

Tentative Math Club 2 (grades 3-4) 2018-2019

Are you good at giving directions? Learning to follow and formulate instructions.

Pentominoes in 2D and in 3D.

Blokus game: game of constrained growth.

Knots: tie your shoes! How about braids?

Fold and cut theorem: how to cut only once?

Ghost Blitz: how fast can you match shapes and colors or none of them?

Game of SET: all the same or all different!

Game of Spot-it: game in projective plane!

What color is your hat? The King's Wise Men and their problems.

Logic table: how to tell a knave from a knight? Game of Cat crimes!

Types of symmetries: mirror, rotational, translational, any more?

Even more symmetry: two holes with a single punch? Can we do better?

The skyscraper problem: how are city streets arranged?

Keva: can you build a circular tower out of rectangular planks?

Projections: can side views tell us everything about an object?

Nets: what do 3D objects look like when flat?

Zome: how to go from 2D to 3D with just balls and sticks?

Chances: how many times to roll a dice to get a 7?

Fractals: let's look for things that repeat itself!

Topology: from donuts and mugs to Klein bottles!

Linguistics: what makes a language?

Binary numbers: how do computers see numbers?

Cyphers: how to write secret messages and how to read them?

Game-theory: can you always win? How about your opponent?

Tessellation: are there shapes that can fill the entire board? How about shapes that never repeat?

Guesstimation: which one is more frequent in the world? Math teachers or tractor drivers?