

SCORE!

Strategies for Effective & Fun Math Instruction



The Unfair Game!

Will the Winners Lose?

In this review and reinforcement game, negative scoring and a fun 'unfair' twist means that even the winners could lose!

The Unfair Game is designed to be played with two teams. You can use as few or as many questions as you want, and teams try to answer the questions correctly in order to earn points for their team.

What's so unfair about that?

Making it a little less fair: Well, the twist is that each question will get a random point value, and the point value can be positive OR negative. No one except for the teacher knows the value of the question until after the answer is given. The team must decide *before seeing the value of the question* whether they want to keep the points or give them to the other team. Then they have to just cross their fingers and hope that their choice worked out in their favor!

Materials Needed

- Scoring Cards
- Flashcards or prepared cards (or a prepared list) with questions for review and reinforcement

Before the Activity

Prepare two sets of cards in advance of the game:

What's the Score? Prepare a set of 25 "scoring cards." On each of those cards, write a score value or instruction. Be as silly with the points as is appropriate for your grade levels and their abilities to add,

subtract, multiply, and divide. You could even assign crazy point values to each question. For example, as 5 pts, 79 pts, 1000 pts, 2 pts, 500 pts, etc. for each team. Team #1 's first correct answer might be worth 79 pts, team #2's question might be worth -1000. Have a score keeper write the points earned on the board.

More examples:

- Earn 100 points
- Lose a turn
- Take 50 points from the other team
- Earn 70 points
- Double your total points
- Lose 20 points
- Take an extra turn
- Earn 500 bonus points

What's the Skill? On the other set of cards, write 25 questions related to the topic or skill(s) you want to review and reinforce or gather appropriate flash cards. (Note: Questions might be created in list form rather than on cards.)

Introduce the stack of scoring cards to students. Shuffle the cards. Put the stack face down on a desk.

Alternative idea:

You might post the 25 scoring cards in random order on a bulletin board or chalkboard. Post the cards *with the blank side facing students and the scoring instructions hidden from view.*

Arrange students into two or more teams. Decide which team goes first, and then pose the first question to a member of that team. If the student answers correctly, he or she draws a scoring card from the stack (or removes one from the bulletin board or chalkboard). The score on the card determines the score the student earns for his or her team.

- If the team has 0 (zero) points and the card selected reads "Earn 50 points," the team has a total of 50 points.
- If the card reads, "Double your present score," the team doubles its score of 0, for a total of 0 points.
- If the card reads, "Deduct 50 points from your score," the team subtracts 50 from 0, for a score of -50.

If the student answer incorrectly, the first student on another team to raise his or her hand earns the right to "steal" the question. A correct answer earns that student the opportunity to choose a scoring card...

Of course, the scoring card could carry a negative message, so answering a question correctly is no guarantee that a team will earn points; as a matter of fact, the team could lose points! A team could

conceivably answer all the questions correctly and lose the game. That's why the game is called "Will the Winners Lose?"

THE UNFAIR GAME 2.0: In order to increase the strategy required to play the game, you can try this variation. It will also allow you to inject novelty by playing the same game in a slightly different way.

1. Once the value of the question is revealed, the team can choose to keep the points or give them to the other team.
2. Instead of determining the winner by whoever has the most points, the winning team is the one that has the positive score closest to zero. (For example, a team with a final score of +2 would beat a team with a final score of -1 because the winning score must be positive—even though -1 is closer to 0 than is +2.)
3. Of course, if both scores are negative, then the winning score is whichever is closer to zero. The game is still unfair because you aren't in control of your own score: another team can interfere with your strategy!

A Couple More Twists

- You might have each student track the score for each team. Students track the team scores on their own. At the end of the game, each student who correctly calculated each team's final score might earn 50 bonus points for his or her team.
- You might introduce another rule. Since no team member knows whether the scoring card he or she selects will earn or lose points, you might allow students the option of *not* selecting a card when they answer correctly. If the student thinks the next card in the stack might carry a negative scoring instruction, he or she is free to pass and earn (or lose) no points for the team. Students only learn whether that was a good move or not if the next student to choose a card reveals the scoring instruction on the card.

<p>The Unfair Game!</p> <p>Add</p> <p>100</p> <p>Points to your score!</p>	<p>The Unfair Game!</p> <p>Subtract</p> <p>10</p> <p>Points from your score!</p>
<p>The Unfair Game!</p> <p>Take an extra turn!</p>	<p>The Unfair Game!</p> <p>Subtract</p> <p>1000</p> <p>Points from your score!</p>
<p>The Unfair Game!</p> <p>Your score is now equal to double [2x] your opponent's score.</p>	<p>The Unfair Game!</p>
<p>The Unfair Game!</p>	<p>The Unfair Game!</p>

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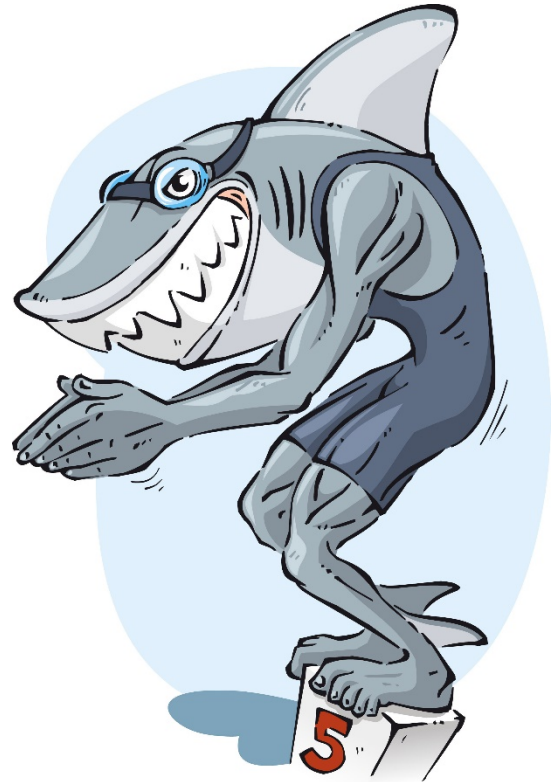
Sink or Swim?

Have students form two teams and line up in two lines across the room facing each other. Ask someone on team 1 a question, if they get it right they may “sink” someone on team 2.

Then go to someone on team 2, if they answer their question right they may either sink someone on team 1 or rescue their “sunken” team member.

Option: To make it so students don’t feel bad, assign each student on the team a number and have students sink a student’s number instead of saying their name. Then, ask team number two a question and if they get it correct they can either sink a person, or save one of their own. This continues until one team has no players left.

The winning team is the team with the most people still standing!



Back 2 Back

There are two different versions of this game.

Supplies needed are minimal: a writing surface, writing utensils, and someone who is quick with their math facts for a “caller.”

The object of the game is to guess the other player’s number before they guess yours. To play, two students come up to the board and stand back to back (hence the name). This allows for the students to write on the board but blocks their view of the other person’s number.

The “Caller” states, “Numbers Up”. This signals the two students write a number of their choice on the board. Tip: Play with numbers 2-9 to keep kiddos from dwelling in the 0’s and 1’s easy train, but you can play with numbers as high or as low as needed for your group of kids.

The caller then states the sum (for younger students) or product (3rd+) of the two numbers. The students use their understanding of math facts to figure out what the other person’s number is when added or multiplied by their number. The first player to say the other person’s number wins the round. The “loser” gets to choose the next person to come to the board.

Please be warned... this game can get a little rowdy as students win and lose rounds and somehow the teacher always gets pulled up to “clear out” a player who’s been up a little too long... But it’s a lot of fun and well worth the 10-20 minutes!

Witzzle!

The name is a combination of "wit" and "puzzle": "witzzle". Witzzle Pro is a card game used to practice basic math facts for all ages and order of operations for older students. And kids of all ages love it! It's fun. It's fast-paced. It's challenging. Anybody can win. It forces you to think fast AND be able to justify your answer. Students are critiquing other students' work and offering constructive feedback. And, students are doing a crazy amount of math without even realizing it.

Each card (in the game—we've included a blank one you can fill in) features the numbers 1-9 arranged in such a way that you can use the numbers in any row, column, or diagonal to make every number between -12 and 36 by adding, subtracting, multiplying, or dividing.

6	2	4
5	3	6
1	8	9

$6+5+3+8+1=23$

You can change the order of the numbers in the row, column, or diagonal. For example, you could arrive at 20 by doing $(9-5)*4$ or $8 + 9 + 3$. The card game is out of print (check ebay for old copies), but don't let that stop you from playing!

