Math In Motion

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Purpose

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

About Us

- Meredith Valentine (2^{nd} grade)
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Stuff You've 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 $\rightarrow$ self-organize
- Arrays and Formations

Handshakes

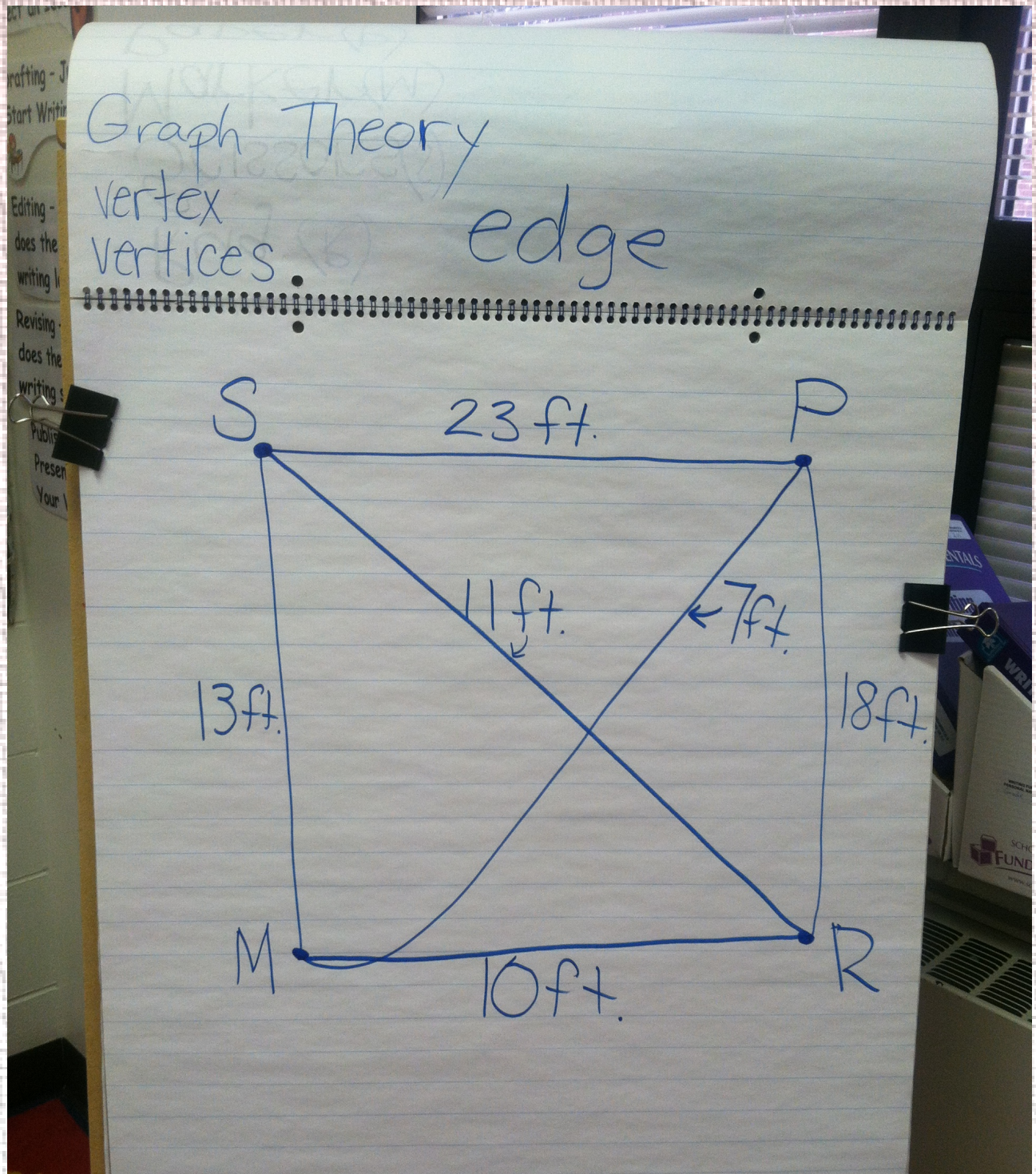
- How many handshakes in a group?
- Arithmetic and counting
- Algebraic thinking, number sequences, combinatorics
- Social development

