Common Core Mathematics
Vocabulary Cards *and* Games

Sixth Grade Mathematics

Common Core Mathematics
Vocabulary Cards and Games for Sixth Grade

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coefficient

Variable   Constant

$$2x + 1$$

Coefficient

Example:

Definition: *A number used to multiply a variable.*

dot plot

Example:

1 2 3 4 5 6 7 8 9 10
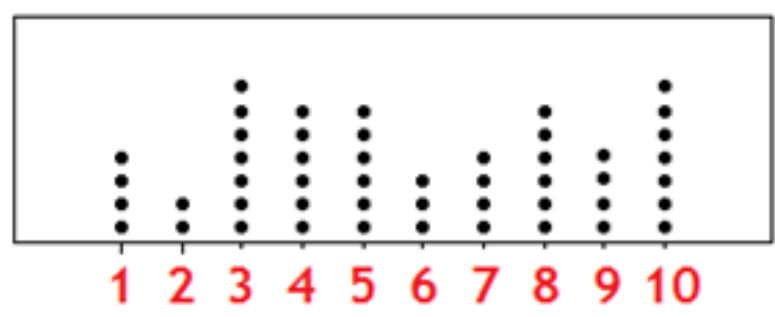
Definition: *A graphical display of data using dots over a scale or categories.*
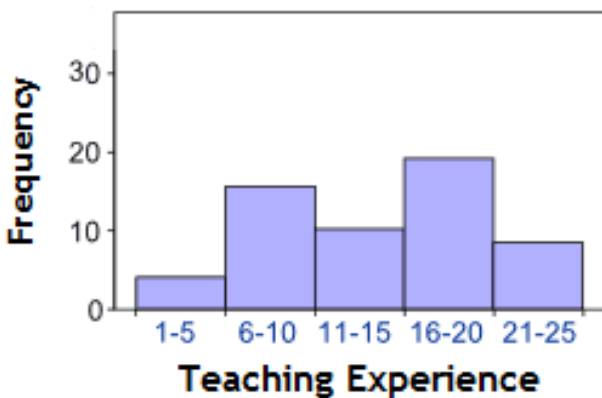
factors

Example: $3 \times 4 = 12$

Factors of 12

Definition: *numbers or variables multiplied together to produce a product.*

histogram

Example:

Definition: *A graphical display that uses bars to represent ranges of data.*

(arithmetic) mean

Example: The mean of 2, 7, and 9

is $\dfrac{2 + 7 + 9}{3}$ or 6.

Definition:

The quotient produced when the sum of a given set of numbers is divided by the total number of addends in the set.

median

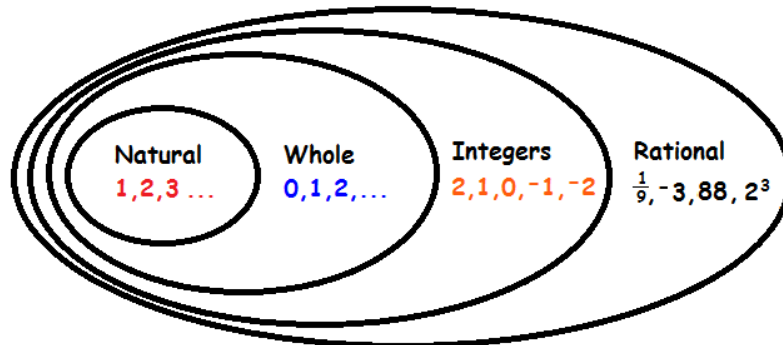median

Example: 2, 7, 9, 13, 16, 18, 21

3 numbers   3 numbers

Definition: *The middle number in a set of numbers arranged in numerical order.*

rational number

Examples: 2, ·5, 1.3, ·¾, 1½

Natural	Whole	Integers	Rational
1,2,3...	0,1,2,...	2,1,0,−1,−2	$\frac{1}{9}, -3, 88, 2^3$

Definition: *Any real number that can be expressed as a ratio or fraction.*

right triangle

Example:

hypotenuse

A

C

B
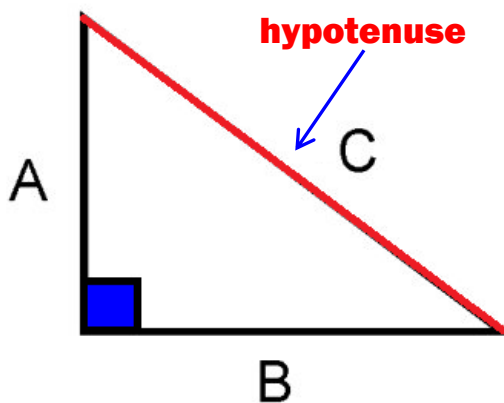
Definition: *A triangle that has a right angle (90°) as one of its interior angles.*

tape diagram

Example:

Band practice lasted 1.5 hours. Two thirds of the time was spent marching. How much time was spent marching?

