

Taylor County Schools

Day 4

Eighth Grade



1. Complete this packet on the fourth ICE Day.
2. Write your name on the booklet.
3. Return this completed packet after the ICE Pack Day. You will keep the others in the envelope for future ICE Pack Days.

Name: _____

Student Name: _____ Teacher: _____

- 1 In 2050, the world population is expected to be about $9.1 \cdot 10^9$. What is this number in standard notation?
 - A 910,000,000
 - B 9,100,000,000
 - C 91,000,000,000
 - D 910,000,000,000

- 2 The length of Florida's coastline is approximately $1.35 \cdot 10^3$ miles. Which value is equivalent to this number of miles?
 - A 1000.35
 - B 1035.00
 - C 1350.00
 - D 13,500.00

- 3 Joan's bacteria project produced $8.2 \cdot 10^8$ cells and Anne's produced $5.8 \cdot 10^8$ cells. The girls determined that Joan's project produced $2.4 \cdot 10^8$ more cells than Anne's project. What is $2.4 \cdot 10^8$ in expanded notation?
 - A 0.0000000024
 - B 0.0000000240
 - C 240,000,000
 - D 2,400,000,000

- 4 One uranium atom has a diameter of $3.5 \cdot 10^{-8}$ centimeters. What is the sum of 1,000,000 uranium atoms' diameters, in centimeters, written in standard notation?
 - A 3.5
 - B 0.35
 - C 0.035
 - D 0.0035

Student Name: _____ Teacher: _____

- 5 In 1803, the United States paid France about \$15,000,000 for the Louisiana Purchase. What is 15,000,000 expressed in scientific notation?
- A $15 \cdot 10^6$
 - B $15 \cdot 10^7$
 - C $15 \cdot 10^8$
 - D $15 \cdot 10^9$
- 6 About 602,000,000 tons of corn are harvested in the world each year. What is 602,000,000 written in scientific notation?
- A $602 \cdot 10^6$
 - B $602 \cdot 10^7$
 - C $602 \cdot 10^8$
 - D $602 \cdot 10^9$
- 7 The average distance in kilometers between the Sun and Earth is 150,000,000. How is this number expressed in scientific notation?
- A $15 \cdot 10^7$
 - B $15 \cdot 10^8$
 - C $15 \cdot 10^9$
 - D $15 \cdot 10^{10}$
- 8 The highest note on a piano has a frequency of 4200 cycles per second. What is this frequency expressed in scientific notation?
- A $42 \cdot 10^2$ cycles per second
 - B $42 \cdot 10^3$ cycles per second
 - C $42 \cdot 10^4$ cycles per second
 - D $42 \cdot 10^5$ cycles per second

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Re-imagine Time Packet – Social Studies 8 Day 4: Date _____

Student Name: _____ Teacher: _____

Write a description of the place where you live (a town, street, rural area) using examples of the physical characteristics (climate, rock formations, rivers, waterfalls, caves) that are found there.

Student Name: _____ Teacher: _____

Forces on a baseball

By NASA.gov, adapted by Newsela staff on 10.20.16

Word Count 571

Level 940L

When a baseball is thrown or hit, its motion can be described by certain physical laws. These laws were discovered by the scientist Isaac Newton in the 17th century. According to Newton's first law of motion, a moving baseball will keep moving in a straight line unless it is affected by another force.

A force can be thought of as a push or pull in a certain direction. Force is a vector quantity, which is a type of measurement that refers to both a direction and a magnitude. Magnitude is a measure of how strong the force is. When describing forces, we need to state both their magnitude and their direction.

The three forces that act on a baseball in flight are weight, drag and lift.

Weight

Weight is a force that is always directed toward the center of the Earth. The magnitude of this force depends on the mass of the object affected (in this case, a baseball). Mass is a measurement of the amount of matter in an object. Weight is a measurement of the pull of gravity on that object.

The weight of a baseball is spread evenly throughout the ball. However, we can simplify the picture and imagine the weight is centered at a single point. This point is called the center of gravity. Since a baseball is almost a sphere, its center of gravity is exactly in its center. In flight, the ball rotates around its center of gravity.

Drag

As the baseball moves through the air, the air pushes back against it. This resistance force is called drag. Drag is directed against the direction the ball is flying in, so it slows down the ball as it flies.

The magnitude of the drag force is affected by many factors. The shape, size and speed of an object all affect the strength of the drag force against it. The conditions of the air, such as whether it is wet or dry, also affect the drag.