The basic directions are:

1. Draw a card on the board (a 3x3 square board) with the numbers 1-9 randomly distributed. Write them in, use paper, sticky notes—whatever works for you! (Or the teacher will have the blanks filled in on the included blank Witzzle-style card.)
2. Get a target number (this can be done by rolling a die, two dice, larger number dice, or just using the date),
3. Solve for the target! Younger students: Students race to see who can reach the target number first by adding the numbers (using each of them only once). For younger students, the numbers wouldn't have to touch. For a challenge, they should touch (diagonal, vertical, or horizontal). For subtraction you can start at the target number and subtract to reach zero.

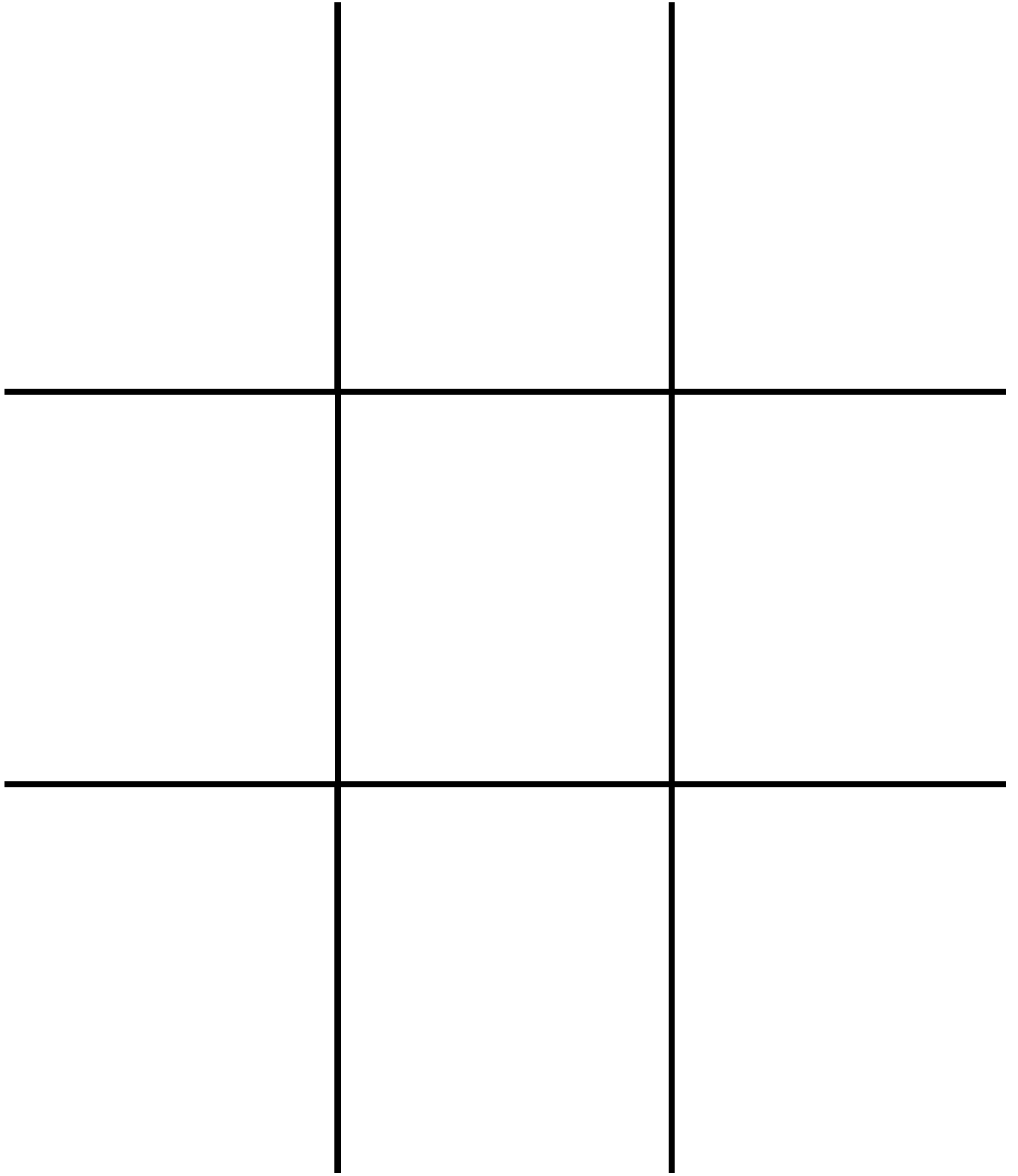
Older students: Select one row--diagonal, vertical, or horizontal--and using the each of the numbers ONLY one time mixed with basic operations (add, subtract, divide, multiply) as well as the PEMDAS (order of operations) solve for the target number (using a pencil and sheet of paper, they must write their equation)

4. Once a student has solved for the target number they will call out "Wizzle." They must come up to the board and correctly write a numerical expression using a row/column/diagonal of numbers from the card. For older students: Order of operations matters!
5. All other players must then put their pencils down and check that student's equation. After the student writes their solution, the class decides whether the written expression equals the target number as written.
6. If the equation is correct that student gets a point and then chooses another card or the teacher rearranges the numbers (this might not have to be done every time) and the student rolls for a new target number (starting over again).
7. If the equation is not correct, that student is out for the round while the others try to find a correct equation,
8. The winner is the student with the most cards/points at the end of a given time.

Older students must use three numbers (one time each) and two operations to reach the target number. The three numbers must come from a single row, column, or diagonal on the card. For example, if the target number on this card was 32, you could use the middle row (7 8 3) to achieve the target number. $(7-3)*8 = 32$.

5	6	1
7	8	3
2	9	4

Witzze!



1

2

3

4

5

6

7

8

9

Math Taboo!

Math Taboo is a fun, fast-paced way for your students to review that pesky content vocab.

Objective: Have your team guess the word on your card(s) without using the word itself or the other five words on the card. This helps students expand “definitions” to actual understandings of concepts.

Materials:

- Timer
- Cards
- Teams
- Score card

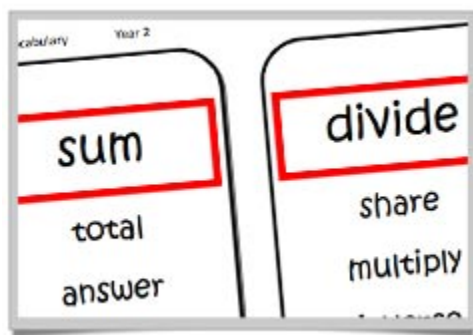
The idea of the real game is to get your partner to guess a word by describing without using any of the five taboo words, which are usually the first words that anyone would go to in a description. So the obvious math equivalent is to pick a grade level math term that you are throwing around in your class and get students to describe it without using their go-to math descriptors.

Definitions are important, but assuming that those are indicators of deep understanding is, of course, very problematic, no matter where those definitions come from.

So, this Taboo game serves a two-fold purpose: **learning for**

the students (by forcing them to think deeply about a mathematical concept; by having them trade in math jargon for conceptual understanding; and by hearing classmates describe something in

more accessible vernacular) and **learning for the instructor** (by seeing how well students actually understand a concept; and by seeing what language students use to talk math in the hopes that the instructor’s mathematical narrative can better reflect theirs in the future).



more accessible vernacular) and learning for the instructor (by seeing how well students actually understand a concept; and by seeing what language students use to talk math in the hopes that the instructor’s mathematical narrative can better reflect theirs in the future).

2-DIMENSIONAL flat paper figure square shape	3-DIMENSIONAL movie sculpture figure cube face
MINUTE sixty second hour time clock	SECOND sixty minute short hour time
THERMOMETER degree temperature fever hot Fahrenheit	PAIR two double socks shoes couple

Prior to Playing Game Practice:

With the word to guess already known to everyone, give students a chance to take a stab at verbalizing a definition without using the taboo words, one at a time until you get an acceptable description. The first few times you practice might be rough, but that's okay, they'll soon get the hang of it!

How to Play:

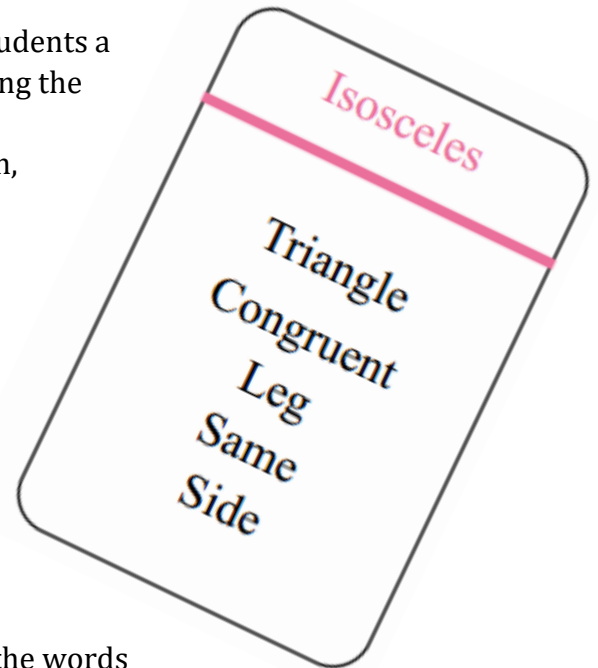
1. Divide students into two equal teams.
2. Team 1 will pick one player to be the "Clue-Giver." Team 2 will pick one player to be the "Monitor."
3. The Clue-Giver from Team 1 will try to get his/her team to guess the word at the top of the card without showing the card to the team.