1.5 hours = 90 minutes

| 30 min. | 30 min. | 30 min. |

two-thirds
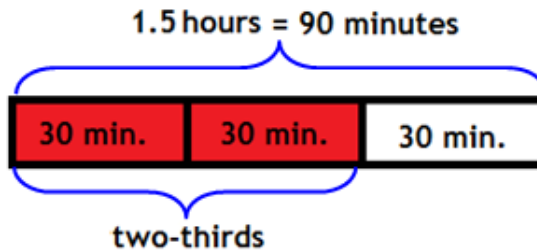
Answer: 60 minutes

Definition: *A tape-like illustration of the number relationships in a math problem.*

box plot

Example:

Length of Fingers

Ring Finger   Pinky Finger

maximum value
75th percentile
median
25th percentile
minimum value
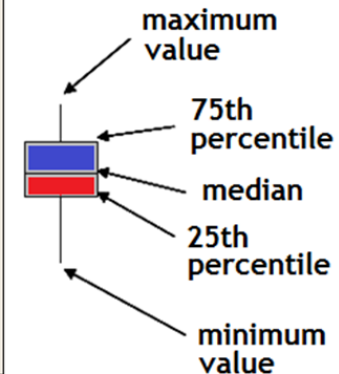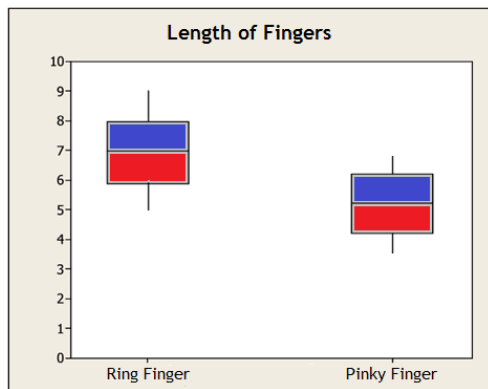
Definition: *A diagram of the distribution of a set of data using rectangles and lines.*

absolute value

$$|x| = 4$$

Example:

4 units   4 units
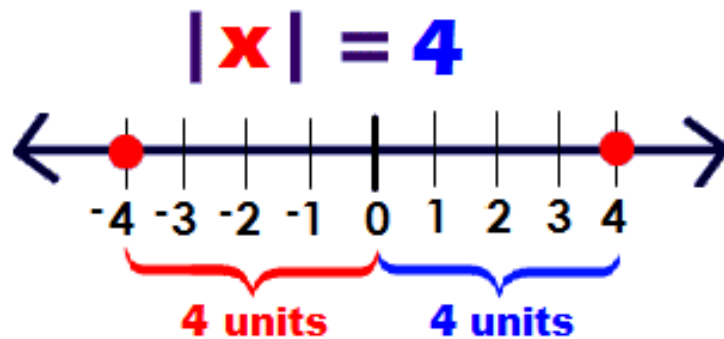
Definition: *The distance of a number on the number line from 0 in any direction.*

integer

Example:

Natural
1,2,3 …

Whole
0,1,2,…

Integers
2,1,0,-1,-2
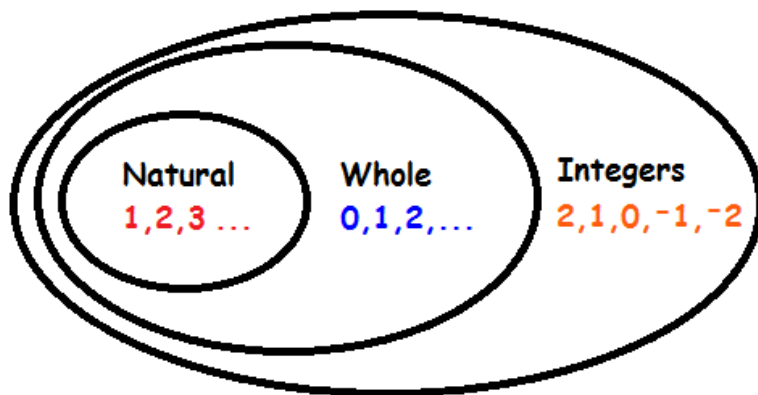
Definition: *Any number in the set of whole numbers and their negative opposites.*

Least Common Multiple (LCM)

Example: The **LCM** of **2**, **6**, and **9** is **18**.

2: 2, 4, 6, 8, 10, 12, 14, 16, **18**

6: 6, 12, **18**

9: 9, **18**

Definition: *The smallest common multiple of two or more non-zero numbers.*

Greatest Common Factor (GCF)

Example:

The **GCF** of **8** and **20** is **4**.

