

# Ames Public Library @HOME Activities

## Puzzles and Games

Puzzles and games are fun to solve or play with. Playing and solving puzzles also helps in the development of cognitive, emotional, and motor skills. Working out a problem in a game in a methodical manner can also help with stress relief. To learn more see a related video on the Library's YouTube Channel at <http://bit.ly/APLvideos>.

## Books and Media:

Title	Author / Performer	Call Number
<i>Easy Math Puzzles</i>	Adler, David	J 510 ADL
<i>The Cryptoclub - Using Mathematics to Make and Break Secret Codes</i>	Beissinger, Janet and Pless, Vera	J 510 BEI
<i>More Math Games &amp; Activities from Around the World</i>	Zaslavsky, Claudia	J 510 ZAS
<i>Make Lab for Kids, Fun, Hands-on Activities for Learning with Shapes, Puzzles, and Games.</i>	Rapoport, Rebecca and Yoder, J.A.	J 510.78 RAP
<i>Discovering Graph Secrets, Experiments, Puzzles, and Games Exploring Graphs</i>	Markle, Sandra	J 515 MAR
<i>Chess for Beginners: Know the Rules, Choose Your Strategy and Start Winning</i>	Orlova, Yelizaveta	J 794.1 ORL
<i>Chess</i>	Summerscale, Claire	J 794.1 SUM
<i>Rubik's Cube Creator: Erno Rubik</i>	Polinsky, Paige V.	J 920 RUBIK
<i>Math Puzzles and Patterns for Kids</i>	Fulton, Kristy	J PC 510 FUL 2007
<i>The Mathematics of Games and Puzzles: From Cards to Sudoku. Season 1</i>	(Great courses. Science & mathematics)	Hoopla digital download

## Websites:

URL	Notes
<a href="https://www.youcandothecube.com/educators/teach-to-solve/">https://www.youcandothecube.com/educators/teach-to-solve/</a>	<i>A great resource for learning various ways to play with the cube. There are also several lesson plans and activity suggestions.</i>

## Take Away Kit

### Bag Contents:

- 1 - 3"x3" Cube

There are several ways to play with the cube, remember to be always be patient with yourself, and have fun.

Keep the cube on a table, or flat surface so that it's the same front face for an entire sequence of moves.

As you play with your cube try out different patterns. You can also scramble the cube and try to solve just one face/side of the cube.

Place a sticky note on the piece of the cube you are moving so you can follow its path.

Remember there are over 43 quintillion possible combinations in a 3x3 cube.

This 3"x3" cube is based on the Rubik's cube. The Rubik's cube was invented by a professor called Erno Rubik. Professor Rubik built the Rubik's cube to teach his students how shapes relate to each other. By twisting the cube he was able to show how shapes can connect and move together. There is no quick or simple way to solve the cube, so Professor Rubik's students had to think in new ways to find solutions. The Rubik's cube has also been used to explain math concepts, and make learning math fun!

Sources : Rubik's Cube Creation by Paige V. Polinsky. **J 920 RUBIK E.**

You can do the Rubik's Cube. (2021). Rubik's Cube (3x3) Online Solution.

**<https://www.youcandothecube.com/solve-it/3x3-solution>**

## Vocabulary

Advantage – (here) having a more favorable position or better chance at winning.

Algorithm – A set of instructions to perform a specific task.

Amateur – Someone who plays a game or sport as a pastime rather than for money.

Architecture – The art of planning and designing buildings.

Board game – A game that is played with counters or pieces on a specially marked surface or “board”. Chess, Tic-tac-toe, and monopoly are some examples of board games.

Block – When a player cannot move because they are unable to do so.

Blunder – Is a very bad move or a weak move by a player.

Calculate – to plan mentally a series of moves without actually moving the pieces.

Coach – Is a person who trains a sports team or an individual person with instructions and direction. A coach may also be a teacher.

Easter egg – A hidden feature or message placed in a video game or other media.

Strategy – A plan to play the game in a particular way in order to win.

Game style – The patterns of play in team sports.

Shuffle – The process of mixing up a set of cards in a random manner.

Checkmate – A game position in chess and other chess-like games when the king is attacked but can't escape by running away, blocking, or capturing the attacking piece. This move ends the game.

Opponent – The person on the opposing side in a game or a contest.

Professional – A person who is paid money to play a game or sport.

