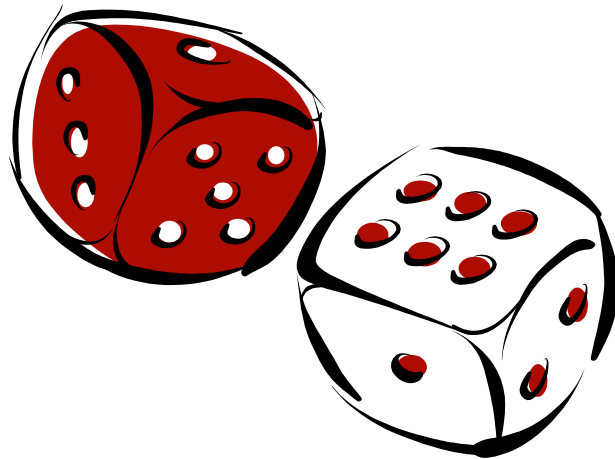


Instructional Maths Games



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Instructional Maths Games

Table of Contents

Number Concepts

1. Juniper Green (factors and multiples)	4
2. Chalkboard Relay (multiples)	17

Number Facts

3. Numero Uno.....	6
4. Multiplication Showdown Game	7
5. Add It.....	10
6. Popcorn Balloon Game.....	21
7. The Moon	23
8. 52-Card Multiplication.....	27
9. Doughnut Race	36

Vocabulary and Spelling

10. Alphabet Search	13
11. Caboose	15
12. Unscramble Me	24
13. Password	28
14. Third Letter Game.....	30
15. Categories II.....	34

Rapid Recall of Information or Facts

16. Around the World.....	14
17. Fingerprint.....	20
18. Categories.....	25
19. Board Race.....	32
20. Row Races	33

Unit Review or Test Prep

21. Stump the Panel	9
22. Double Diamond Baseball.....	11
23. California Countdown.....	16
24. Answer It!.....	18
25. Tic-Tac-Dough	22

Practice Extended Response Questions

26. Cut Throat	19
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Students love to play Maths Games. They are great at motivating students to do practice and drill. They are also a wonderful "dessert" - once the class finishes their broccoli (the normal class work, apologies to broccoli lovers) they can have their dessert (the Maths Game).

Not all games are created equal, however.

- Some games are a real hoot, while others are just a tad better than worksheets. I have done extensive research on this. Guess which games students prefer?
- Some games take hours to prepare. Others can be played with minimal preparation. Guess which games teachers actually use?
- Some games have their focus on the game, and less so on the maths. Other games have students doing maths most of the time. Guess which games are more mathematically relevant?
- Some games can only be used for one particular topic, while others can be used across the curriculum. Guess which games teachers tend to use?
- Some games require students to put a lot of time into learning the rules of the game, while others can be learned in a minute or two. Guess which games result in more maths being done by the students?

To me, an exemplary maths game:

- is great fun! If it is great fun, the kids dearly want to play it, so it can be used as an incentive for students to first complete other work (or start the lesson quickly, or to not call out, or . . .)
- requires minimal preparation. Otherwise you have a great game that is rarely played. Put your hand up if you would prefer to be making bingo cards or relaxing with family or friends on Sunday night.
- requires all students to do heaps of maths while playing. If it doesn't, don't waste the students' time. Or yours, for that matter.
- has rules that are dead easy to learn. The focus is the maths, not the game.

Many of the best games are generic, i.e. the same game can be used across topics. Once you find a game that the kids love, you want to keep using it. But there are also some great games that are topic specific.

Of course if a game requires a lot of preparation, but someone else has done the preparation for you, that is great as well! Bingo games are great fun, but making up the cards and questions can be very time-consuming. But if someone gave me a class set of Bingo cards and the accompanying questions, I would grab them (and thank that person profusely, to encourage them to give me even more stuff).

Some useful ideas

Some games require a team member to be chosen at random. A nice easy way to do this is for each student to write his or her name on a Popsicle stick. Then divide the sticks into 2 groups (or more, if there are more teams). Draw a stick at random from the appropriate group to choose the next student.

Some games require that the responses are scored. Here is a simple way to ensure accurate scoring. The responses of Team A are scored by Team B. Then the scoring of Team B is checked by Team A. If Team B marked Team A's list incorrectly, they lose points (how many points depends upon the game) for every marking error they made.

Some games require that teams of equal ability are formed. Assume that you need 4 teams. Ask 4 students (it doesn't have to be the best students) to work together to form 4 teams of equal ability. Each of these students will be assigned to a team at random, so there is a lot of incentive to make the teams fair.

And a point to ponder

The purpose of instructional maths games is to consolidate existing knowledge or develop swift and accurate responses by the students.

So, if a student is using an ineffective strategy (e.g. counting on their fingers to add numbers), using a game that requires that skill is only reinforcing the ineffective strategy, and not helping the student develop a more effective strategy.

Instructional maths games should only be used to reinforce students' use of appropriate mathematical procedures.

