Purpose

- Get students moving during math time
- Embedded enrichment and reinforcement
- Fun way to also introduce new topics
- Physical manifestation of mathematics
About Us

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Stuff You’ve Probably Probably Seen

- Around the World
- Card on forehead
- Act out word & logic problems
Warmups

- Jump skip counting
- Hand game skip counting
- Walking skip counting
- “Stand by” math
- Number line → self-organize
- Arrays and Formations
Handshakes

• How many handshakes in a group?
• Arithmetic and counting
• Algebraic thinking, number sequences, combinatorics
• Social development
Let’s Try It!

- Discuss and predict
- How many unique handshakes?
- 3 people → ? handshakes
- 4 people → ? handshakes
- 5 people → ? handshakes
- Formula?
Traveling Salesman Problem

- Optimal path finding (shortest route)
- Arithmetic
- Measurement
- Geography [optional]
- Enrichment!
Graph Theory

vertices  edge

S  23 ft.  P

M  13 ft.  7 ft.  R  18 ft.

11 ft.  10 ft.
Rug, Scissors, marker, paper, rug

11 + 13 + 7 + 18 = 49 ft
11 + 23 + 7 + 10 = 51 ft
10 + 13 + 23 + 18 = 64 ft
10 + 7 + 23 + 11 = 51 ft.
18 + 7 + 13 + 11 = 49 ft.
rug > 11 ft.
Scissors > 13 ft.
Paper > 13 ft.
Marker > 7 ft.

18 + 7 + 11 = 49 ft.
Graph Theory

- How do you arrange classroom seating assignments?
- Logic and reasoning, listening and speaking
- Enrichment: introduces advanced math topic at grade appropriate level
Let’s Try It!

- Seven students \((1, 2, 3, 4, 5, 6, 7)\)
- Three tables
- 1 can’t sit with 2, 3
- 3 can’t sit with 4, 5, 6
- 5 can’t sit with 6, 7
One Possible Solution
Programming Without A Computer

- First teacher models being a robot
- Next, students work in groups, with one student being a robot
- Get from location A to B
- Logic & reasoning, speaking & listening, measurement, geometry, programming
- Let’s try it out!
Event Based Programming

- When the lights go out:
  - Stand up, flap your wings, like a quack
- When the timer chimes:
  - Act and sound like any animal you choose
Coin Flip!

- Heads or tails?
- Year-long classroom activity
- Probability, statistics, graphing
- Recording data, interpreting data
- Scientific observation
Cryptography Scavenger Hunt

- Find the items!
- Language & spelling, arithmetic, algebra
- Enrichment: introduces advanced math topic at grade appropriate level
Try It Out!

- ZJPZZVYZ
- WLUJPS
- THYRLY
- JHSLUKHY
- JVTWBALY
This was a student who normally would have been bored by spelling homework. However, having learned about Caesar ciphers, she decided to “encode” some of the sentences with her own personal cipher.
Other Activities

- **Set Theory**
  - start noticing your surroundings!
- **Shadows & Measurement**
  - geometry, trigonometry, physics
- **Talk to us about professional development at your school!**
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