8: 1, 2, 4, 8

20: 1, 2, 4, 5, 10, 20

Definition: *The largest factor that divides evenly into two or more numbers.*

expression

Examples: 34 +4 and 2*x* – 1

Definition: *A representation of a value or mathematical relationship containing numbers and/or variables and one or more operation symbols.*

distributive law

Examples: 9(4 + 6) = 9*4 + 9*6

9(10) = 36 + 54

90 = 90

Definition: *Any number multiplied by the addends of a second number [a(b+c)] is equal to multiplying the first number by each.*

addend separately [a(b+c) = ab+ac].

variable

Example: $2x - 9 = 15$

↑
variable

Definition: *A symbol (usually a letter) that represents an unknown numerical value.*

prism

Example:
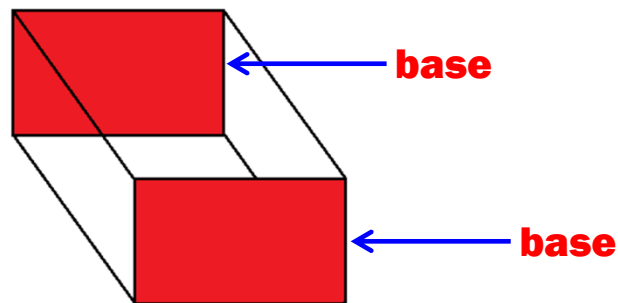
base
base

Definition: *A three-dimensional shape consisting of two parallel faces called bases and all flat sides.*
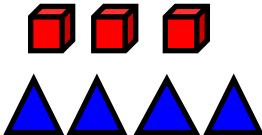
pyramid

Example:
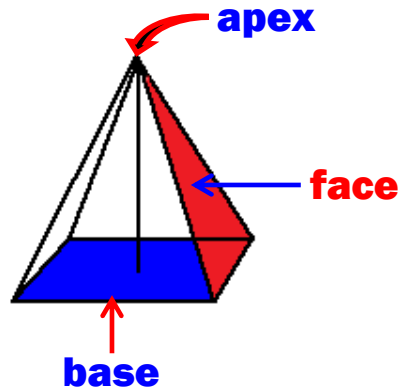
apex

face

base

Definition: *A 3-dimensional solid with a polygon base and triangular faces that meet at a common point called the apex.*

Ratio

Example: 3 : 4 or 3/4

Definition: *The quantitative relationship between two values typically written using a colon a : b or as fraction a/b.*

dependent variable

Example: $y = 3x - 2$

↑ dependent variable

Definition: *A variable whose value is determined by the values assumed by one or more independent variables.*

independent variable

Example: $y = 3x - 2$

↑ independent variable

Definition: *A variable that determines the value or values of dependent variables.*

Base

Example:
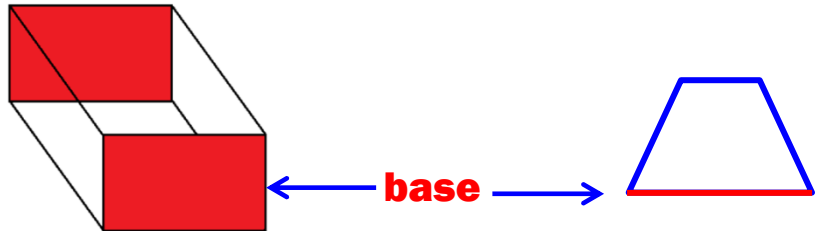
Definition: *The lowest face of solid or the side of a plane figure on which it stands.*

Net

Example:
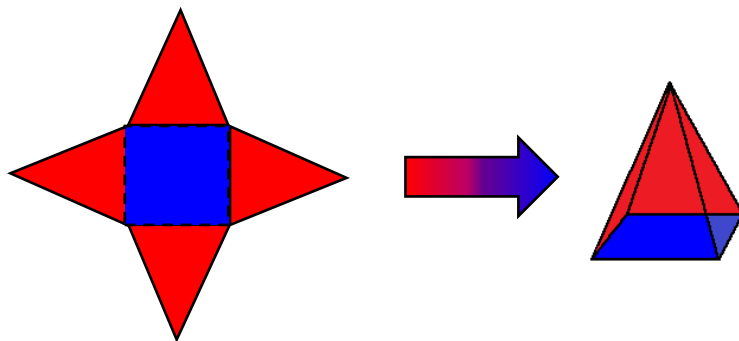
Definition: *A polygon comprised of smaller polygons that share edges that when folded form a 3-dimensional solid.*

square root

Example: $\sqrt{9} = 3 \times 3$ or 3^2

← square root

Definition: *A divisor of a quantity that when multiplied by itself yields the quantity.*