Acknowledgements

Many of these games are from www.fredjones.com. Others have been contributed by maths teachers willing to take time to share games that their students enjoy playing.

Now, onto the games!

Juniper Green

Objective:	Practice at factors and multiples
Materials and Preparation:	A 10 x 10 Grid per player, with cells numbered from 1 to 100.
Student Grouping:	Pairs, or two teams of 2 players each.

The Play:

1. Students decide who is going first.
2. Each student (or team) takes turns choosing one number from the matrix. Each used number is circled and cannot be used again.
3. Apart from the opening move, each number chosen must either be a factor of the previous player's choice or a multiple of the previous player's choice.
4. The first team who is unable to play loses.
5. The opening move in the challenge must be an even number - this is to avoid the "big prime tactic" from ending the challenge too soon.

Comments / Variations

As with most skill games, practice is required. There are openings and moves that can be bad:

Move	Team A	Team B	
1	38		: even number as required by rule # 4
2		19	: one half of move 1
3	1		: bad move!
4		97	: big prime tactic
5	loses!		: primes are only divisible by 1 (gone) and themselves (gone)

Número Uno

from Dawn Bartlett

Objectives	Students practice multiplication facts
Materials Needed	One deck of normal playing cards
Student Grouping	Individual

The Play:

1. Remove the picture cards from the deck.
The value of an Ace is 1, and the value of a 10 is 0.
2. The teacher draws a game board and students copy it into their notebook. The game board is simply an algorithm layout with boxes for digits. Start with adding two 3 digit numbers and go anywhere from there to include different operations, decimals, fractions,
3. The teacher states the goal: largest answer or smallest answer or answer closest to a given number or

The teacher shuffles cards and flips one card at a time. Everyone writes digit onto game board. Teacher fills game board in order left to right, top to bottom.
4. When game board filled, teacher and students find answer to their calculations.

Scoring

Students score 1 point if answer same as teacher's number, students score 2 points if answer is closer to goal than the teacher's number.

The winner is the student with the most points after a set amount of time or the first to a given number.

Comments or Variations

There are a thousand and one variations. The game can become quite challenging quite quickly by exploring "what if" due to development of place value concepts and understanding of algorithm mechanisms.

Multiplication Showdown Game (Grades 4-10)

Objective:	Quick multiplication review
Materials and Preparation:	Two sets of cards numbered from 1 to 12 (or just have some blank cards and number them as you go)
Student Grouping:	Whole class

The Play:

1. Choose 2 students to start. The students stand at the front of the room, facing the class. The teacher places a numbered card on the forehead of each student. The student holds the card in place, but they must not see the card. Each student can see the number on the other student's card, but not on their own card.
2. The teacher says the product.
3. The first student to say their number is "The King".
4. That student stays up, and another student challenges him or her.

Comments or Variations

Divide the class into 2 groups. Each person from one group competes against a person from the other group. The person that wins earns 1 point for their group. The group with the most points wins.

The teacher says the sum, rather than the product.

The numbers on the cards can be changed so the students are working with decimals or fractions.

N.B. This game doesn't work with subtraction or division, as each problem has two possible answers. Also zero doesn't work with multiplication (unless as a joke you want to give one player a HUGE advantage).

The 8 - 4 - 2 - 1 Game (Grades 4-10)

Objective: The object of the game is to make all of the numbers from 1 to 15 as quickly as possible.

Materials and Preparation: 4 cards, numbered 8, 4, 2, 1, some tape or Blu-Tack (or, the teacher writes these numbers on the board).
Stopwatch or other timer.

Student Grouping: Whole class

The Play:

1. Tape or stick the cards on the board at a height that is about 1 foot above the students' heads. The numbers should be about 2 feet apart.
8 4 2 1
2. Student A stands facing the board between the 8 and the 4. He is in charge of these numbers.
3. Student B stands facing the board between the 2 and the 1. She is in charge of these numbers.
4. The timer is started. The teacher says the number 1. Student B puts her hand on (or just below) 1.
5. The teacher says the number 2. Student B puts her hand on (or just below) 2.
6. The teacher says the number 3. Student B makes 3 by putting his left hand on (or just below) 2, and his right hand on (or just below) 1.
7. The teacher says the number 4. Student A puts his hand on (or just below) 4.
8. The teacher says "5". Student A makes 4 by putting his hand on (or just below) 4, while B makes 1 by putting her hand on 1.
9. Continue, until all numbers from 1 to 15 are made. When 15 is made, the game is over. Record the time.
10. Other pairs of students try to beat the time.

Comments or Variations

Have more than 1 team at the board at the same time. The teams compete against each other. You will need a separate set of cards and a separate time for each team.

Add the cards 16 and 32, and 1 more student. The three students can now make all numbers up to 63.

Stump the Panel (Grades 3-12)

Objective:	Unit or chapter review
Materials and Preparation:	Students prepare questions from the unit or chapter.
Student Grouping:	Total class

The Play:

1. Select or ask for five volunteers to be on the panel.
2. The class tries to stump the panel by asking questions from the unit.
3. The panel member selected is given 30 seconds to answer the question.
4. If the panel member can correctly answer the question, they remain on the panel.
5. If the panel member is stumped, the person who asked the question may answer it and become the new panel member.

