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5 Dice: Order of Operations Game



4 Dice: Fraction Games



Ordered Fractions:
Comparing & Ordering Fractions



Grid Lines: Ordered Pair Game

Math Apps

Less preparation time, more learning time - a perfect combination for parents and instructors who are teaching, re-teaching and providing students with opportunities for applying the order of operations skills for long term retention.

One key feature with these apps are that they are very easy to extend beyond the one-player game to a classroom setting. They comes with printable game sheets (free with the app), making preparation for lessons simple. All that's needed are dice, pencils, calculators and the printable game sheets OR just the app hooked up to a SmartBoard displaying to the class or, even better, an iPad in every students' hand so they can play individually and track their progress. Learning is fun for the students and preparation is minimal for parents and instructors.

Helpful suggestions for parents and educators

Many classrooms don't have an entire classroom set of iPads or iTouches, here are a few suggestions that can be used to solve this problem.

One Device Multiple Players

This probably means that there is only one device in the classroom, most likely the teacher's personal device. With this in mind, a great way to play these games would be to project the game onto the board for everyone to see and have everyone get out a piece of paper (or the printable version of the game). Set a time limit of 1 minute and have the students try to solve the projected problem on the board. This would be a great introduction activity and it's very quick to setup and do. (and fun too!).

A Few Devices Multiple Players

Work in small groups with one device.

Use printable board or just a blank piece of paper to record your work.

Create a multiplayer username (ex Group 1).

Multiple Devices - Multiple players

Play independently or in partners trying to get the best score possible.

Remember that these hands-on games have Bluetooth capabilities which allows two players to compete against each other in the same room on separate devices. This feature will help parents, teachers, and students play competitively or cooperatively with each other using their iPhones, iPads or iTouches.

Some schools will find the use of [Bluetooth](#) a great choice since their school district may block devices connecting to each other through the wireless network due to security concerns. Using Bluetooth allows the connectivity to happen just with devices within a short range.

School Discount

Volume Purchase Program

The Volume Purchase Program that [Apple offers](#) allows educational institutions to purchase iOS apps and books in volume and distribute them to students, teachers, administrators, and employees.

50 percent off App Store prices in quantities of 20 or more.

Read more about Apples Volume Purchase Program Here:
<http://www.apple.com/education/volume-purchase-program/>

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Apples Volume Discount + My 50% off on top of this.

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Math File Folder Games

A mathematical game is a fun and challenging context in which students interact cooperatively or competitively to achieve a defined goal within a specified set of circumstances while learning or practising math skills.

Math games are a great tool to involve parents, guardians, siblings and other important people in the child's life. It is a great way to facilitate the home and school connection.

Benefits of Math Games:

1. Allows students to apply what they know
2. Creates a positive mathematical environment.
3. Shared experience as we get to know each other, reduces prejudice toward other students.
4. Are highly motivational.
5. Provides practice in specific skills.
6. Utilizes student problem solving competence.
7. Increases ability to communicate. (Because the game uses math vocabulary)
8. Increases ability to reason mathematically, strategically.
9. Enhances students perception of the value of mathematics.
10. Develops self-confidence.

Games:

- People of all ages enjoy games
- All games reinforce and review concepts
- Help students recall ideas
- REVIEW

Enjoy!

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Entrapment

This visually challenging game helps students understand congruence through translation (slides), rotations (turns), or reflections (flips). At the beginning, when the board is completely open and no squares have been filled in the game doesn't appear to be too difficult. After all, we're just filling in patterns of squares, right? Well, as players keep filling in the board, it's more and more challenging to find ways to slide, turn, and flip the available shapes to fit the remaining blank squares. Some of the most mind-bending are the rotations. They're not obvious at all and it sometimes takes quite a bit of mental gymnastics to figure out if something really will fit.

Don't rearrange the four different patterns! You can slide them, flip them, or turn them but you're not allowed to take them apart. Another way to play this game is to give each player a color pencil and when the game board is as filled in with shapes as possible the player with the most individual squares filled in wins.

Another way to play this game is to use color construction paper or tiles. Just because a player has placed a tile on a square doesn't mean a second player couldn't place a different-colored tile there as well. For this game, every move that's made has to cover at least one blank square that has not been covered before.

Remaining squares for that particular move can be covered more than once. This extends game play and it can be quite interesting to see which squares are covered numerous times.

It might also be interesting to pose some other questions to students when using this in a classroom setting. Can they see any way to fill the entire board so that there are no white squares left at all? How many of each of the patterns are used on the board? In other words, how many of #1, #2, #3, and #4 have been used? It might be fun to compare different finished games as well to see if there are any patterns from game to game or let two teams of two players each compete to see who can fill in the boards the fastest.

There are so many fun ways to play this game. Students will understand simple transformations better than ever after practicing with "Entrapment."

With 2 players, I recommend cutting the board down to $\frac{2}{3}$ or even $\frac{1}{2}$ the original size. This keeps the time played, on average, about the same as a 3 player game on your size game board. Also, shrinking it down right away makes placement critical and forces the students to call/write out the harder movements, like reflection and rotation clockwise or.. counter clockwise 90 degrees.

Common Core Mathematical Standards





8.G.1 Verify experimentally the properties of rotations, reflections, and translations.





8.G.2 Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.

8.G.3 Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.

Entrapment Score Card




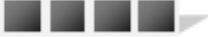
(Mark on each round whether you translated, rotated, or reflected the object)





Round					Skip Turned
1					
2					
3					
4					
5					
6					
7					

Round					Skip Turned
1					
2					
3					
4					
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ENTRAPMENT

Objective: Recognize motion as a slide (translation), turn (rotation) or a flip (reflection) [5.SS(T).20].

Materials: Entrapment game board, one 6-sided die, pencil crayons.

Players: 2 or 3 players.

Rules:

- [1] The objective of this game is to be the last player to draw a given shape on the game board.
- [2] The youngest player starts. On a turn a player rolls the die to determine the shape which he or she must add to the game board. If the player rolls a 5 s/he can add any of the four shapes s/he wishes. If the player rolls a 6, s/he skips the turn and will not add a shape.
- [3] The player will draw and color his/her shape at any available location on the game board.
- [4] If a player needs to add a shape for which there is no appropriate space left on the game board, s/he takes a strike. Three strikes and the player is out of the game.
- [5] When a player chooses a location for his or her shape, s/he must specify whether the shape needs to be rotated, slid, or reflected to fit that space (that is, in comparison to the blackened shapes at the bottom of the game board).

Adaptations:

- [1] Play as a solitaire game. Roll the die to determine which shape must be added. See how many you can add before you roll a shape that you cannot add.
- [2] Allow each player to shade 5 spaces with a black crayon before starting the game. These spaces cannot be used when placing a shape.
- [3] Use a scoring system in the game. Each time you add a shape, score 3 points if it is a rotation of a shape already in place, 2 points if it is a reflection, and 1 point if it is a translation. High score wins.

ENTRAPMENT