categorical data

Example:
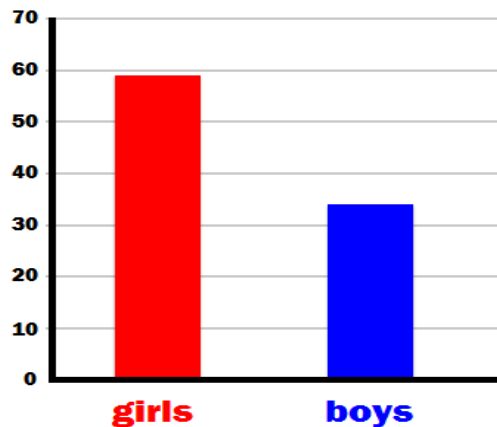
Definition: *A type of data that may be divided into discrete groups (gender or race).*

numerical data

Temperature in the City
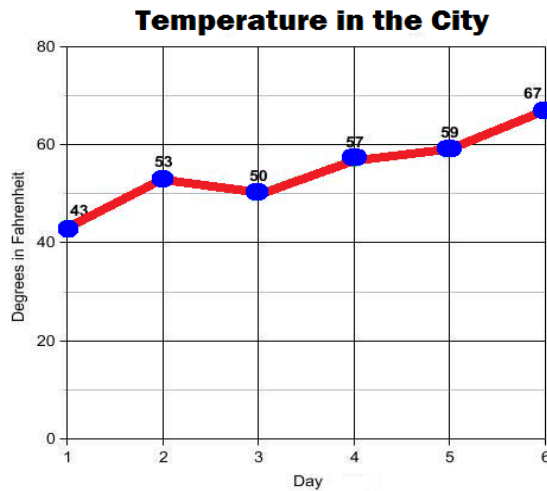
Example:

Definition: *Data that can be counted and expressed on a numerical scale.*

Sample

Example:
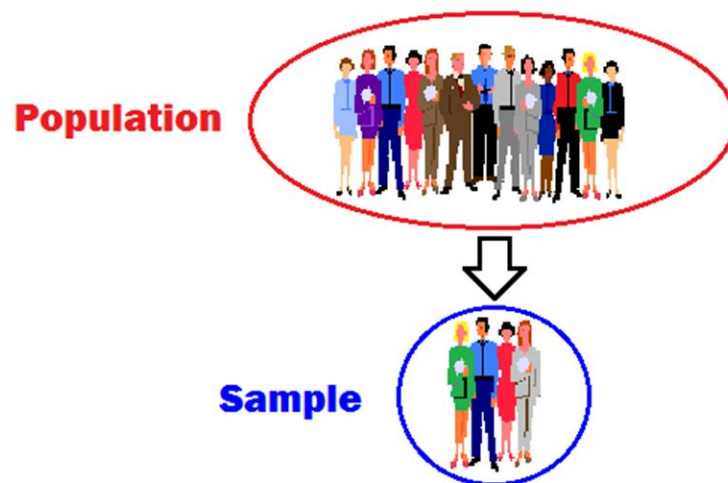
Definition: *is a subset of a population.*

Interquartile Range

Example:

Interquartile Range

maximum value

75th percentile

25th percentile

minimum value
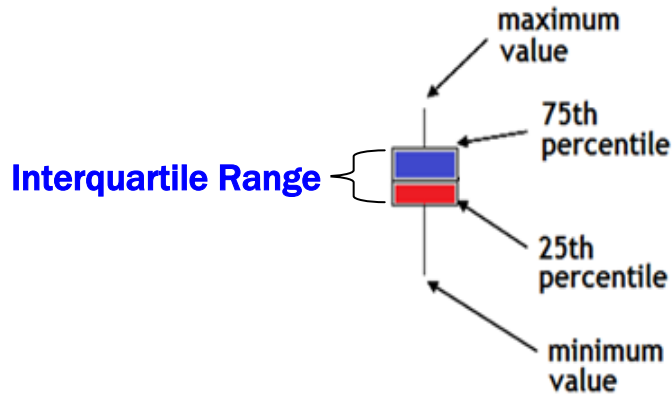
Definition: *The range of values that fall between the first quartile (25th percentile) and the third quartile (75th percentile).*

Stem and Leaf Plot

Example:

Stem	Leaf
1	2 3 6
2	1 2 4 4 4
3	3 7 7 8 8 9 9
4	1 1 4 6 6 7 8 8 8
5	3 3 6 6 6 7
6	1 3 8 9