Add It (Grades 2-10)

Objective:	Quick addition review.
Materials and Preparation:	Paper and pencils
Student Grouping:	Total class

The Play:

1. The teacher announces any number and an addend. For example: 7 and 4.
2. The students write and add the two numbers and continue to add the same addend to the new sum until the teacher calls stop at the end of one minute.
3. Class stands and a volunteer begins reading problems and answers aloud, slowly.
4. As students no longer have the answers, they are seated.
5. The student left standing is the winner

Comments or Variations

The number and addend could be integers, decimals or fractions.

The operation could be subtraction, or doubling or halving.

Double Diamond Baseball (Grades 1-12)

Objective: Test Review

Materials and Preparation: The teacher or students prepare questions in four degrees of difficulty; single, double, triple, home run. Two baseball diamonds will be needed in order to use a Ping-Pong game format. Mark the bases on the floor (or on an OHT - see below).

Student Grouping: 2 teams

The Play:

1. A student is chosen at random to be the batter. The batter is asked by the pitcher to pick the level of difficulty of their question - single, double, triple, or home run.
2. The pitcher selects and asks a question from the single, double, triple or home run stack. If, however, the teacher is "pitcher" and does not have stacks of questions already prepared, he or she can just ask questions off the top of his or her head.
3. If the student answers correctly, the student walks to the appropriate base and other runners advance the same number of bases.
4. If the question is answered incorrectly, a "fly ball" is called, and the question goes randomly to a player of the team that is "in the field."
4. When you say "fly ball," wait before calling on a student so that everyone in the field must try to determine the answer.
5. If the player in the field answers the question correctly, the fly ball has been caught and the batter is out.
6. If the outfielder misses the question, the fly ball has been dropped, and the batter goes to first base on an error. All runners advance one base on an error.
7. When using the Ping-Pong game format, the questions alternate between teams. So, the second question goes to the team that was in the field (i.e., playing defense) during the previous question. The Ping-Pong format guarantees that both teams get to bat an equal number of times, that everybody plays all of the time, and that both teams are continually engaged in scoring runs.

Scoring:

The "Ping-Pong" format does away with innings. In order to make outs meaningful, compute the final score as runs minus outs.

Further Play:

Pick four students of roughly equal scholastic ability to be captains. They do not need to be fast students. In fact this is a nice chance to honor some of your slower students. Give them your class list and say:

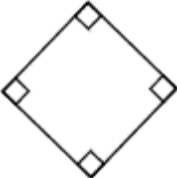
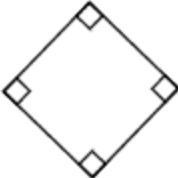
"I want you to take this class list to the table in the back of the room and make equal teams for me. Horse-trade until they are equal because you will have to live with them."

If you wish to add a further guarantee of fair play, say to the students:

"It is your job to choose and trade until the teams are equal. After you give me equal teams, you will draw lots to see which team you will captain."

Diagrams/Samples/Examples:

Keeping track on the chalk board

Team 1	Team 2
<p>Score</p> <p>Runs</p> <p>-</p> <p>Outs</p> <p>Total</p> 	<p>Score</p> <p>Runs</p> <p>-</p> <p>Outs</p> <p>Total</p> 

Comments or Variations:

Most 4-Level games follow a Ping-Pong format with the question going to the opposite team if missed. It is best to play such games open book. You will find the players on defense digging for the answer as soon as it is asked. Since kids hate doing nothing, you will usually find the rest of the students on the team that is "at bat" digging for the answer as well.

Football is similar except that the defense can "sack the quarterback" for a ten-yard loss when the student picks a 10-yard question, or they can intercept a 20, 30 or 40-yard pass play.

If you have any questions about rules, turn it over to the students. They will make sure the rules are fair. And, speaking of keeping things fair - a perennial preoccupation with teenagers - how do you choose teams fairly?

Alphabet Search (Grades 2-12)

Objective:	To aid the students in recalling maths terminology given over a long period of time.
Materials and Preparation:	Paper and pencil
Student Grouping:	2 to 8 teams, with a recorder on each team.

The Play:

The teams, using the alphabet as a base, will find as many Maths words as possible. At the end of the allotted time, the team members will turn their papers in to their recorder for tabulation.

Scoring:

1 point is given for each word. 10 bonus points are awarded if all 26 letters have accompanying words.

Examples:

- A arc, abacus, acute
- B base, billion
- C congruent
- D decade

Comments or Variations

If you play the game regularly, students will begin to make mental (or written) notes of new words presented in the curriculum to use during Alphabet Search.

A variation is to give 2 points for a word where a definition or example is also provided.

This game loses some of its effectiveness if there is a word wall in the room!

Around the World (All Grades)

Objective: Fast recall of important information or calculations.

Materials and Preparation: A list of questions or problems for review.