Note: Clue-Givers may not say part of the word, say any of the words below the line on the card, use gestures, sound effects, or say "sounds like" or "rhymes with."

4. The Monitor from Team 2 will make sure Player 1 does not say any of the words on the card (or part of the words), use hand gestures or sound effects, or say "sounds like" or "rhymes with." If the monitor catches the Clue-Giver breaking one of the rules, the Clue-Giver must place the card in the "Penalty" pile.
5. Once Team 1 has correctly guessed the word, the Clue-Giver will place the card in the "Correct" pile and continue on to the next card.
6. The Clue-Giver can pass a card at any time but must place the card in the Penalty pile.
7. Once time is up the Clue -Giver will add points for every card in the Correct pile and subtract points for every card in the Penalty pile.
8. Team 2 will repeat the same process.
9. The game ends once everyone has had a chance to be a Clue Giver. The team with the most points wins.

Math Taboo Score Card: Make tally marks for each point scored. The team with the most points at the end of the game wins.

Pre-Made Math Taboo Card Resources:



- Elementary (download pdf of 105+ word cards and instructions for \$3): <http://www.teacherspayteachers.com/Product/Math-Taboo>
Older classes can use it as a way of revising previously learned math vocabulary in a fresh and fun way!
- Algebra Taboo Cards (FREE) a total of 126 cards (63 double sides): <http://rootsoftheequation.wordpress.com/2012/06/01/algebra-taboo/>



101 and Out!

This paper and pencil game works especially well in second to fifth grade classrooms (and above) and can be played by teams of students (like boys against girls) or in pairs.

Materials

- Paper
- Pencils
- Dice

To play you will need a sheet of paper, a pencil, and one dice. The object of the game is to score as close to 101 without going over or “out.”

To play, students take turns rolling the dice. As they roll, they can either take the number as a one or a ten. For example, if a student rolls a 5, they could take it as a 5 or a 50. Students keep a running record of their total as they play.

You’ll notice kids start to form a strategy for what numbers they want to roll next. It’s a great way to build mental math strategies.

To introduce this game it works well to play it as, “The Teacher vs. The Class”. This allows time for modeling while keeping the kids in on the action. What class doesn’t love beating the teacher? They always want to play again if the teacher wins the round.

This game works best in longer stretches, so multiple rounds can be played.

Guess My Number?

This next game is very versatile and can be modified in so many ways! It can be played in kindergarten all the way up.

Materials:

- Number charts
- Lamination or page protectors for each sheet
- Dry erase markers

To play, you need a number chart, lamination or a page protector for each sheet, and a dry erase marker. This game can be played whole group, in pairs or in small groups of 3-4.

To begin, one student chooses a number. The other players try to guess the number by asking a series of questions. The student crosses off numbers it can't be and circles numbers it could. The person who guesses the right number, wins and gets to choose the next number.

The best part of this game is that it can be played with laminated personal hundreds charts in small groups.

It can also be played as a whole group game using a large chart. Starting in about 3rd grade encourage the use of question clues like "Is it a multiple of 5? Or greater than 70?"

Tips: To introduce the game, it's a good idea to model crossing out numbers as students ask questions about the numbers and help link the clues to finding the right number.

For a kindergarten or first grade classroom, you may want to play with a number line with numbers 1-20. Then, students could ask if the number is bigger or smaller than numbers within that range. A 4th or 5th grade classroom can beef up the game with question clues like, "Is it divisible by 3?" or "Is it a multiple of 5?" The possibilities are endless! Time range to play can be from 5 minutes to 20 minutes

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

1	2	3	4	5	6	7	8	9	10	
11	12	13	14	15	16	17	18	19	20	

Math War!

This game is best played in groups of 2-4 students. All that is needed to play are math fact flash cards. You can use addition, subtraction, multiplication or division cards. It just depends on where your students are in their math skills. The rules for the traditional card game 'war' apply to this math fact version.

How to Play:

To play, students divide the flash cards evenly among all players.

Then, on the count of three, all students throw down a card. The card with the highest sum or product wins all the cards in play. This can be modified to lowest difference or quotient.

If students have the same answer, then they play each other again, with the winner capturing all the cards in play.

Students play until all the cards are won. The student with the most cards at the end wins.

It's in the Cards...



“As students learn their math facts, they need extra practice on the hard-to-remember ones like 6×8 . With a normal deck of cards, however, you’ll find they turn up far too many problems like 1×9 or 2×7 . To give a greater challenge to older children, make each player a double deck of math cards and remove the aces, deuces, and tens. This gives each player a 56-card deck full of the toughest problems to calculate.” –Denise Gaskins, [“The Game That is Worth 1,000 Worksheets.”](#)

This is great advice for adjusting the difficulty in War card games. You can even go further

and target the cards more. For example, play Addition War (where you turn over two cards each time and compare sums) with just the numbers 5-9 to provide pinpoint practice with the addition facts from $5+5$ to $9+9$. Think about what your students need the most practice with, and customize their card decks accordingly.

Math concepts: greater-than/less-than, addition, subtraction, multiplication, division, fractions, negative numbers, absolute value, and multi-step problem solving.

Have you and your children been struggling to learn the math facts? The game of **Math Card War** is worth more than a thousand math drill worksheets, letting you build your children’s calculating speed in a no-stress, no-test way.

Set Up

You will need several decks of *math cards*. Nope, they aren’t something you have to special order. Math cards are simply normal, poker-style playing cards with the jack, queen, king, and jokers removed. Make one deck of math cards per player. A math deck contains 40 cards, so a single game of **Addition War** lets a



child work 20 problems, and he hears his opponent work 20 more.

How to Play

Basic War—Each player turns one card face up. The player with the greatest number wins the skirmish, placing his own and all captured cards into his prisoner pile. Whenever there is a tie for greatest card, all the players battle: each player lays three cards face down, then a new card face up. The greatest of these new cards will capture everything on the table. Because all players join in, someone who had a low card in the initial skirmish may ultimately win the battle. If there is no greatest card this time, repeat the 3-down-1-up battle pattern until someone breaks the tie. The player who wins the battle captures all the cards played in that turn.

Endgame

When the players have fought their way through the entire deck, count the prisoners. Whoever has captured the most cards wins the game. Or shuffle the prisoner piles and play on until someone collects such a huge pile of cards that the others concede.

Variations

For most variations, the basic 3-down-1-up battle pattern becomes 2-down-2-up. For advanced games, however, the battle pattern is different: in case of a tie, the cards are placed in a center pile. The next hand is played normally, with no cards turned down, and the winner of that skirmish takes the center pile as well.

- **Addition War**—Players turn up two cards for each skirmish. The highest sum wins.
- **Advanced Addition War**—Turn up three (or four) cards for each skirmish and add them together.
- **Subtraction War**—Players turn up two cards and subtract the smaller number from the larger. This time, the greatest difference wins the skirmish.
- **Product War**—Turn up two cards and multiply.
- **Advanced Product War**—Turn up three (or four) cards and multiply.
- **Fraction War**—Players turn up two cards and make a fraction, using the smaller card as the numerator. Greatest fraction wins the skirmish.
- **Improper Fraction War**—Turn up two cards and make a fraction, using the larger card as the numerator. Greatest fraction wins.
- **Integer Addition War**—Black cards are positive numbers; red cards are negative. The greatest sum wins. Remember that -2 is greater than -7 .
- **Integer Product War**—Black cards are positive numbers; red cards are negative. The greatest product wins. Remember that two negative numbers make a positive product.
- **Wild War**—Players turn up three cards and may do whatever math manipulation they wish with the numbers. The greatest answer wins the skirmish.
- **Advanced Wild War**—Black cards are positive numbers; red cards are negative numbers. Players turn up four cards (or five) and may do whatever math manipulation they wish with the numbers. The greatest answer wins the skirmish.