The drag force also depends on how the flow of air interacts with the surface of the moving object. This makes it difficult to measure magnitude, especially on a baseball, because the stitches are not symmetrically placed around the ball.

Lift

Lift is a force that is directed upward compared to the baseball's flight direction. Airplane wings use lift to push against the weight force on the airplane, which pulls the plane down. Like drag, the magnitude of the lift force depends on the conditions of the air, and on the shape and size of the flying object. The difference in speed between the object and the air also factors in.

Re-imagine Time Packet – Science 8

Day 4: Date _____

Student Name: _____ Teacher: _____

The stitches on a baseball complicate the lift force. The lift force acts on the entire body of an object, but we imagine it a single point. This point is called the center of pressure. The center of pressure is an imaginary point, just like the center of gravity.

If a ball is perfectly round and smooth, its center of pressure will be exactly at its middle point. A baseball in flight is not perfectly smooth or round, though, because of the stitches. So the center of pressure for a baseball moves slightly with time, depending on how the stitches are placed. This change causes the ball to move around a bit in mid-air. The motion is the source of the "dancing" knuckleball that confuses both batters and catchers.

Student Name: _____ Teacher: _____

Quiz

1 Read this sentence from the first paragraph of the article.

According to Newton's first law of motion, a moving baseball will keep moving in a straight line unless it is affected by another force.

Which of the following selections from the article describes one of these forces?

- (A) This point is called the center of gravity.
- (B) This resistance force is called drag.
- (C) Mass is a measurement of the amount of matter in an object.
- (D) The difference in speed between the object and the air also factors in.

2 What paragraph in the section "Lift" explains why stitches on a baseball affect its movement?

3 Which sentence from the article would be MOST important to include in a summary of the article?

- (A) The three forces that act on a baseball in flight are weight, drag and lift.
- (B) The weight of a baseball is spread evenly throughout the ball.
- (C) The conditions of the air, such as whether it is wet or dry, also affect the drag.
- (D) The lift force acts on the entire body of an object, but we imagine it a single point.

4 Which detail from the article BEST supports the article's central idea?

- (A) Mass is a measurement of the amount of matter in an object. Weight is a measurement of the pull of gravity on that object.
- (B) The motion is the source of the "dancing" knuckleball that confuses both batters and catchers.
- (C) Airplane wings use lift to push against the weight force on the airplane, which pulls the plane down.
- (D) Drag is directed against the direction the ball is flying in, so it slows down the ball as it flies.

Student Name: _____ Teacher: _____

Practice 18: Analogies

Directions: Read each analogy. Find the word that correctly completes each analogy. On your answer sheet, darken the circle for the correct word.

1. **Result** is to **causes** as **rating** is to _____
 - A examinations
 - B criteria
 - C questions
 - D competitions

2. **Opinion** is to **uncertain** as **fact** is to _____
 - A standard
 - B probable
 - C unclear
 - D doubtless

3. **Celebration** is to **parade** as **emergency** is to _____
 - A congregate
 - B proceed
 - C evacuation
 - D constrain

4. **Wilting** is to **growing** as **frail** is to _____
 - A withered
 - B harsh
 - C hardy
 - D confident

5. **Agreement** is to **harmony** as **conflict** is to _____
 - A suspicion
 - B invasion
 - C emotion
 - D friction

6. **Knife** is to **slice** as **nail** is to _____
 - A hammer
 - B puncture
 - C strike
 - D drive

7. **Walk** is to **stumble** as **speak** is to _____
 - A mumble
 - B translate
 - C stammer
 - D repeat

8. **Enemy** is to **attack** as **virus** is to _____
 - A transmit
 - B lessen
 - C reform
 - D infect