Student Grouping: Total class

The Play:

1. If its not too difficult, put the students in a circle. Otherwise, just go from desk to desk in a pre-determined order.
2. The first student stands beside the seat of the second student.
3. The teacher asks a question or shows a flashcard to both of the students at once.
4. The first to answer correctly wins and gets to stand beside the seat of the next student in line.
5. The student who misses sits down.
6. The play continues as students rotate around the room.
7. At the end of the playing time, have the students count the number of seats they have moved during the game.
8. The two students who have moved the most stand and face each other for one last question or problem. The first one to get it correct is the winner!

Caboose (Grades 4-9)

Objective:	To encourage Maths vocabulary enrichment while emphasizing spelling
Materials and Preparation:	None
Student Grouping:	Two or more Teams

The Play:

1. The first student says a Maths word, or a word in a particular category, such as Geometry.
2. The first student on the second team must give a Maths word beginning with the last letter of the previous word. If the word was 'arc', the chosen student from the next team has to name a word that begins with the last letter of the word. For 'arc', the word could be 'congruent'.
3. Points are given for each correct word.
4. Words may not be used more than once in the same round. You have to decide if the same word can be used in a different round.

Scoring

The team with the most points wins.

Comments or Variations

The scoring could be changed so if the person who is chosen gets it correct, the team gets 5 points. If the chosen person can't answer, then anyone on the team is allowed to answer, but the team only gets 1 point.

California Countdown (Grades 4-12)

Objective: Test Review and Teamwork.

Materials and Preparation: Prepare two types of questions appropriate to the subject area - Toss-Up" questions and "Bonus" questions. "Toss-Up" questions should require accuracy and speed. "Bonus" questions, since they may be answered by the total team, can require lengthy answers involving cause and effect and detailed explanations.

Student Grouping: 2 teams, each with a captain.

The Play:

1. Ask a "Toss-Up" question. The first hand up on either team is allowed to answer the question.
2. An incorrect answer costs the team 5 points, and a student from the other team gets a chance to answer the question.
3. If answered correctly, the team gets 10 points and a chance at a "Bonus" question.
4. A "Bonus" question may be answered by the team's captain after discussion with the team. A correct answer is worth 20 points. There is no penalty for an incorrect answer.

Scoring:

- 10 points for a correctly answered "Toss-Up" question
- 5 points penalty for incorrect answer to "Toss-Up" question
- 20 points for correctly answered "Bonus" question

Comments or Variations:

According to one teacher, "Student enthusiasm for this variant of College Bowl is unbelievable".

After students become familiar with the appropriate types of questions, have each student write 4 good "Toss-Up" and 4 "Bonus" questions, with answers.

Chalkboard Relays (Grades 4-9)

Objective: Fast recall of multiples of a number

Materials and Preparation: Chalkboard space, chalk, categories

Student Grouping: 4 teams of equal size.

The Play:

1. The teams are lined up across from the chalkboard.
2. The teacher gives each team a number. The first student in each line writes one multiple of the number. He or she then hands the chalk to the next student in line, and takes his or her seat.
3. The next student writes another multiple, hands the chalk to the next student in line, and takes his or her seat. The game continues until all students are seated.

Scoring:

First team seated - 100 points

Second team seated - 90 points

Third team seated - 80 points

Fourth team seated - 70 points

Plus 20 points per correct number

Comments or Variations:

Teacher gives each team a fraction. Students race to write equivalent fractions.

Teacher gives each team a decimal or percent. Students race to write equivalent fractions.

Answer It! (Grades 3-12)

Objective:	To review materials for a test
Materials and Preparation:	Paper and pencils
Student Grouping:	4 groups of equal size

The Play:

1. Before the game, each group writes 10 questions and answers about what they have learned.
2. A group member asks a question to the whole class. The first hand to go up from another group gets to answer the question.
3. If that person answers correctly, he or she gets a point for his or her team. If the answer is incorrect, the teacher chooses someone from another team to get a try at the question.
4. If no one can answer the question, the team who asked it gets a point. As long as their answer is correct, of course!
5. The play continues with each team taking turns asking questions.
6. The game is over when time is up or when all the questions have been asked.

Scoring:

The team with the highest score wins.

Comments or Variations:

When creating the questions, your students will review the material. During the game the students will also be reviewing important information. These two reviewing sessions add up to a lot of learning and fun. You'll be amazed at the tough questions your students will ask and answer.

Cut Throat (Grades 3-12)

Objective:	Practice for extended response questions.
Materials and Preparation:	Chalkboard space, chalk, prepared questions or problems.
Student Grouping:	Divide the class into 4 teams of equal size.

Initial Play:

1. The teacher picks two members of each team to go to the board. The students are given a question by the teacher. Their job is to write a complete solution to the question.
2. Each pair of students at the board may collaborate with each other and with the seated team members. One of the students acts as writer, the other student as the runner.
3. Caution students not to get too loud or the other team may hear them.