Definition: *A display of numerical data that is organized by place value.*
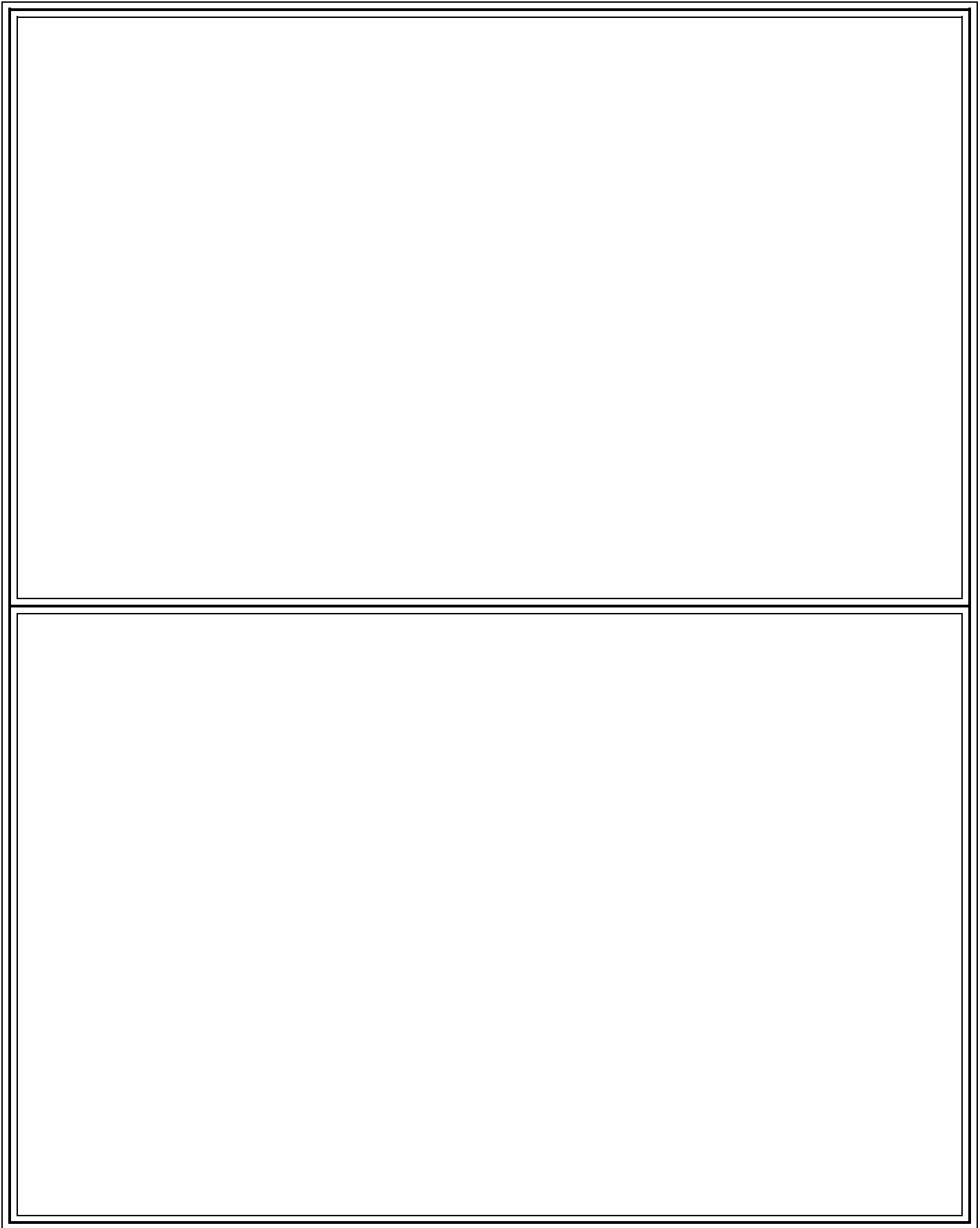
tape diagram	rational number
sum	product
factor	quotient
coefficient	right triangle
median	mean
dot plot	histogram

box plot	absolute value
integer	LCM
GCF	expression
distributive law	variable
commutative law	cube
prism	pyramid

ratio	dependent
independent	quadrilateral
base	net
stem and leaf plot	square root
categorical data	numerical data
sample	interquartile

Vocabulary Pyramid
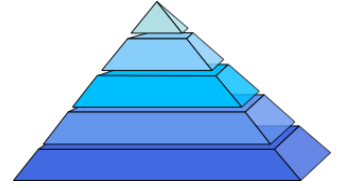
This game is played in a manner similar to S25,000 pyramid. It is a fast paced game that can be finished in five minutes or less depending on the number of terms used.

Directions:

Step 1: Make four set of vocabulary cards. Ideally, the selected terms are those contained in the instructional unit currently being studied. However, this game could be used to review important vocabulary as well.

Step 2: Place the four sets of cards at the front of the room on a desk, table or chair. Each stack should contain the same number of vocabulary terms. Be sure the cards are face down.

Step 3: Divide the class into four teams.

Step 4: Select a student from each team to serve as the clue giver. Have each clue giver come up to the front of the room and stand by the table where the stacks have been placed.

