L U T E C A H
Q O T C R I P H M T Q M F E D
Z R O L T S R E M Y L O P R B
V A N Y A L L X A E A W X R J
B X I Z U C E I R I H U U A W
G Z A C W S I U Q R E Q R W K
Q X N Y E W T M X U Y L I R K
Y D S J B X B J E J I J N H C
E N D Y I N C U C H F D V I P
J P V M Z U U Y U E C O A P A

BORAX
CHEMICAL
LIQUID
MIXTURE
NONNEWTONIAN
POLYMERS
REACTION
SOLID
SOLUTE
VISCOSITY

Slime is all about polymers! A polymer is made up of very large chains of molecules. The glue used in slime is made up of long chains of polyvinyl acetate molecules (that's why we recommend PVA glue). These chains slide past one another fairly easily which keeps the glue flowing. Created by Cyndi, Chloe, Kaitlyn, and Meghan.

Sling Shot

E X G B V Z H N Y E G K T M N
L P W Z Q E R Q L Y I D N H S
A H T N W H L I J N C D O Y L
S Z M X Q K T O E N J X I V U
T K R K T C K T C C U V T R A
I C R S E N I X A I H Y A E G
C A N J U C O D K U T G R W H
J P O T E N T I A L R Y E O L
H R Z I D D O K T Q Q B L P H
P A T E B K H G C O W Q E L F
Z G E V M Z W J X P M O C U G
B P C Y G R E N E A L E C B F
S X A T P Q M X A X D W A M R
R B V C D N Z H V W E J A J O
P J L C A I E M F R H R I U G

ACCELERATION
ELASTIC
ENERGY
KINETIC
MOTION
POTENTIAL
POWER
PROJECTILE
SPEED
VELOCITY

A slingshot is a weapon used to create speed and kinetic energy (energy of motion) by pulling back on the cord and adding potential energy (stored energy).
Created by Kylie, Megan, Sheila

Cotton-Go-Candy

E Y N I O S R U T T Y W O W I
M R P A Q T J W T T N X A I W
U O U R S L N M I I E L N H R
G P L T O M E C H A N I C A L
K R R E A V I F Y Q F L E R O
X I L E C R R H E A T A S E F
D G H B T U E S N T E T O A D
G T W C C E L P F P F E C C I
K U E T R G M E M F T P U T O
C L O C V L L A S E K I L I N
E S A H E P W J I F T R G O X
E W X C H Y E Z K D V T Z N E
X K R L Q I T U U P Y N H D H
D O E S L A T S Y R C E J F T
F S Y E A T O F S N A C U F J

CENTRIPETAL
CRYSTALS
DIAMETER
ELECTRICITY
FORCE
FRUCTOSE
GLUCOSE
HEAT
MECHANICAL
MOLECULES
REACTION
TEMPERATURE

Learn about the amazing reaction that occurs when you combine heat, sugar, and centripetal force! Transforming matter from a solid to a liquid to a candy - this is one experiment you'll love to eat. Zaira, Sam, Nancy

Positively pleasant pancakes

N R U N X V Z J W N B T C I T
O E V P O U J G O U Z H A H V
I A Z P U I W I U T E A E E O
T C Q J X T T N M M G R U S H
C T P L V A X C I J M G H D W
E I J P I O S C U O N B O X U
V O C D D J A A D D S Q G R E
N N A M E L R Y Z N N T A C H
O R N W I P N Z Q A P O V W F
C E R U T A R E P M E T C S S
N N G Y M E L E C T R I C M V
W P I I L A M R E H T Z N W L
O O C N A G I Y X H M C D B C
S S D T F L M Y D J W R N N O
K E N I D A A R V H K C A J J

CHEMICAL
CONDUCTION
CONVECTION
ELECTRIC
HEAT
RADIATION
REACTION
TEMPERATURE
THERMAL
THERMODYNAMICS

Conduction is the direct transfer of heat between adjacent molecules. An example of conduction is cooking on a flattop range. Heat is transferred from the molecules of the hot range surface to the molecules of the adjacent pan bottom, then from the pan bottom to the pan sides and the food contained within the pan. Skylar, Kate, Anjel