Scoring:

- First chalk in tray - 2,000 points
- Second chalk in tray - 1,500 points
- Third chalk in tray - 1,000 points
- Fourth chalk in tray - 500 points

Further Play:

1. Now the class plays Cut Throat! The teacher asks the other teams critique each team's solution.
2. If errors are found, the teacher subtracts points from that team's score. Consequently, teams can hack away at each other's scores by finding errors - a fiendishly enjoyable activity. Teachers can assign different values to different kinds of errors as they see fit.

As an option, teachers can also assess penalty points for an incorrect critique. This prevents students from guessing. Allowing team members to collaborate in the critique adds a strong element of cooperative learning.

Fingerprint (All Grades)

Objective:	Reinforce skills and information - fast recall.
Materials and Preparation:	Write at random on the chalkboard answers to questions like those on the upcoming test.
Student Grouping:	2 teams, equally balanced

The Play:

1. Have the two teams line up single file about 20 feet away from the chalkboard.
2. Announce the question. The first person in line for each team runs up to the board and touches the appropriate answer. A team player may only touch one answer.
3. The first person who touches the right answer earns a point for the team.

Scoring:

The winning team has the most points at the end of activity.

Comments or Variations:

Running to the board and spotting the answer may be an equalizer for those students who are not fast with the answer. This game may be used from kindergarten to high school.

Popcorn Balloon Game (Grades 3-8)

- Objective: Multiplication review for a popcorn party.
- Materials and Preparation: Pencils, balloon, popcorn kernels, paper plates, sheet of paper with 9 balloons drawn on it for each student, popcorn popper.
- Student Grouping: Divide the class into small groups (6) and have each group sit close together for sharing.

The Play:

1. Each group will have:
 - a. one paper plate with a handful of unpopped popcorn kernels.
 - b. one paper plate with a star drawn in the middle.
 - c. a copy of the "balloon sheet" and pencil for each student.
2. Each student is directed to fill the 9 balloons on their "balloon sheet" with numbers chosen from 1 to 12, one number per balloon. Students may put the same number in two balloons - e.g. a student could write 7 twice, in different balloons.
3. The teacher calls out a number. (Example: 18) and each student sees if they can make the number by multiplying numbers in their balloons. (Example: $1 \times 2 \times 3 \times 3 = 18$).
4. If the student has the balloons #1 and #2, and two balloons with #3, they put a popcorn kernel in each balloon.
5. The teacher calls time after designated time (20 seconds, 30 seconds, etc.) and asks the students the factors of the number.
6. Every student who put a kernel on the factors of the number may take those kernels, and only those kernels, and place them on the star paper plate. The star paper plate now contains the beginning of the popcorn to be popped for the party.
7. "Balloon sheets" are cleared of kernels and the teacher calls another number.
8. The popcorn balloon game is over when time is up or when you have enough popcorn for a party. If there is not enough popcorn for a party, collect the kernels they have earned towards the party in a jar and add to it the next popcorn session until you have enough.

Watch out for numbers like:

24 = $8 \times 3 \times 1$, $6 \times 4 \times 1$, $3 \times 2 \times 4 \times 1$, $3 \times 2 \times 2 \times 2 \times 1$, $12 \times 2 \times 1$, $6 \times 2 \times 2 \times 1 = 22$ possible kernels

36 = $6 \times 6 \times 1$, $3 \times 2 \times 6 \times 1$, $9 \times 4 \times 1$, $12 \times 3 \times 1$, $3 \times 4 \times 3 \times 1$, $3 \times 2 \times 2 \times 3 \times 1 = 22$ possible kernels

Tic Tac Dough (Grades 4-12)

Objective: Test review and teamwork.

Materials and Preparation: Four slips of paper for each student.

Each student is assigned a number from 1 to 9. Each student writes four questions and answers on four separate slips of paper. On the back of each slip of paper they write their number. Therefore, all of the questions by the same student have the same number. The questions are turned in and put into nine stacks according to their number.

Student Grouping: 2 equal teams

The Play:

1. The first student on Team A selects a number off the Tic Tac Dough board which is written on the chalkboard.
2. The teacher selects and asks a question out of the same number stack that the student has selected.
3. Anyone on Team A can give the person who selected the question the answer. However, the person who is "it" must say the answer.
4. If his/her answer is correct, an "X" or "O" is put in the numbered square that he/she selected. Then it's Team B's turn.
5. If the answer is incorrect, Team A loses their turn, and Team B is up.
6. Once an "X" or "O" is placed in a particular square, questions from that numbered stack may not be used for the rest of that game.

Diagrams/Samples/Examples:

1	7	3
6	9	5
4	2	8

The Moon (Grades 3-12)

Objective: Addition review and probability.

Materials and Preparation: Dice plus paper and pencil for score keeping. However, this may be played with the entire class at once with an overhead projector. The teacher rolls until a one appears during each turn. Students may stop at any time and add the score.