- **Reverse Wild War**—Players turn up three cards (or four, or five) and may do whatever math manipulation they wish with the numbers. The answer with the lowest absolute value (closest to zero) wins the skirmish.
- **Multi-Digit War**—Turn up two or three cards and create a 2-digit or 3-digit number.
- **Multi-Digit Subtraction War**—Turn up three cards. Make two of them into a 2-digit number, then subtract the third. Example: Suppose you turn up 3,4, and 5. Should you arrange them as $54-3$ or $45-3$ or $35-4$ or . . . ?
- **Multi-Digit Product War**—Turn up three cards. Make two of them into a 2-digit number, then multiply by the third. Example: Suppose you turn up 3,4, and 5. Should you arrange them as 5×43 or 4×53 or 3×54 or . . . ?
- **Math War Trumps**—Players alternate choosing “trump” for the math card battles. After the cards are turned up, the player whose turn it is gets to say which operation (+, −, ×, ÷) to do.
- **Speed Racer**—For two players of evenly-matched ability. Each player turns up one card, and the first player who calls out the correct sum (or difference, or product) of those two cards wins the pair.



Sheriff Zero! Our Hero!

Negative numbers are fun, not scary! And, despite that teacher who told us we couldn't subtract six from four, negative numbers help clarify many real-life situations: winter temperatures, lost football yardage, or the bank account of someone who relies too much on credit cards.

Would you like to introduce your students to negative numbers *before* they study them in pre-algebra? Play *Zero* which kids often call “Hit Me.” It's based on the game of Blackjack, but instead of trying to get a score of 21, your aim is zero.

Use a deck of math cards, which are simply normal playing cards with the face cards and jokers removed. Black cards are positive numbers, red cards are negative.

For each player, turn one card face down and one face up. Everyone can see the face-up card, but only the player gets to look at her face-down card (until the end of the game, when all cards are revealed).

Each player adds her cards together in her head. Then she may ask for up to 5 “hits” — extra cards which are dealt face up — for a maximum of 7 cards total. When everyone is done asking for hits, all cards are turned face up. Whatever each player’s cards add up to is her score, and whoever scores closest to zero (the lowest *absolute value*) when all the cards are revealed wins that hand. Winner becomes dealer for the next hand.

Gold Diggers! Review Game

Gold Digger sets anxious prospectors (teams) on a quest to find their fortunes in gold. Working their claims, by answering review questions over the material covered and grade level appropriate math review questions, will yield a cornucopia of riches ... but beware of fool's gold! The player/team that outwits all of the others, wins!



total.

Materials:

- Point Cards (make your own, use the included set, or use grade-level appropriate math problem flash cards)
- Review Questions
- 'Fool's Gold' challenge cards (included, but use is optional)

Divide the class into two (or more) teams.

Make 2 (or more, depending on your number of teams) matching sets of point cards with a huge variation in point values, such as 5 pts, 79 pts, 1000 pts, 2 pts, 500 pts, etc. *You don't have to get all fancy with printed cards. You could go the old school 3x5 index card route and just write-up your own to create a deck that can be added to throughout the series! Or have the point cards be math problems (ex. flash cards would work well) that students must solve correctly in order to add that number of points to their*

Then scramble each set of cards before starting the game and assign a draw pile/deck to each team. Team One's first correct answer might be worth 79 points, but Team Two's question might be worth 1000 if they run into the 'mother lode.'

Fool's Gold Challenge:

Shuffle in a few 'Fool's Gold' Cards to add a bit of unpredictability and excitement to your game. Depending on your class tolerance for torture, you can mix in just a few 'Fools Gold!' cards, or have the majority drawn be some kind of negative result. Most classrooms enjoy about a 70/30 mix.

Ideas for Fool's Gold Cards (the following are included in the set below):

- Unfortunate! Subtract 100 points from your team's score.

- It's ALL Mine, ...Nope, All Yours! You found Fool's Gold, but sold it to the other team! (they lose all their points)
- Switcheroo, Lucky You! Switch scores with the other team
- That's Not [Py]Rite! Add [X] points to your team score
- Bad Luck o' the Draw: Both teams found 'Fools Gold!' and lose 250 points
- Down the Shaft: Your team loses all their points
- Slip of the Pick: Subtract 10 points from your team's score
- One Quiet Mine: Both scores stay the same
- A Gleamin' Gift! Add 300 points to the other team
- Uh Oh, Oh NO: Blank cards for you to fill out with the consequences of your choice. Ex. A variety of negative score cards, Minus 50 points, Minus 100, etc.



Optional Bonus Challenge: Stake Your Claim!

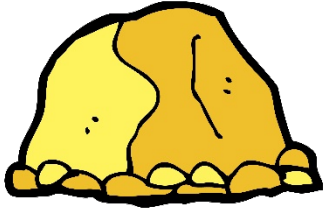
Players or teams compete to win the opportunity to guess a word from a specified number of words in its clue. The instructor tells players the number of words in the clue (ex. 16).

Players/Teams bid the number of words in which they think they can identify the word. The player or team that bids the lowest number of words wins the opportunity to guess the word. **Only** that player or team may guess.

The Instructor reads only the number of words in the clue bid by the player or team. If the player or team names the word correctly, they get to work their claim again and draw TWO cards from the deck to add points to their score. They may hit the mother lode, but be careful of any Fool's Gold lurking deep in the mine!

Mother Load!

1,000 pts

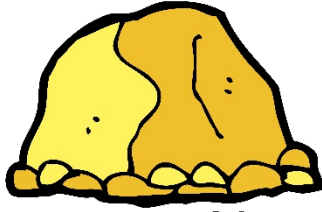


Genuine Gold, Au!

!

Nugget!

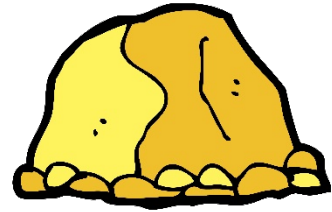
50 Points



Genuine Gold, Au!

Gold Dust!

2 Points

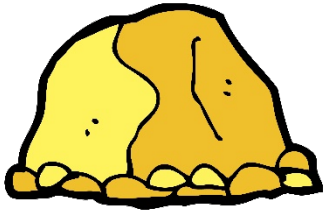


Genuine Gold, Au!

!

Nugget!

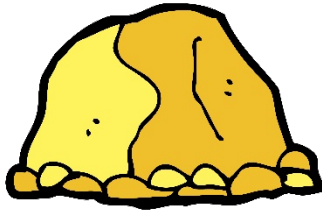
100 Points!



Genuine Gold, Au!

Nugget!

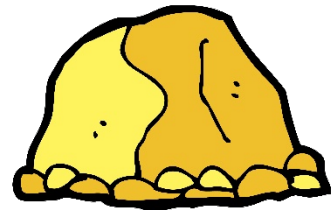
79 Points



Genuine Gold, Au!

Large Vein!

500 Points

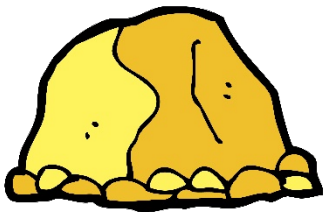


Genuine Gold, Au!

!

Nugget!

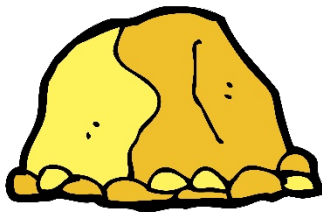
33 Points



Genuine Gold, Au!

Nugget!

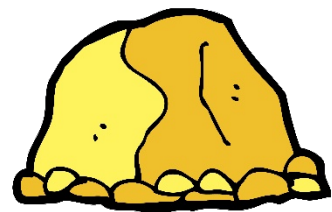
175 Points



Genuine Gold, Au!

Gold Dust!

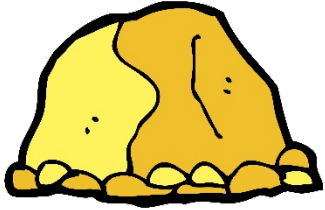
12 Points



Genuine Gold, Au!

Mother Load!

1,500 pts

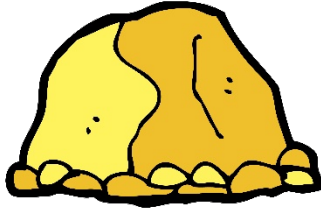


Genuine Gold, Au!

!

Gold Dust!

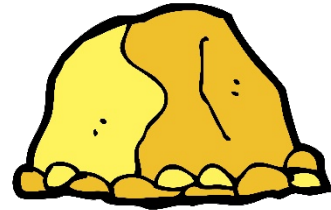
5 Points



Genuine Gold, Au!

Gold Dust!

10 Points

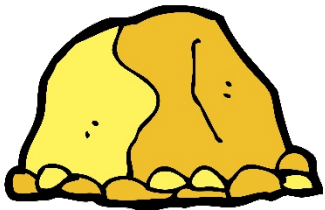


Genuine Gold, Au!

!

Nugget!