Wreck it Rockets

N O I T A R E L E C C A V L N
E G D M I A A U F I Y Q M D Y
U L R E D M O G F T D O I F R
X Q I A E L W B A S T E N Y J
I K F T V P U R Y I H C I F Y
W F O B C I S Z O L G U K T U
Y E V M W E T N S L L I I J G
C O E K A E J Y R A I C N I F
X T R G N A B O C B O L E G Q
R C F D I X W J R L E R T P A
P R E S S U R E E P X U I O N
R D D L G M W V A Q J L C U P
H C N U A L Q G U T X O R R S
U I I J L Z O N W V W I P M U
A I H R T I B K V J Y Q K B W

ACCELERATION
BALLISTIC
GRAVITY
KINETIC
LAUNCH
MOTION
PRESSURE
PROJECTILE
SPEED
VELOCITY

An air, or stomp rocket is a flying toy rocket that is powered by the release of compressed air. The rocket has a hollow body that fits over a launch tube. The launch tube is a hollow, rigid pipe, with an opening into the rocket body, and a connection to a pipe that is connected to an air bladder. Reid, Chance, Cole

Big Poppa's Putt Putt

O	B	O	O	V	E	R	I	S	F	N	N	T	S	H
C	K	P	D	C	E	N	C	W	R	O	D	E	I	I
L	P	N	R	T	E	L	I	I	I	I	B	A	G	W
Z	A	O	B	R	Z	B	O	T	C	T	N	M	F	G
U	F	O	T	A	H	R	A	C	T	O	H	S	N	C
X	J	I	E	M	Y	R	Y	R	I	M	Q	V	T	H
U	A	N	H	A	E	Z	U	Y	O	T	U	R	G	N
S	J	X	J	L	W	Z	B	I	N	D	Y	Y	C	O
I	W	B	E	U	P	J	V	N	S	P	E	E	D	T
B	E	C	D	X	R	K	M	I	O	M	C	J	Z	V
F	C	D	E	C	E	L	E	R	A	T	I	O	N	W
A	P	F	D	N	K	I	U	B	U	P	W	D	Q	H
N	C	U	S	L	G	Q	K	Q	D	T	X	E	D	A
L	Z	I	T	C	K	X	K	N	J	L	X	E	N	E
C	X	L	V	T	Y	E	P	Y	T	I	V	A	R	G

ACCELERATION
DECELERATION
FORCE
FRICTION
GRAVITY
INERTIA
MOTION
NEWTON
SPEED
VELOCITY

Hole in One!

Putt putt is a game of physics and uses many different variables. Variables such as speed and distance determine if the ball will sink in the hole or if you will fall short of your target. Acceleration will start you towards the hole but friction will decelerate the ball.

Created by Kris, Adam, Sam, Spencer

Trebuchet YEET

V	W	C	W	E	I	W	A	F	Y	U	M	G	G	I
D	Z	O	C	I	E	P	C	R	D	A	I	W	R	E
G	W	R	R	I	N	P	Z	X	M	D	D	R	A	H
Z	O	Q	G	H	G	K	G	J	O	F	V	O	V	M
F	H	H	I	C	T	W	J	N	P	L	R	U	I	Q
Z	T	F	A	K	R	P	S	E	B	R	G	P	T	S
U	N	Y	S	I	S	I	V	B	J	Y	M	G	Y	W
P	F	K	T	S	K	F	B	A	S	E	H	S	X	M
C	O	U	N	T	E	R	W	E	I	G	H	T	G	T
F	R	N	L	H	R	D	P	X	M	C	A	C	G	W
H	X	K	H	C	N	U	A	L	A	N	B	S	N	G
U	V	V	X	J	R	U	F	E	G	D	I	T	I	Z
R	R	X	L	C	M	U	O	D	B	Q	D	R	L	D
P	Y	K	N	U	N	L	M	G	F	S	V	O	S	F
F	Z	N	Q	K	I	Y	C	G	M	N	M	T	E	G

ARM
BASE
COUNTER
WEIGHT
FORCE
FULCRUM
GRAVITY
LAUNCH
SLING
THROW
WEIGHT

A trebuchet is a battle machine used in the middle ages to throw heavy payloads at enemies. The payload could be thrown a far distance and do considerable damage, either by smashing down walls or striking the enemy while inside their stronghold.
Created by Michael and Tanner