Student Grouping: 2-5 players

The Play:

1. The object of the game is to have the highest score after 10 turns or to be the first player to reach 100.
2. The players take turns rolling the dice.
3. Each player may roll as many times as he wants, adding up the numbers rolled. If the player rolls a one, he or she loses all points accumulated during that turn. If the player rolls a one on both of the dice, he or she loses everything and starts over with zero.
4. If the player stops his or her turn before throwing a one, then he or she passes the dice to the next player and records the total score for that turn.
5. The only time a one doesn't cause a loss of points is when it appears during your first roll of the turn. You get to roll again.

Diagrams/Samples/Examples:

Possible Scoreboard

James	Cathy	Brian	Lynne	Eric
1. 14	1. 13	1. 29	1. 21	1. 31
2. 14/28	2. 19/32	2. 0/29	2. 14/35	2. 0/31
3. 23/31	3. 0/32	3. 31/60	3. 0/35	3. 0/31
4.	4.	4.	4.	4.
5.	5.	5.	5.	5.

Unscramble Me (Grades 2-12)

- Objective:** To emphasize the spelling of maths words.
- Materials and Preparation:** List of vocabulary or important words appropriate for curriculum area scrambled on ditto, chalkboard, overhead, or opaque projector.
- Student Grouping:** Individuals or pairs.

The Play:

1. The students are given or shown the list of important words scrambled and are challenged to unscramble them within a given time period. The students enjoy making up these lists themselves. Be sure they include the answer sheet.
2. A point is given for every word successfully unscrambled.

Diagrams/Samples/Examples:

Maths	
Cainfrot	Fraction
Repnect	Percent
Cuerde	

Categories

Objective:	Memory and review
Materials and Preparation:	A list of categories for play. A watch or clock with a second hand.
Student Grouping:	2 equal teams

The Play:

1. Have each team stand in a single file line on opposite sides of the classroom.
2. Teacher calls out a category (e.g. fractions equivalent to $\frac{3}{4}$).
3. A relay race begins between the two teams to see which team can write the most correct examples of the category on the chalkboard within the specified time (example: 30 seconds).

Team A	Team B
$\frac{6}{8}$	$\frac{6}{8}$
$\frac{9}{12}$	$\frac{12}{16}$
$\frac{12}{16}$	$\frac{20}{24}$
Score: 3	Score: 2

Some possible categories are: angles, triangles, quadrilaterals,

Scoring:

Team with most correct answers wins.

Comments or Variations:

This game combines large motor activity with memory and review to create a high level of excitement.

Have more than 2 teams. Cooperative learning groups make great teams. The more teams you have, the more students are directly engaged at one time. You could have all the teams playing at once, or go head to head in a tournament format. (Tip: If you use a tournament format, never have teams watching. Play all the head to head games simultaneously so students don't lose focus by not participating.)

If the teacher emphasizes the rule that repeats don't count, teams will check each other's work.

Blockbusters (all grades)

Objective:	Review: General Information, Vocabulary, etc.
Materials and Preparation:	Overhead projector, 2 color transparency markers, 1 transparency sheet, questions.
Student Grouping:	Two teams.

The Play:

1. The game is based on the 1970's TV game show, Blockbusters. There is a board of 20 hexagonal shapes arranged in a 5x4 setting.
2. Half of the class is trying to get 4 in a row vertical and half of the class is trying to get 5 in a row across.
3. Each hexagon has a letter of the alphabet inside it. The answer to the question begins with that letter. If a team misses, the other team can try to answer. If successful, they get the hexagon.

The team that has to connect 5 across always goes first to give them an advantage.

Scoring:

2 Games equal 1 match

Comments or Variations:

You should set up a template for your overhead projector first so you can use it over and over again.

I generally use their seating chart to help keep track of where I began and where I end.

52-Card Multiplication (grades 4-7)

Objective:	Review/Learn basic multiplication
Materials and Preparation:	A deck of playing cards for each group.
Student Grouping:	You can play this with pairs, triplets, quads ... whatever. There are all kinds of variations

The Play:

1. Teacher shows the card at the bottom of the deck. Students multiply the number value of the card shown by 10 - or whatever number you have designated for this round. I start with 10 since it's the easiest and the students can have success early.
2. All face cards are valued as 10 and Aces are valued as 1.
3. Get the student(s) all the way through the deck once.
4. Then: "Hey, not bad. How many do you think you can get in 30 seconds?" - and your off!

Comments or Variations:

I had lunch duty one day and kept 20 seventh graders huddled around me for most of lunch playing this game.

Try these variations:

Give the face cards a higher value than 10 to challenge students (ex: Jacks = 11, Queens = 12, Kings = 20)

Have 2 teams or individuals play against each other. The first person to say the answer gets a point.

With small groups, rotate "dealer" and "time keeper" responsibilities. See who in the group can get the fastest time for each multiplier from 1 to 12.

Password (all grades)

Objective: Vocabulary Review: Teams give clues to a hidden word as teammates try to guess the word.