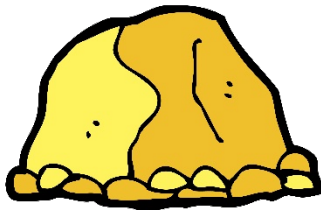
27 Points!



Genuine Gold, Au!

Nugget!

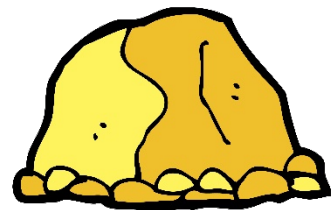
99 Points



Genuine Gold, Au!

Gold Dust!

1 Point

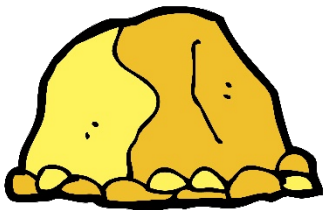


Genuine Gold, Au!

!

Gold Dust!

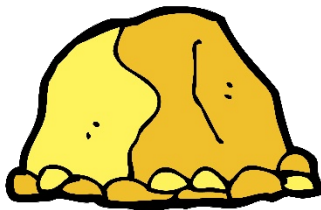
11 Points



Genuine Gold, Au!

Large Vein!

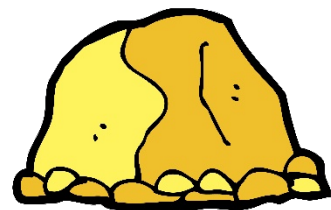
200 Points



Genuine Gold, Au!

Gold Dust!

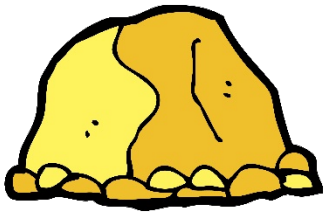
4 Points



Genuine Gold, Au!

Large Vein!

750 pts

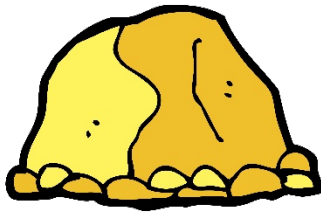


Genuine Gold, Au!

!

Gold Dust!

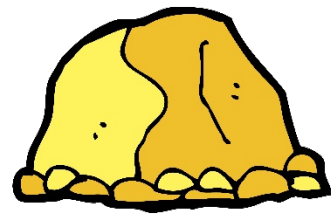
6 Points



Genuine Gold, Au!

Nugget!

45 Points

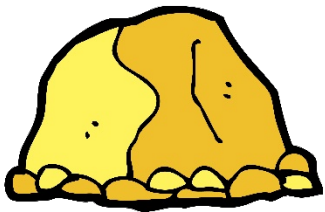


Genuine Gold, Au!

!

Nugget!

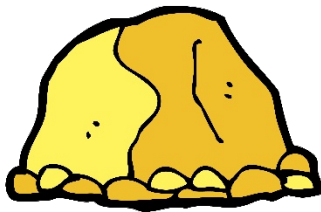
32 Points!



Genuine Gold, Au!

Gold Dust!

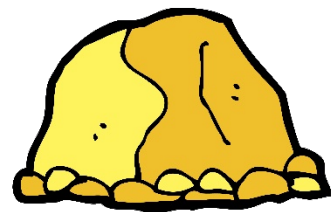
15 Points



Genuine Gold, Au!

Gold Dust!

19 Points

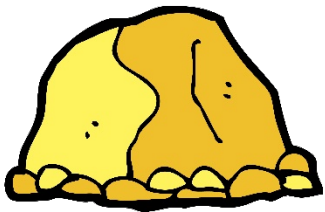


Genuine Gold, Au!

!

Large Vein!

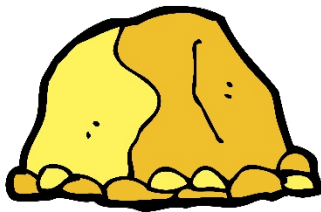
111 Points



Genuine Gold, Au!

Large Vein!

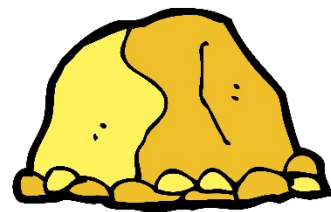
333 Points



Genuine Gold, Au!

Gold Dust!

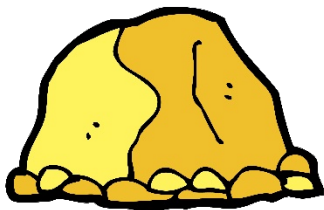
8 Points



Genuine Gold, Au!

Unfortunate!!

Subtract 100 points
from your team's
score!

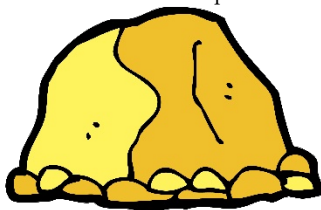


Fool's Gold, FeS_2

It's ALL Mine...Nope,

All Yours!

You sold Fool's Gold to
the other team...they
lose all their points!!

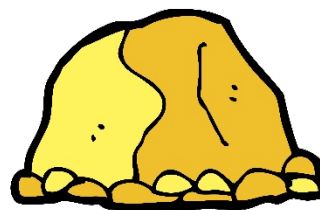


Fool's Gold, FeS_2 !

Switcheroo!

Lucky You!!

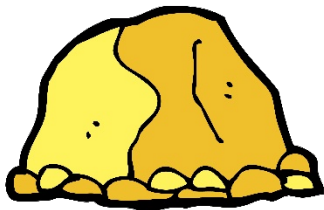
Switch scores with
the other team!



Fool's Gold, FeS_2 !

That's Not [Pyrite!!

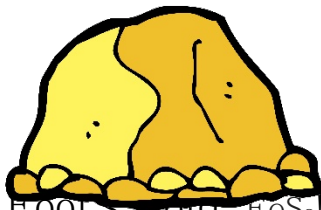
Add 50 points to your
team's score!



Fool's Gold, FeS_2 !

Bad Luck o' the Draw!!!

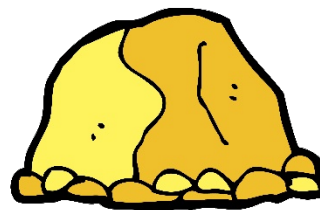
Both teams found Fool's
Gold in their mines and
lose 250 points.



Fool's Gold, FeS_2 !

A Gleamin' Gift

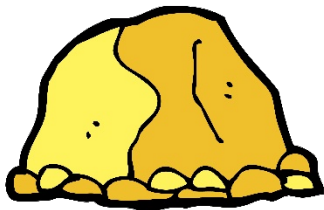
Give 300 points
to the other team



Fool's Gold, FeS_2 !

Down the Shaft!!

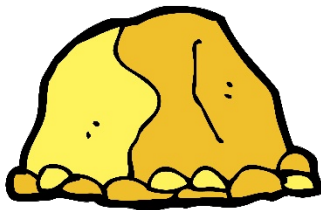
It's a long way
down...your team loses
all their points!!



Fool's Gold, FeS_2 !

Slip o' the Pick

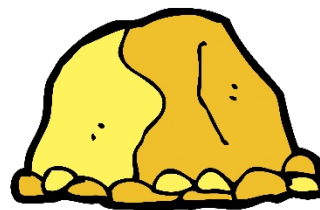
Your team loses
10 points.



Fool's Gold, FeS_2 !

One Quiet Mine!

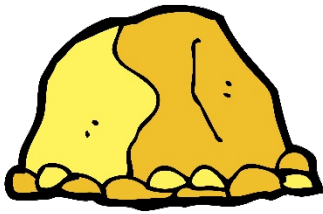
Both team's scores
stay the same!!



Fool's Gold, FeS_2 !

SCORE!

_____ pts

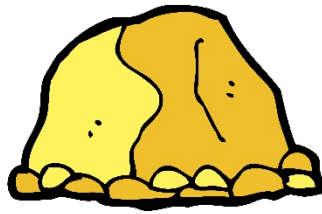


Genuine Gold, Au!

!

SCORE!

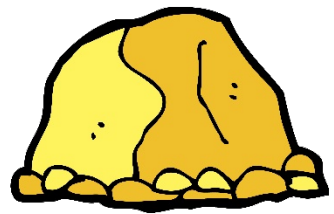
_____ pts



Genuine Gold, Au!

SCORE!

_____ pts

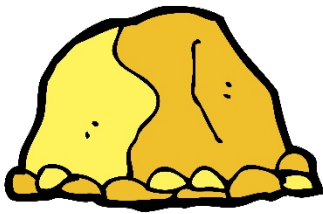


Genuine Gold, Au!

!

SCORE!