Student Name: _____ Teacher: _____



A Taste of Parenthood

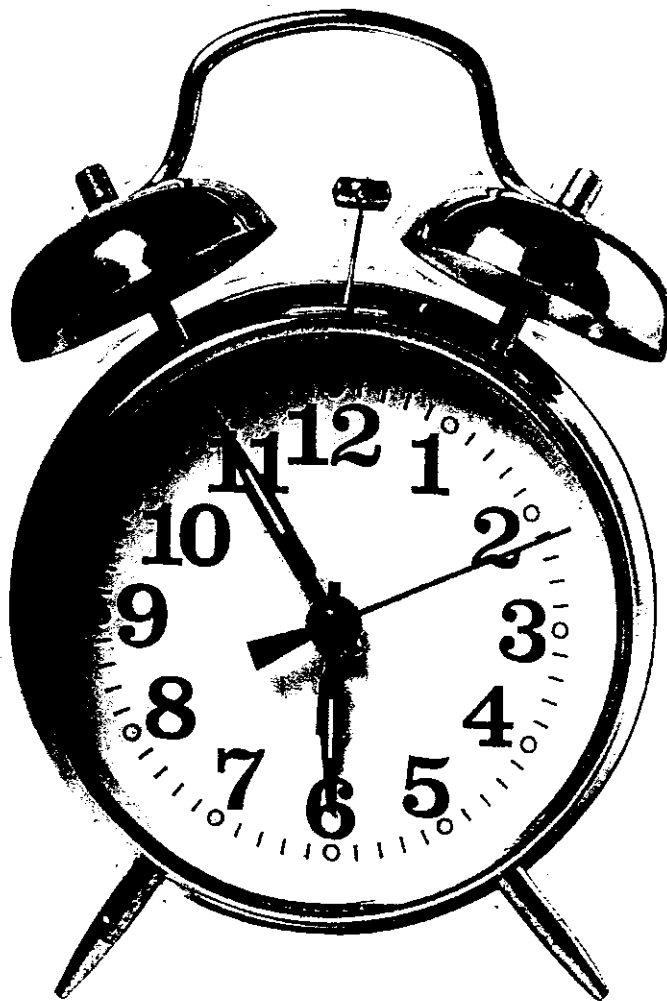
WHAT YOU WILL NEED

- * Help of a parent, guardian, or sibling
- * Clock or watch with an alarm feature
- * Paper and pencil or pen

Many teens do not understand how demanding parenthood can be. This brief experiment will give you a glimpse of the responsibilities.

WHAT YOU WILL DO

- 1. Select a time when you have a light workload. Arrange with a family member to help you.
- 2. Go about your normal activities, such as watching TV or speaking to a friend on the phone.
- 3. Without warning, your partner is to set off the alarm. Stop what you are doing and turn off the alarm. The interruption represents the attention a baby requires.
- 4. Note the time you heard the alarm and what you were doing when it went off.
- 5. Return to your normal activities. Your partner is to set the alarm off a minimum of five times.



WRAPPING IT UP

Write about your experiment. What would it be like to respond to such an alarm every day? How might it be similar to caring for a child? Share your report with classmates and compare your experiences.

Student Name: _____ Teacher: _____

Calculating Heart Rate

Use the following equation to calculate your Maximum Heart Rate:

$$220 - (\text{your age}) = \text{Max Heart Rate}$$

1.) $220 - \underline{\quad\quad} = \underline{\quad\quad}$

Calculate your Resting Heart Rate:

Find your pulse (located on your wrist or neck) and count the beats for 30 seconds.
Double that number to get your resting Heart Rate.

$$(\text{Beats in 30 seconds}) * 2 = \text{Resting Heart Rate}$$

2.) $\underline{\quad\quad} * 2 = \underline{\quad\quad}$

It is recommended that people exercise between 65% and 90% of their Max Heart Rate.

Do a physical activity of your choice for 30 minutes. Calculate your HR after exercise.

Calculate your HR after 30 minutes. (Use the same equation you used for Resting HR).

$$(\text{Beats in 30 seconds}) * 2 = \underline{\quad\quad}$$

3.) $\underline{\quad\quad} * 2 = \underline{\quad\quad}$

Did you reach the recommended 65-90% of Max HR? _____

Answer from #3 (your HR after 30 min exercise) and divide it by your answer from #1.
Multiply that number by 100 to get your percentage.