Materials and Preparation: Vocabulary word list
Two chairs
Whiteboard and marker

Student Grouping: 2 Teams

The Play:

1. Each team selects a member to sit in the front of the room with their back to the board, facing the team.
2. A word is written on the board behind them.
3. The team can see the word, but the "guesser" can't.
4. Teams take turns giving a one-word clue (synonym, rhyming word, etc. - more difficult) or descriptive sentence (easier) for the hidden word.
5. One team guesser tries to guess the word. If incorrect, the next team may give another clue, and their guesser may guess.

Scoring:

A point is scored for the team guesser guessing correctly.

Further Play:

Options:
Smaller teams with more guessers at the board
Teams write and show clue
Pull words from a limited word bank.

Comments or Variations:

For control, have teams discuss clue, but choose one spokesperson to give the clue.
Encourage the guesser to string all of the clues together.

The Third Letter Game (all grades)

Objective: Students will demonstrate word knowledge and spelling, as well as quick thinking and social poise.

Materials and Preparation: Board space for writing words and keeping a running score.
Markers (or chalk) and eraser.
The 3rd Letter Game can be set up quickly. Establish a "batting" order ensuring that all students will get a chance to play.

Student Grouping: Individuals, small groups or two large groups

The Play:

1. The basic idea is to write a word that begins with the 3rd letter of the preceding word. Students get a point for each letter of their correctly spelled words (i.e. the longer, the better). The teacher writes the first word on the board to get it started. Afterwards, the teacher becomes referee, score-keeper and time-keeper.
2. In order, students come to the board to write their words under the previous word (beginning with its 3rd letter). The action should be fast -- requiring quick thinking. Misspelled words are erased and no points are earned.

Scoring:

Students get 1 point for each letter of correctly spelled words. Proper nouns and variations of previously written words are not allowed.

Further Play:

Teachers can choose a category (e.g. *Geometry*) and students earn double the points for words in that category (e.g. *triangle*).

Comments or Variations:

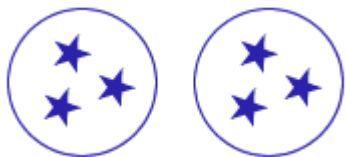
I used this activity long ago when I taught *German*, which allows the construction of long nouns. The kids loved it, but I didn't know why.

Circles and Stars (grades 3-4)

Objective:	To practice facts and to learn a strategy to finding the product.
Materials and Preparation:	Paper, pencils, scissors, stapler, calculator, and 2 dice per group
Student Grouping:	4-6 students

The Play:

1. Students make game booklets.
2. First student rolls dice. On page 1 the student will draw circles for whatever he rolled with one dice and stars in each of the circles for whatever he rolled with the other dice. For example, if a student rolled a 2 and a 3 he would draw two circles and three stars in each circle.



3. Under the drawing the student will write - 2 circles with 3 stars = 6 in all ($2 \times 3 = 6$).
4. Then the next child takes a turn. Once each child has gone six times he/she will add all six products to get their score and record it on the last page in their book.

Comments or Variations:

Students may use calculators to add products. I usually will not give the calculators out until the whole group is done with their book.

You could make it competitive by having each group get a group total and compare it with other groups in the class.

I later refer to Circles and Stars as a strategy for finding the product with my students.

Thumb Ball (grades 3-5)

Objective:	Addition, subtraction, or multiplication review.
Materials and Preparation:	Divide a rubber ball into sections using a permanent marker. Put a number in each section. You will also need a chalkboard and chalk to keep score.
Student Grouping:	Divide the class into two teams or more.

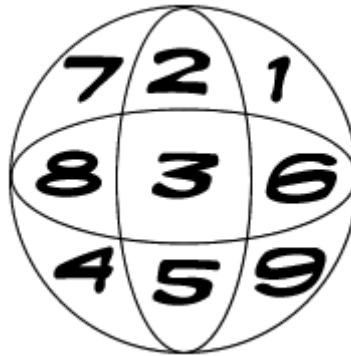
The Play:

1. Line the teams up. The teacher tosses the ball to the first student/team.
2. The student catches the ball, looks at the numbers his thumbs landed on, says them out loud and performs the selected operation.
3. If the student calculates correctly, his team earns a point (or you can use the total as the number of points earned.)
4. If the student calculates an incorrect answer, no points are given.
5. The ball is then passed to the next team's player.

Scoring:

The game continues until time is up or a preset total is reached (50-100). The highest score wins.

Diagrams:



Board Race (All Grades)

Objective:	Fast Recall of Information
Materials and Preparation:	Chalk Board, chalk
Student Grouping:	two to four teams

The Play:

1. Students are put on teams. Larger classes can have more teams. Smaller classes, fewer teams. Usually I have boys vs. girls.
2. First person on each team goes to the board. Chalk in hand, a question is asked, first person to write the correct answer wins that "round".
3. Then second person on each team and so on. Winners get "bragging" rights.

Scoring:

Two teams playing - first correct answer gets two points. Second correct answer gets one point (more teams = first correct response four points, second three points, third two points, fourth one point). Incorrect answers get no points.

Comments or Variations:

Care may have to be taken to "pair up" (opposite each other) students of similar abilities. If subject matter is particularly difficult, or if student at board doesn't know the answer, he/she may run back to his/her team for help. Students are cautioned to be quiet with answers so other team doesn't hear.