_____ pts

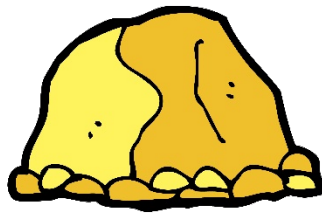


Genuine Gold, Au!

!

SCORE!

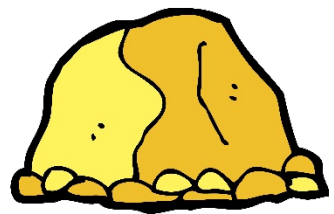
_____ pts



Genuine Gold, Au!

SCORE!

_____ pts

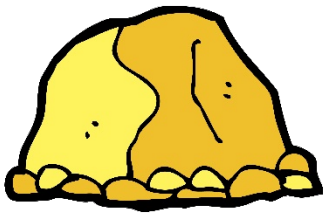


Genuine Gold, Au!

!

SCORE!

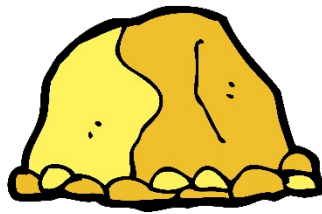
_____ pts



Genuine Gold, Au!

SCORE!

_____ pts

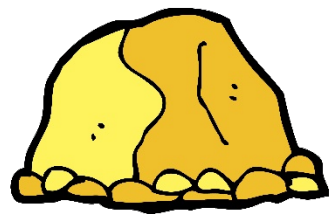


Genuine Gold, Au!

!

SCORE!

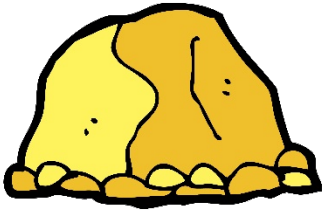
_____ pts



Genuine Gold, Au!

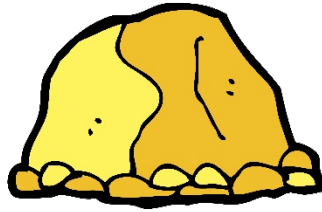
!

Uh, Oh! Oh No!



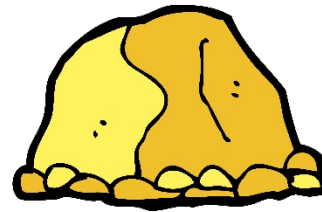
Fool's Gold, FeS_2

Uh, Oh! Oh No!



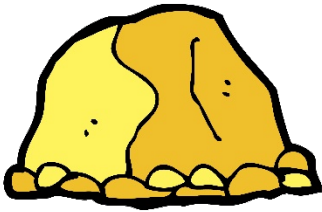
Fool's Gold, FeS_2

Uh, Oh! Oh No!



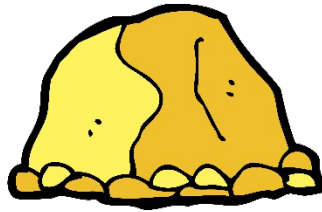
Fool's Gold, FeS_2

Uh, Oh! Oh No!



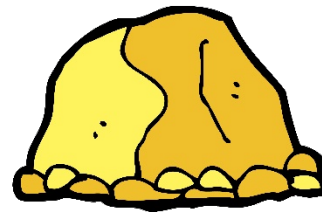
Fool's Gold, FeS_2

Uh, Oh! Oh No!



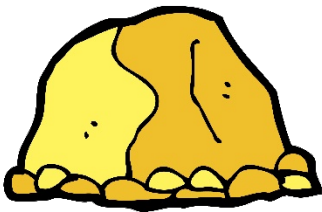
Fool's Gold, FeS_2

Uh, Oh! Oh No!



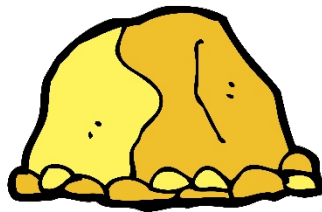
Fool's Gold, FeS_2

Uh, Oh! Oh No!



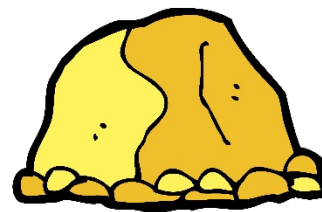
Fool's Gold, FeS_2

Uh, Oh! Oh No!



Fool's Gold, FeS_2

Uh, Oh! Oh No!



Fool's Gold, FeS_2

No Place Like Home?

The aliens are about to head back to their ship, but they don't want to leave.

In the following review game students will be put in teams and challenged to answer questions (about the topics you've covered during the unit) in a battle for ownership of the planet!



Materials:

- Board
- Markers
- Questions from the unit
- Masking tape
- Erasers
- Ball or paper wads
- Hoop or clean garbage can

Battle for the Planet!

1. Split your class into 2 to 6 teams, depending on how fast you want the game to go and how many students you have. Option: Some teams can be humans and some can be aliens!
2. Each team gets 10 "X's" on the board.
3. Each group gets a question. If they get it right they automatically get to erase two

Sample Game Board

Alien Crew 1	Earthlings 1	Alien Crew 2	Earthlings 2
X	X	X	X
X	X	X	X
X	X	X	X
X	X	X	X
X	X	X	X
X	X	X	X
X	X	X	X
X	X	X	X
X	X	X	X
X	X	X	X

X's from the board. They can take it from one team or split it. They cannot hurt their own team (take X's from themselves).

4. Before they take off these X's, though, they have a chance to increase their ability to get the other teams to rather dislike them. They get to shoot the ball.
5. Set up two lines with masking tape. One is a two point line while the other is a three pointer.
6. If they shoot from the two point line and get it in, they can take four X's off the board. If they go from the three point line, and make it in, they can take five off the board. If they don't make it they still get to take the original two off the board.
7. When a team is knocked off they still stay active in the game. These teams still take turns. To get back on the board they need to get the question right and make the basket. If they do this they can earn four or five X's back on the board (depending on from where they shoot). This allows them to stay involved, take part in the review and not shut down. Kids will want to make alliances. With really good natured you can let this process naturally happen. If you have an immature or meaner class, try to stop this due to chances of bullying. Note: You will inevitably get one kid that takes the "attacks" personally. Just try to really reiterate that the object of the game is to knock everyone else off and people are going to get upset but that is okay.
8. The team with the most x's left at the end gets the planet! Will it be the humans or the aliens? ;)

Option: If the team whose turn it is gets the answer to the question wrong, give every other team seconds to try to get the correct answer to try to steal points. If any other team gets it correct, they get to shoot the basketball in order to see if they can steal 2 or 3 points from the teams of their choice. If they miss the shot, then they do not get to take away any points. It allows more opportunities for the basketball to get shot and it helps make sure every single team is participating in every problem.¹

¹ Kara Wilkins "Grudgeball" *Engaging Them All*: <http://toengagethemall.blogspot.com/2013/02/grudgeball-review-game-where-kids-attack.html>

Blurt!

Great for building vocabulary, Blurt! is a riotous game of rapid word recall! Sounds simple, right? But as the race for the right word heats up, and the blurting gets boisterous, it's easy to get tongue-tied!

Setting it Up:

Decide upon a Reader (a teacher, assistant, or one of the students)

Split the group into two or three teams. They need not be evenly divided. If you wish, have each team make up their team name, but have it start with a B.

Blurt Beasts, Blurt Beauties, Blurt Brave, Blurt Bengals, Blurt Butterflies, etc. Place two chairs (or three if you have three teams) at the front of the classroom. Call up individual team members to sit in each chair or "hot seat."