Student Name: _____

Teacher: _____

Jazz Musicians Word Search

by Ms. Garrett

www.musictechteacher.com

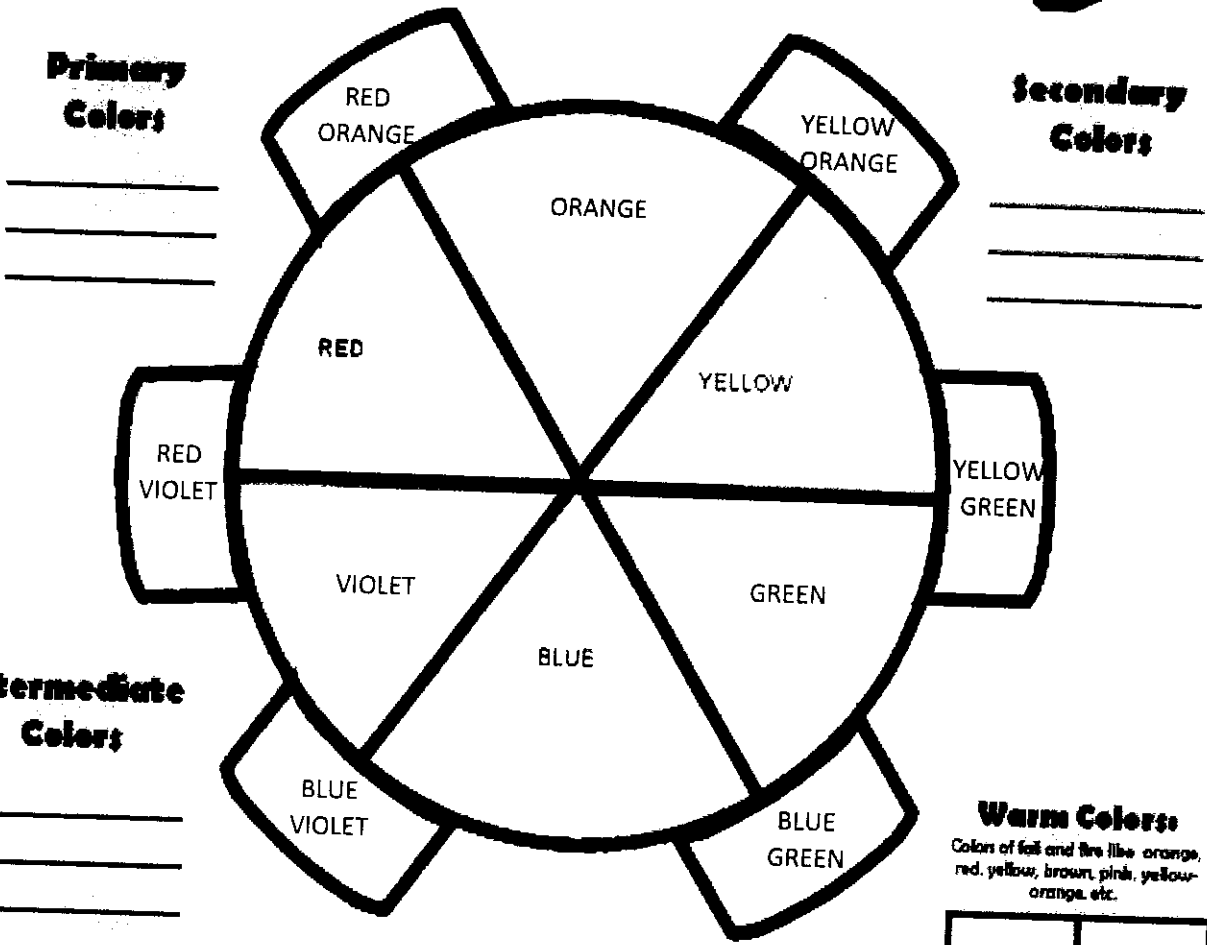
L V J B W K R U P A Z Y C S A
O T W X Y A L D N V M A O S R
V E J S Q K T A J W B D L J M
X H E P Z E M E E V D I T O S
R C X N R D O Z R G U L R H T
N E G C O R E D A S Q O A N R
D B U O V B R L O K I H N S O
O G G U M R S M I T H L E O N
R M Z C O U H A W K I N S N G
S W W L R B H A N D Y L Z R J
E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

MORTON
DORSEY
PARKER
HOLIDAY
ARMSTRONG
BECHET
GOODMAN
SMITH
HANDY
WATERS
COLTRANE
KRUPA
HAMPTON
JOHNSON
HAWKINS
BASIE
ELLINGTON
FITZGERALD
BRUBECK

Student Name: _____ Teacher: _____

Color the color wheel and the boxes and fill in the blanks to complete the activity.

Color Theory



Primary Colors:

Secondary Colors:

Intermediate Colors:

Warm Colors:
Colors of fall and fire like orange, red, yellow, brown, pink, yellow-orange, etc.

| | |
|--|--|
| | |
| | |

My Favorite Color

Tints:
Add White
(light purple, dry blue, pink, light green, etc.)

| | | | | |
|--|--|--|--|--|
| | | | | |
|--|--|--|--|--|

Cool Colors:
Colors of a refreshing forest or the arctic like blue, green, purple, turquoise.

| | |
|--|--|
| | |
| | |

Shades:
Add Black
(dark blue, navy blue, army green, dark orange, etc.)

| | | | | |
|--|--|--|--|--|
| | | | | |
|--|--|--|--|--|

Complementary Colors:
Opposite on the Color Wheel
_____ and _____ and _____ and _____

Student Name: _____ Teacher: _____

Label the parts of the webpage