The Darts of Hazard

D V E M U T V A X A F Q L Y P
O I T R H C C M M E O Q S C M
L A S G U C X Y M R R P I N P
F A I T U T A X C O C B Q F F
A E N R R I S N D D E Y M D R
W C A G E I D O L Y Z T F J Y
A C N J L K B Q P N Z I I Q O
Y I V R D E W U X A X V M C Q
N H A B F T G W T M G A M V Z
M E W Y Y C P Q L I Y R W J S
D R E T E M A I D C O G R C I
M O T I O N A W A S K N S J E
E U K S Z N D X K I M U S Y G
G Z K C H N C H F I X L I P U
Z J P M A F S M J G Q F F D Y

ACCURACY
AERODYN
AMICS
ANGLE
DIAMETER
DISTRIBU
TIONS
FORCE
GRAVITY
MOTION
POSTURE
WEIGHT

Darts is where you have a couple of darts and you throw it at a dart board where once you hit the dart board you receive points . -by Jose Alejo, Pedrito Mata ,Preston ,Daniel

Earthquake

W W J D V B Y E S U T V U K T
Q A A Y M T F F H N N V E H M
G J V L H B V R J C E G F O M
Y G D E E L G I C V R J V L F
C I N O T C E T B A D E E L D
P F K D R X A R L R M F C A G
E A R T H Q U A K E A V M M H
F S H E A T Q U N M A T W S K
R F E H T W R T R S V M I J G
I N L T O W M Q C Z B K L O J
C S C S A V A L B U J Y K P N
T P M H S L D K A I F R Z F I
I I L U A E P G L A T E B I N
O C Z V I U Y D C T N K U J O
N T R I E S Q E S A Z H D S J

EARTHQUAKE
FRICTION
HEAT
LARGE
MOVEMENT
PLATES
SMALL
TECTONIC
VIBRATION
WAVE

Earthquakes happen when two large pieces of the Earth's crust suddenly slip. This causes shock waves to shake the surface of the Earth in the form of an **earthquake**. **Earthquakes** usually **occur** on the edges of large sections of the Earth's crust called tectonic plates. These plates slowly move over a long period of time. Created by: Addyson Fisher.

Jenga Tower Fall

P R W C N Z Z Q T I L F E H B
V X G O J O Y W T B R K C X N
L O W M O Q I X B I N G N X V
Z S E P G H K S C R F J A S K
O C J R C U R T R D M R L G V
K J B E D O I P K O K I A E E
H W R S Y O A Z Q L T G B U D
Y P B S N Y T I V A R G Q I Q
M V N I N E W T O N F R S S K
C O I O M Q W V B O O H P G B
J L T N R L Q P R T N H E F V
F W P I P N N C A G Z F E A J
S E F Z O J E T Q E P Y D Z X
H K H C N N M W Y N D J N X X
G N I R I M A C U A Y V F K E

BALANCE
COMPRESSION
FORCE
FRICTION
GRAVITY
MOTION
NEWTON
SPEED
TORQUE
TORSION

Jenga teaches concepts in Physics and Engineering. It teaches the importance of a good foundation, of balance of forces, and speed when pulling out Jenga blocks. Created by Juan, Adolfo, Autumn

3D SHOW

P F T U N A V V I L D T D E P
U R I Y H T I I N A A P B S N
C V O Z L S H X T N S D W V X
Q I K J I G Q N O O P C U G L
J S P O E S G I G I X P G K H
I I N O A C T P O S E F U L U
K B K C C P T I E N F H R D W
C L E D E S D O A E L X L Q C
P E T C R A O K R M Q Y T M G
T U R N R Q G E N I E W H Z G
S E S N E L T R R D L N G N K
P W T C D F W A V E S D I U Y
R M D Y R U M K D Y T H L C E
K O P F L H F K K F H S Q J P
P O L A R I Z E D N D L T E D

CINEMA
DIMENSIONAL
LENSES
LIGHT
PERCEPTION
POLARIZED
PROJECTOR
RADIO
STEREOSCOPIC
VISIBLE
VISION
WAVES

3D projectors typically use image engines that can update quickly because some have to show twice as many images to make up a single 3D field. The glasses used have a red and blue lens that make the images appear 3D by moving the red image forward and the blue image backwards. Krysten, Lovely, Mireya