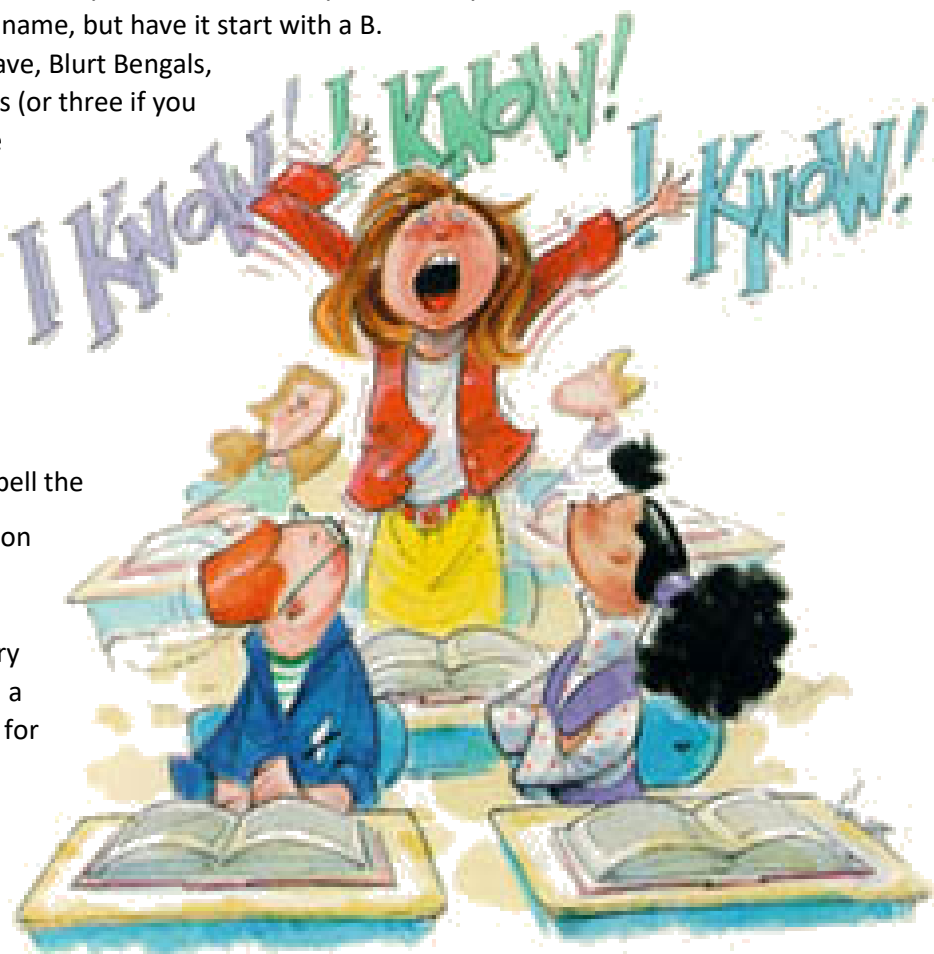
Note: For smaller groups you may wish to simply decide the order of players and rotate through.

Object: Be the first team to spell the word B-L-U-R-T-! (with the exclamation point at the end) first. Being the first player in the hot seat to name three Blurt words from the math vocabulary definitions provided gains your team a letter (or the final exclamation point for the win!).

Option: For a shorter game, players in the hot seats can score a letter by being the first to name one Blurt word from a single definition

provided.

Play: The teacher (game host) reads aloud a grade level appropriate math vocabulary definition so that each of the team's current player can hear. The first to blurt out the word defined correctly, games a point. The first of the players in the hot seat to identify three Blurt words correctly (score three points) earns a letter (or the final exclamation point for the win) for his or her team. The first team to spell out



B-L-U-R-T-! on the black board wins the game. (Another scoring option: Just roll a die and whoever gets the word correct gets that many points. Set a point goal and whoever reaches it wins.)

If neither of the players in the hot seats can correctly identify the word, then any player in the room may answer, once they are called on by the teacher. Players not in the hot seats raise their hands when they think they know the word. If they are correct, they earn a letter for their team BUT, if they are incorrect, their team has a letter deducted. Teachers decide whose hand was raised first to determine which classmate may attempt to answer.

Penalty! Only players in the hot seats may blurt out the answer. If a player not in the hot seat blurts out a word, a letter is deducted for his or her team.

GAME #2: Group Play Version Two

You can play in teams just the same way you would as individuals. When it's one team's turn to play, the other team cannot blurt answers, but can help the Reader decide who on the other team(s) blurted first.

GAME #3: Individual Play!

In small groups, all players blurt word guesses. The first player to blurt the correct words moves ahead in points and/or gains their letter to spell BLURT!

Additional Challenge: Bid to Blurt!

This variation allows players (or teams) to bid on the number of words out of the definition in which they think they can identify the correct answer. In this way, a fairly easy clue can become extremely difficult. Example:

If you get to blurt, start bidding against other players on how many words of the definition you think you'll need to hear in order to guess the correct word. You only get one guess!

It might go something like this, "I can blurt it in 6 words!"

"Oh yeah, well I can blurt it in 5 words."

"I can blurt it in 4."

"Then blurt that word!"

If you're the low bidder, you get a chance to blurt all by yourself.

Even the Score! If one team is way ahead of their competition let the trailing challenger have a chance through several head-to-head challenges.

Safe or Sorry?

A push your luck dice game for two or more players that's an opportunity to keep score and practice addition, especially with an eye on landmark 5s and 10s.

How to Play

All the players roll a die. Add them up for a total.. You can stay and take that many points and be safe or keep rolling.

Note: If the total for the turn is ever a multiple of 5 – the turn is over, everyone who rolled gets zero points

Whoever is still going rolls again and adds the points to their turn total. If the new total is a multiple of 5, the turn is over, you go back to zero points.

After each roll, you have to decide: Stay safe and take the points or keep rolling. If the total is a multiple of 5, though, sorry, the turn is over and you get zero points for that round.

The longer you stay in, the riskier it gets! If the total for the round/turn is over 50, multiples of 3 also give you zero.

Example: 3 players: Ann, Bill and CeCe.

Ann rolls 3, Bill a 4 and CeCe a 5. Total $3+4+5=12$

Bill stays and scores 12. Ann rolls a 2, CeCe rolls a 6. $12+2+6 = \dots 20!$ That's a multiple of 5.

Score: Ann = 0, Bill = 12, CeCe = 0.

Next turn: Ann, 4; Bill, 4, CeCe, 3: $4+4+3 = 11$. Ann stays and scores 11. Bill and CeCe roll: 3 and 5.

$11+3+5=19$. Bill stays and scores 19. CeCe rolls again: 5. $19+5=24$. She rolls again: 5. $24+5=29$. She rolls again: 6. $29+6 = 35!$ She loses all the points.

Score: Ann = 11, Bill = $12+19 = 31$, CeCe = 0.

You have to know when to stop, CeCe!

Winner is the first player to 150. If more than one player is over 150, they all win.

Variation Option: As a catch-up mechanic--when someone else opts out you can choose to come back in.

Backwards Math!



Just like in a camera math can be flipped upside down and backwards from the way we normally see it and do it. The following activities provide excellent practice through individual and collaborative activities that stress problem solving and critical thinking, ex. as applied to order of operations and math problems. Classes and groups of students will be challenged to work together to explore and complete the tasks.

These activities will also give you an opportunity to introduce and practice the order of operations:

- a. Do work inside **parentheses**.
- b. Solve **exponents**.
- c. **Multiply** and **divide** from left to right in the problem.
- d. **Add** and **subtract** from left to right.

An easy acronym to help remember the order of operations is P.E.M.D.A.S.: “**P**lease **E**xcuse **M**y **D**ear **A**unt **S**ally.” Parentheses, Exponents, Multiply, Divide, Add, Subtract!

Materials:

- paper
- calculators
- printouts
- pencils
- butcher paper

Tell the students that today’s math will be backwards. You will give them all the answers. (This will usually make them pretty happy.) However, tell them that they must come up with the correct problem to the answer.

Variations:

1. Younger students may be given a limited range of numbers, ex. 1-10, as solutions. Students must come up with as many problems as they can that correctly have those numbers as their solutions within a limited amount of time, ex. 60 seconds. Students must use each of the required grade level appropriate skills within their problems at some point, ex. multiplication, division, subtraction, addition.
2. Have students do as many problems as they can with a specific number, ex. 10, as the second number in the problem, using their grade level appropriate skills, ex. multiplication, division,

subtraction, addition, within a specific time period, ex. 3 minutes. Note which areas your students struggle with and continue practicing basic skills and build upon those and go deeper as their skills go.

3. Give students part of the answer, ex. the answer must be a two digit answer, ending in 5. Students must come up with as many problems as they can that correctly have that numbers as the second number in their solutions, ex. 35, 25, 75, 150, within a limited amount of time, ex. 60 seconds. Students must use each of the required grade level appropriate skills the teacher declares, ex. multiplication, division, subtraction, addition.
4. Draw a grid like the following on the board and give the students two or three minutes to write as many addition and subtraction, multiplication, or division equations as they can based around the included digits [the following numbers may be changed, the grid is a sample].

15	9	6	7
3	12	8	5
7	4	13	2
5	1	11	10

The numbers in the equation must be connected vertically, horizontally, or diagonally. For example, with this grid these are acceptable: $15 - 12 = 3$, $5 + 7 = 12$ (but not $7 + 5 = 12$), $15 - 3 - 7 = 5$. Equations must involve two or more numbers, and one or more operations, but no number can be used twice.

Scoring: After time is called, have players take turns (in a clockwise circle) reading the problems they wrote down for each solution. If another player or players have the same math problems everyone must cross it out, only unique math problems get points. If a player reads off a problem that another player thinks is incorrect, you can either use a calculator as the deciding factor, or all players can vote on it. If it's decided it's not a valid problem, then the player who read it must subtract a point. There is no penalty for writing down an invalid problem (no other players have to subtract points if they have it written down), there's only a penalty if they decide to read it out loud during the scoring period.