Step 5: Explain to the students that the first team to guess all the terms in their team's stack is the winner. Please be sure to tell the students how many vocabulary terms are in each stack.

Step 6: Explain to the clue givers that they each will take one card at a time back to their team and use their mathematical language to give their teammates clues about the term to be guessed. Once the term is correctly guessed, they are to go back to the front of the room and pick up a new vocabulary card and repeat this same process until all the cards in their stack have been guessed. If desired, take up the cards as each group guesses them. The first team to guess all the terms in their stack wins.

Taboo Terms

This game is played in a manner similar to the game Taboo. It is a great activating strategy.

Materials: One pack of 3 x 5 index cards, marker, chalkboard/whiteboard

Directions:

Step 1:   Write unit vocabulary terms on each index card. Then, place the cards at the front of the room on a desk, table or chair. Be sure the cards are face down.

Step 2:   Divide the class into two teams. Have each team come up with a cleaver name for themselves. Write those names in a T- chart.

Step 3:   Select a student from each team to serve as the clue giver. Have each clue giver come up front and stand by the table where you have place the stack.

Step 4:   Select a student in the room to serve as time keeper. This student is not a member of either team. This student lets the clue givers know when their one minute has expired.

Step 5:   Explain to the class that each team will be given one minute per round to guess as many vocabulary terms as possible. The team who has guesses the most words after two rounds will be the winner.

Step 6:   Tell the clue givers that each will take one card at a time and use their best mathematical language to give their teammates clues about the Taboo Term. Once the term is correctly guessed, they are pick up a new vocabulary card and repeat this process until one minute has expired. Clue givers may pass on a term, if desired without penalty. However, any term not guessed may be use by the other team. As a term is guessed, record that correct guess by putting a tally mark under the team name. Teams may only guess terms when their clue giver is speaking. The team with the most points wins.

The Hot Seat
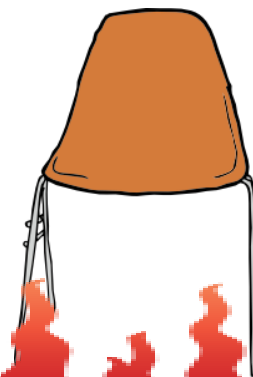
This use of a projector or an interactive board is recommended for this game. However, chart paper or poster board may be used as well.

Materials: interactive board or projector and screen or chalkboard/whiteboard

Directions:

Step 1:   Create a series of slides that contain vocabulary terms desired to be reviewed. Put only one term on each slide. Place four chairs in the front of the room. Be sure the chairs are facing the class and not the board.

Step 2:   Divide the class into four teams. Have each team come up with a cleaver name for themselves. Write those names in a chart on the side of the board.

Step 3:   Explain to the class the following:
- The Hot Seat is played like a relay game.
- Each team will send one player at a time to the front of the room to sit in one of the four "hot seat."
- The players in the hot seat are the term guessers.
- The remaining students on each team are clue givers.
- For each round, teams will take turns giving the four students in the hot seats a clue about the term being shown on the board behind them until the term is guessed.
- A team may only give one clue at a time. Any member on the team my give the clue.
- The player that guesses the term first earns five points for his or her team.
- Once the term being shown is guessed, the round is over and the four students return to their seats and a new set of players come to the front.
- The team who has guesses the most words after ten rounds will be the winner.

Modification: Award more points for terms that are difficult for students to guess.

Exchange and Change

Materials: One pack of 3 x 5 index cards and markers

Directions:

Step 1:   Write unit vocabulary terms on each index card. Create one card for each student in the class.

Step 2:   Hand each student a vocabulary card. Be sure that only the student receiving can see the word written on it. Tell students they are not to show their card to anyone.

Step 3:   Explain to the class the following:
- Each student is to find a partner.
- Once students are in pairs, the students are to take turns giving clues about the vocabulary card each is holding. It is important that only the student holding the card see the vocabulary term written on it.
- Once the students guess each other's terms, the two students will trade cards and each will find new partners with whom to play. The new partners will exchange clues and guess the new partners' vocabulary terms.
- Students will continue giving clues, trading cards and finding new partners until the teacher ends the activity or all cards have been exchanged.

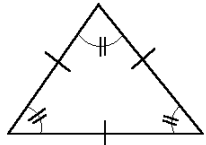*This activity is designed to last one class period or longer..*

Materials: 3 x 5 index cards and safety pins or blank name badges and markers

Directions:

Step 1:   Create a set of definition cards/badges or concept cards/badges that relate to the unit of study or that are in need of review. Be sure there are enough cards/badges for each student in the class.

Step 2:   Pass out a card/badge to each student as they enter the room.

Step 3:   Have each student affix the card/badge on their top just as a name badge would be placed. Badges should be visible to everyone in the class.