More points can be given for multi-part answers or more difficult questions. First rule of game is **Decisions of the Teacher are Final!**

Row Races (all grades)

Objective:	Drill and practice/recall of specific information.
Materials and Preparation:	Place the students in rows with each row having an equal number of students. Each row is a team. The teams will need 1 piece of paper and a pen or pencil. The teacher just needs to have question or any content to drill with the kids. Students pick a name for their team and write the name at the top of their sheet of paper.
Student Grouping:	4 or 5 per group

The Play:

1. The teacher puts 5 questions (statements, words - whatever your content is covering) on the overhead/board and covers them so the students can't see them.
2. When the teams are ready (the first person of each team has the team's pen/pencil and paper), you give a start signal and reveal the information on the overhead.
3. The first person in the row answers question #1 and passes the paper back, the second person answers question #2 and passes the paper back and so on.
4. They may not speak (it could get really loud) but another person on the team may correct a question answered by another team member on the sheet of paper if they think it is incorrect.
5. The last person in the row brings the answer sheet to the teacher in the front of the room. The teacher puts the sheets in order by who finished 1st, 2nd, 3rd, etc.

Scoring:

The team that finishes first gets a set number of points (whatever the teacher decides). Each subsequent team gets a number of points less than the team that finished before them. You then distribute the answer sheets to the teams (a team will not have their own answer sheet) and the team checks the answers for accuracy. If they find mistakes, points are deducted from the team's score who made mistakes. If a team says that there are errors on another team's sheet, but there are not errors, points are subtracted from the checking team.

Categories II (all grades)

Objective:

Decipher Message

Materials and Preparation:

Make an overhead transparency with about 12 adjoining squares. If only one word is used in the game, no additional rows will be needed.

Black out the unused squares with strips of paper. If titles, phrases, sentences, et cetera, are used, the multiple lines of 12 adjoining squares should be used.

Across the bottom of the transparency, in an easy to read font, type the alphabet in large letters on two rows. When the puzzle does not fit well onto the transparency, simply use the chalkboard or draw lines (blanks) to represent each letter, skipping spaces, of course, between words.

You will need to cut some squares of paper to place over the squares between the words. Or, an easier way is to just black out the square. (As most teachers who make their own transparencies know, you will have to place the transparency UNDER the scrolling transparency so that the water doesn't damage the game transparency. It cannot be written on and erased if it is made on the computer.)

Student Grouping:

2 teams

The Play:

1. The teacher gives a clue and writes it in the space between the lines of squares and the alphabet.
2. The clue can be anything from the definition (brief) of a WORD to a title or phrase or term students are learning or have learned. This is actually very much like the game show "Wheel of Fortune," except that there is no wheel to spin.

Scoring:

There are two ways to score. The first is the simplest. The team that solves the word puzzle gets one point. The second way is to award a point each time a team guesses a correct letter. For example, if Team A guesses a consonant, they receive one point no matter how many of that particular letter there are. They may "buy a vowel" for a predetermined amount of points when they have acquired points for correct consonants. When a letter is guessed that does not appear in the puzzle, the other team is given a turn. The team that guesses the puzzle gets a set number of points (e.g., 5 points). In the second method of scoring, it is possible for a team that

did not guess the puzzle, but did guess many correct letters, to come out with a higher score.

Comments or Variations:

Teams may make up their own puzzles and attempt to stump the other team in a Charades type form. The students on each team try to come up with a title or author (obscure clues can result if too many topics are allowed) to stump the other team. The team that is guessing gets to pick a specified number of consonants (e.g., eight) and a specified number of vowels (two or three). The chosen vowels and consonants are written in the appropriate squares, and the team must then collaborate and give ONE answer for the group. Scoring is simple. One point for each game.

Doughnut Race

Objectives	Students learn their maths fact through fun practice.
Materials Needed	Two large doughnuts cut from poster board Whiteboard (and markers) or chalkboard (and chalk) Erasers Dice
Student Grouping	2 teams

The Play:

1. Note: This game provides practice in multiplication facts, but it could be easily adapted to be used for practicing addition, subtraction, or division facts.
2. Before starting the game, cut out of poster board two large doughnut shapes; each doughnut should have a hole in the middle. Divide each doughnut into 13 roughly equal sections and number the sections from 0 to 12, one number per section. Do not place the numbers in the same sequence on both doughnuts. Tape the doughnuts to the chalkboard or whiteboard.
3. Divide the class into two teams. A student from each team takes a place at one of the doughnuts. Give each student a piece of chalk or a marker. Roll the dice. (Note: You can use one or two die, depending on how difficult you want the game to be.) The students write the number rolled inside their doughnut. At the signal, the students race around the doughnut. They multiply each number on the doughnut by the number inside the doughnut, and write the product around the outside edge of the doughnut. The first student to finish scores a point for his or her team if all the answers are correct.
4. Continue the game until all students have had a turn or time runs out.