Students gain points for each equation only they have recorded. One point is given for each number used in the equation, for example, $15 - 3 - 7 = 4 + 1$ earns five points! The player with the most points wins.

Once all players read their problems, they announce their scores to the group.

Backwards Math can either be played round by round (ie. there's an individual winner for each round separate from other rounds), or a cumulative score can be kept to have one overall winner at the end of the game.

Option:

For easy assessment, have students work in teams. One partner verifies the solution of another student. If they believe it's correct, they record it on the chart

Auctioneer... Going Once, Going Twice!

Develop a list of math problems based on your students' grades, standards, and skill levels.

Questions might involve addition, subtraction, greater than/less than, division, multiplication, word problems, identifying a missing number in a number sequence, and so on.

This game can be used to practice any math skill that your students need to hone up on and they'll have fun doing it.



Preparation:

- Make simple auction 'paddles' (rulers or paint or stir sticks with pieces of paper work great) for groups
- Make up a worksheet with 2 columns. The left column will have 10 equations to solve. The right column will have 10 answers. 50% of the answers should be correct. 50% should be incorrect.

How to Play:

Depending on the class size, break the class into pairs, groups of 3 or 4, or have kids work individually. Announce that we are going to have an auction.

Each pair will be given a list of auction items, which are lists of math problems that use the needed math skill and an imaginary amount of money, represented on paper or by play money.

Present each group with their own paddle to bid with. Each group gets \$1,000.

Give the students time to solve each equation and decide whether the answers are correct or incorrect.

The auction list should include a 50/50 ratio of correct and incorrect problems.

In their group, the students need to compare their answers. What questions have the correct answers

given? Which answers were incorrect?

The goal of the review game is to be the team that purchases the most correct questions. Purchasing an incorrect question will cause you to lose an additional \$500 at the end of the game!

If there is a tie, the team with the most money left over wins.

After the students review the auction list, begin the auction. Students will bid on each problem based on whether or not they think it is correct.

The auction starts. Each group decides how much they want question one. Debates ensue over whether the answer given was correct or not. Students disagree. Decisions must be made. This is a fast-paced auction, after all!

After all the questions have been auctioned off, work out each problem on the board.

Count up how many correct questions were purchased by each team. Yes, there will be the teams that spend almost all of their money on one question. Then, there will be the teams that are too frugal with their money and end up with lots of money and only a single question in their possession.

A correct problem means you get your money back; an incorrect problem means you lose your money.

Students must keep track of their remaining funds [subtracting as they go]. Have students check answers and count up the money after all the math problems are auctioned off.

The pair/team with the most money at the finish wins the game.





Guess Two? What's Your Number?

Create this game by using the famous "Guess Who?" Game (or the included printable board).

Students must find the hidden number. Kids ask questions like Is the number greater than/less than....? Is the number between ___ and ___? Is the number in the tens place ___? etc. No two questions in a row can make the same comparison. Or students may ask in number sentences- - Is the number $5+1$?

Game 2: This time, the students must ask about specific numbers, e.g. 6. And in order to ask a question they have to state a number sentence. E.g., Is the hidden number $5 + 1$, $7-1$ or $3 + 3$...? Etc. Or, by multiplication: 2×3



What Number?

Make & Take

[Game created by: John Golden and Nick Smith](#)

Materials:

- Decks of playing cards

Goal: be the first team to take 10 cards.

Set up: Shuffle and deal each team 5 cards. Face cards have number value: Ace=1, Jack=11, Queen=12, King=13.

Option: If you play with Rook card decks you have the numbers 1-14 to play with

The play:

1. Choose a card and hold it out face down. When both of you are ready, flip.
2. You are trying to combine your remaining four cards with operations to make the other team's card.
For example: They show a Jack(11). If you have a 2, 3, 4, and a King, you could make it with King(13) $- 2$, or 2×4 then $+3$, or many other ways.
3. If you can make their card with two or more cards, take it! (So you can't catch a King with another King, but you could with King \times Ace.)
4. If you can't make their card, it gets discarded. Nobody gets it.
5. Draw cards until you're back up to 5. Choose your next card to flip.
6. When any team has caught 10 cards, the game ends. The team with the most cards wins. If it's a tie, add up your captured cards. The team with the highest total wins.

Variations:

- Nonmatch: show your hand and claim that you can't make the target. If your opponent sees a match, they get it. If not, then you get it.
- Bonus: if you made their card with all the same suit, also take the smallest card you used to make it.
- Example: you can make their 6 with a $2 \spadesuit + 4 \heartsuit$, that's good. But if you can make it with $8 \spadesuit - 2 \spadesuit$, that's better, because you can also take the $2 \spadesuit$!

- Double Bonus: if your cards match suit and match the suit of the target, get their card and the 2 smallest cards you used.

Adjustments:

- Too long for your students' attention? Cut the winning condition to 7 cards.
- Has it gotten too easy? You can always match? Try with one less card, and only deal 4 to each player.
- Simpler: Allow catching by matching.
- Simpler: Play with a limited set of operations, like just + and –
- More complex: Play with more operations, like roots and exponents.
- More complex: Play with signed numbers: black = positive and red = negative.

Monopoly Money Madness!

Materials:

- Play money
- 2 dice per group

Math content:

- Addition
- money recognition
- unitizing (grouping into new amounts.)

Game play:

Very simple – roll two dice and take that much money. If you can group your money into a larger bill (for example, five and five ones into a ten-dollar bill). First player to \$100 wins.

Change for the Better

Materials:

Each player needs 1 quarter, 2 dimes, 3 nickels, and 4 pennies.

Rules: Play in groups of 2 to 6. Each player takes a turn. On their turn they put in one coin. They can take out a combination of coins that is less than the value of what they put in. For example, if you put in a dime (10¢) you can take back up to 9¢ – if it is there. Play continues until only one person has money left.

Instruction:

Beginning players should just concentrate on the moves of the game. After students have gained some experience with the game, they can try recording their games to translate to symbolic representation. The data collected can then be examined for patterns.

Make It, Take It!

A dwindling resources money game for 2 players or teams created by [mathhombre](#)

Materials:

- Play coins or coin pictures or cards
- Amount cards.
- [Record sheet](#) if desired.

Play:

1. Put the coins in the center.
2. Shuffle the amount cards and make a stack.
3. Players each turn over an amount card, and the player with the smaller amount goes first.
4. During each turn players turn over an amount card and see if they can make that amount with the coins.
5. If they can, they take the coins. If they cannot, it's the other player's turn.
6. Play until all coins are gone, or both players in a row can't make their amounts.
7. The winner is the player with the biggest total value of coins they collected.

Variations:

Recommended starting amounts – 4 quarters, 6 dimes, 8 nickels, 10 pennies. Other amounts can be used. Teachers can add amount cards for more complicated amounts.

Players can roll two dice to determine the amount. (Note the dice variation requires more pennies.) Advanced play allows people to make change with the coins they've collected. For example, trading a

dime from the center with two nickels they have taken before.
Players can use dollar value charts to keep a running total.

Sample Game Play:

Bill and Keenya have been playing for a few turns.

Bill turns over 12 cents and takes two nickels and two pennies.

Keenya turns over 25 cents, but there are no quarters left. She takes five nickels.

Bill turns over 50 cents and cannot make it.

Keenya turns over 6 cents and takes a nickel and a penny.

Bill turns over ...

Tips for Instructors:

As with most games, it is recommended to play a game with teacher vs. the whole class to launch the game.

Emphasize the variation in ways to make an amount by soliciting other possibilities from the students.

Ask questions like “what card would be good to turn over next?” or “what card would leave me with no possibilities?”

If someone is stuck, encourage good sportsmanship in helping them figure out a way to make the total. If that doesn't seem to be working, or you are worried about their ability to make the amounts, students can play in a team of two vs. another team of two.

Many students will try a place value approach first, taking dimes and pennies. This will rapidly run them out of one or the other, forcing them to find other amounts. The amount cards concentrate on values that can be made with one, two or three coins, though several can be made with many more coins.

Post-Game Discussion:

The teacher may wish to have students share their strategy for figuring their total at the end of the game. It is important to summarize by having students describe how they knew if they could make an amount or not. Another interesting discussion to start is if there is a strategy for better ways to play the game – is there an advantage to using fewer or more coins to make your moves?

25 cents	10 cents	5 cents	1 cent
50 cents	35 cents	30 cents	26 cents
20 cents	15 cents	11 cents	10 cents
6 cents	2 cents	27 cents	12 cents
7 cents	25 cents	10 cents	45 cents