Step 4:   Explain to the students that the concepts (images or expressions) or terms being defined on their cards/badges are their names for the day and when someone wants to talk to them they must address them by the term in which the definition or concept represented refers. Using their assigned names is the only way the students can address each other for the class period.

Step 5:   During the class period create many opportunities for the students to address each other by their assigned names.

Equations may also be put on cards with students addressing the student by the answer.

Example Cards:

The side of a right triangle opposite the right angle.	3.141592	

Fill in the Blank!

Materials: One pack of 4 x 6 index cards, multiple textbooks, scissors, glue

Directions:

Step 1: Select between 10 -15 sections from the textbook you are using which discuss key vocabulary terms. Be sure the vocabulary term is mentioned multiple times within the selected sections. If your text does not have sections which discuss vocabulary terms as described, create one or two paragraphs per term that describe the concept or procedure. Be sure to use the vocabulary term often in the paragraphs. For every place the term is mentioned, underline the term. Photocopy the sections or typed paragraphs and tape or glue them onto 4 x 6 index cards (see example below).

Step 2: Divide the class into two teams. Have each team come up with a cleaver name for themselves. Write those names along with your name in a chart on the board.

Step 5: Select a student in the room to serve as a reader. The reader will read the passage taped onto the card and say the word "blank" every time the key vocabulary term is mentioned. A new reader may be selected after the term is guessed or the same student could serve as the reader for the whole game. The teacher may also serve as the reader for the whole game.

Step 6: Explain to the class that there job is to listen to the passage being read and try to figure out what vocabulary term the "blank" represents. The team who guesses the term first earns a point. If neither team gets the term, the teacher gets a point. The team who guess the most words after ten rounds wins.

Example Card:

> The **exponent** of a number says how many times to use the number in a multiplication. **Exponents** are also called powers or indices. **Exponents** make it easier to write and use many multiplications. You can multiply any number by itself as many times as you want using **exponents.** In the example 2^5 = 2 x 2 x 2 x 2 x 2, the five is the **exponent.**

Say and Stay

Materials: coffee can, one pack of 3 x 5 cards, glue

Directions:

Step 1:   Select 50-60 vocabulary terms from the glossary in your textbook series. Choose words from both your current grade level and some from the grade level before yours. Type these words on sheet of paper. Cut out each term. Glue each term onto an index card. Place all of the cards in the "Stay and Say" container (coffee can).

Step 2:   Explain to the class that in this game on their turn they are to pull a vocabulary term out of the Say and Stay container and define it. In order to **stay** in the game you must **say** the correct definition. If the student is unable to define the term correctly, the term is placed back in the container and that student is out   of the game.

Step 3:   Have students pass the Say and Stay container and play the game until time runs out or only one student is left. The last student still in the game is the winner. This game may be played over series of class periods in order to get a winner. The suspense will keep the students quite interested.

Match Maker

This activity is great mechanism for forming cooperative learning groups of two or more.

Materials: One pack of 3 x 5 index cards, marker
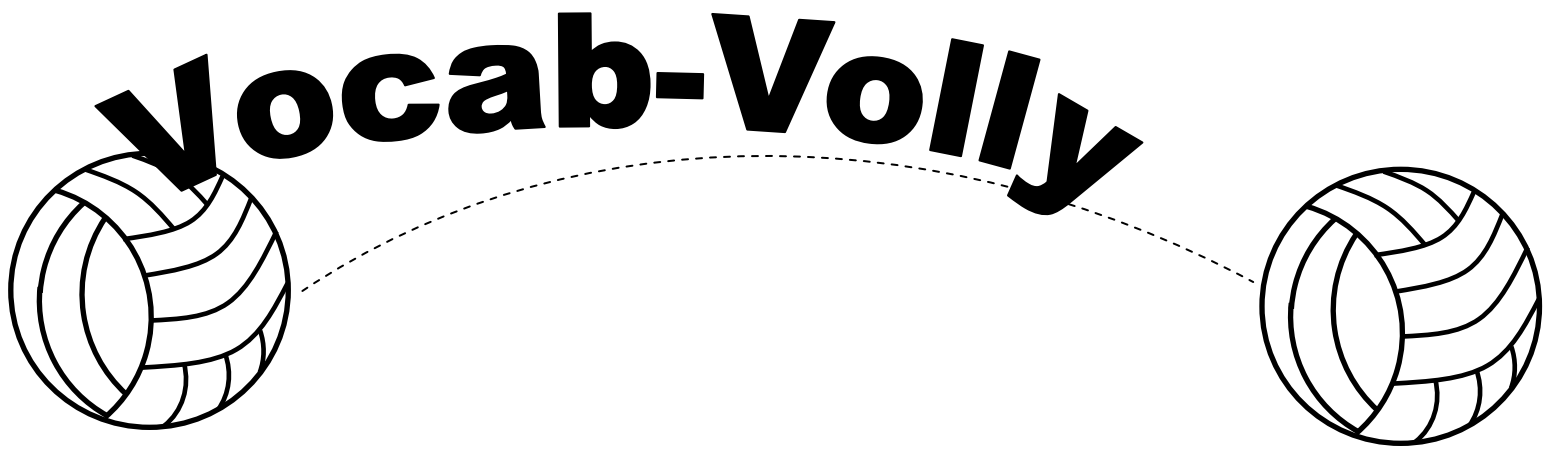
Directions:

Step 1:   Select between 10 - 15 vocabulary terms from the current unit of study. For each term you will need two index cards. On one card, write the vocabulary terms. On the other card write the definition of the term. Be sure to there is at least one term card or definition card for each student in the class.

Step 2:   As students walk into the room, hand them either a term card or a definition card. Explain to the class the each term has a matching definition and that they must go around the room and find the match for their card.

Step 3:   Once a student finds his or her match that student is to stand next to the student with the matching card. When all of the students have found their match, review the matches and ask students to "agree or disagree" that the match is correct. As matches are approved, designate a place in the class for that pair to sit for the remainder of the class. When all students are seated, proceed with the lesson of the day.

Modification: To form groups of three or four, add additional representations. For example, in addition to matching the term to the definition, have students match a drawing or picture card to the cards.

Vocab-Volly

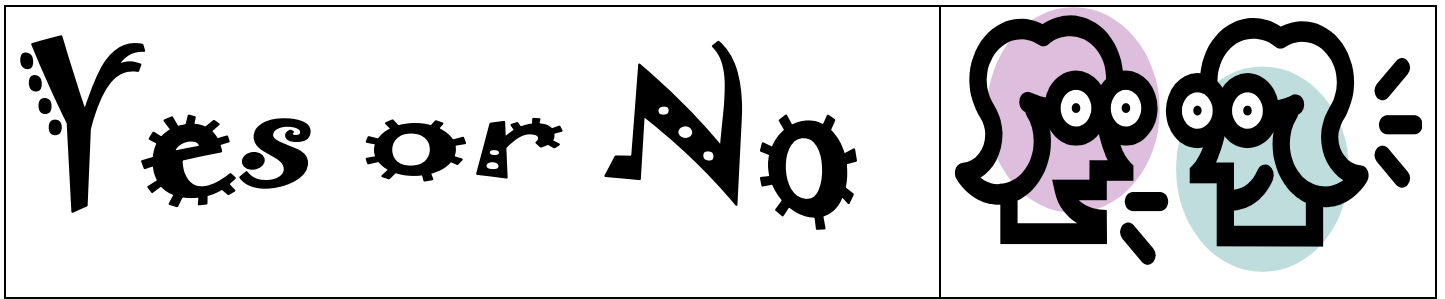**Materials:** solid colored inflatable ball, dot stickers, fine point permanent marker

Directions:

Step 1: Select between 20 - 25 vocabulary terms from the current unit of study. For each term you will need two index cards. On one card, write the vocabulary terms. On the other card write the definition of the term. Be sure to there is at least one term card or definition card for each student in the class.

Step 2: As students walk into the room, hand them either a term card or a definition card. Explain to the class the each term has a matching definition and that they must go around the room and find the match for their card.

Step 3: Once a student finds his or her match that student is to stand next to the student with the matching card. When all of the students have found their match, review the matches and ask students to "agree or disagree" that the match is correct. As matches are approved, designate a place in the class for that pair to sit for the remainder of the class. When all students are seated, proceed with the lesson of the day.

Modification: To form groups of three or four, add additional representations. For example, in addition to matching the term to the definition, have students match a drawing or picture card to the cards.

Yes or No

This game is adapted from the popular party game, The Name Game.

Materials: One pack of 3 x 5 index cards, marker, tape

Directions:

Step 1:   Create a set of vocabulary cards that relate to the lesson of the day or the current unit of study.

Step 2:   Pass out a card to each student in the room. Be sure the cards are all face down. Tell the students they may not look at the card you gave them.

Step 3:   Have each student select a classmate sitting to his left or right to tape his vocabulary card to his back. Be sure the student cannot see the word being taped to her back.

Step 4:   Once all the words have been taped. Explain to the students that it is their job to determine the vocabulary words that has been taped to their backs. Tell them they are to do this by asking only *Yes* or *No* questions of their classmates. If desired, designate a specific amount of time you will allow students to play this game. Tell the students their time limit and let them play until their time is up.

***Should you discover that asking only *Yes* or *No* questions is too challenging for your students, change the rules and let them ask any question they would like when only one or two minutes are left to play. Also, a vocabulary word bank may be posted to aid the students in completing the game in a timely manner.