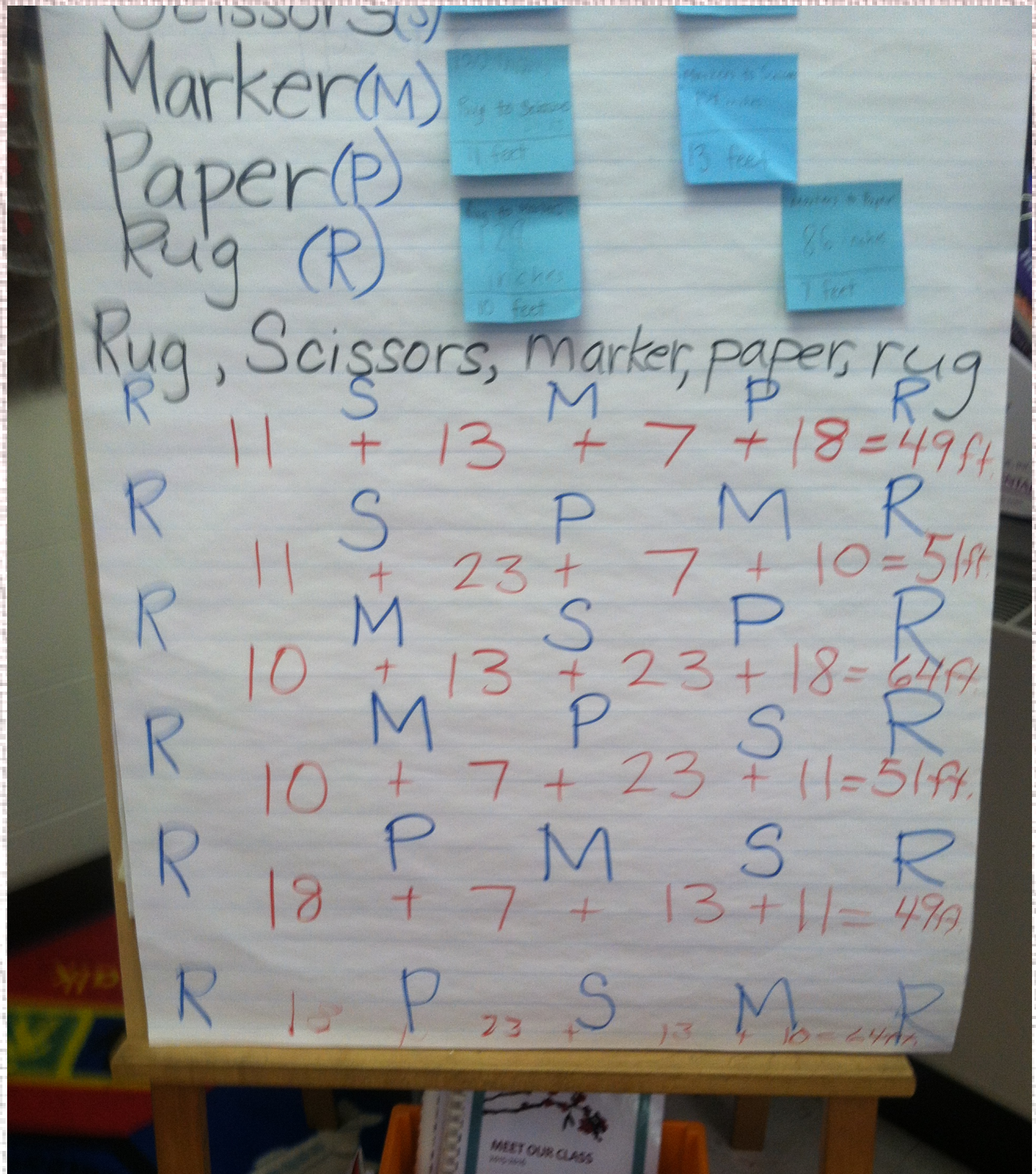
Let's Try It!

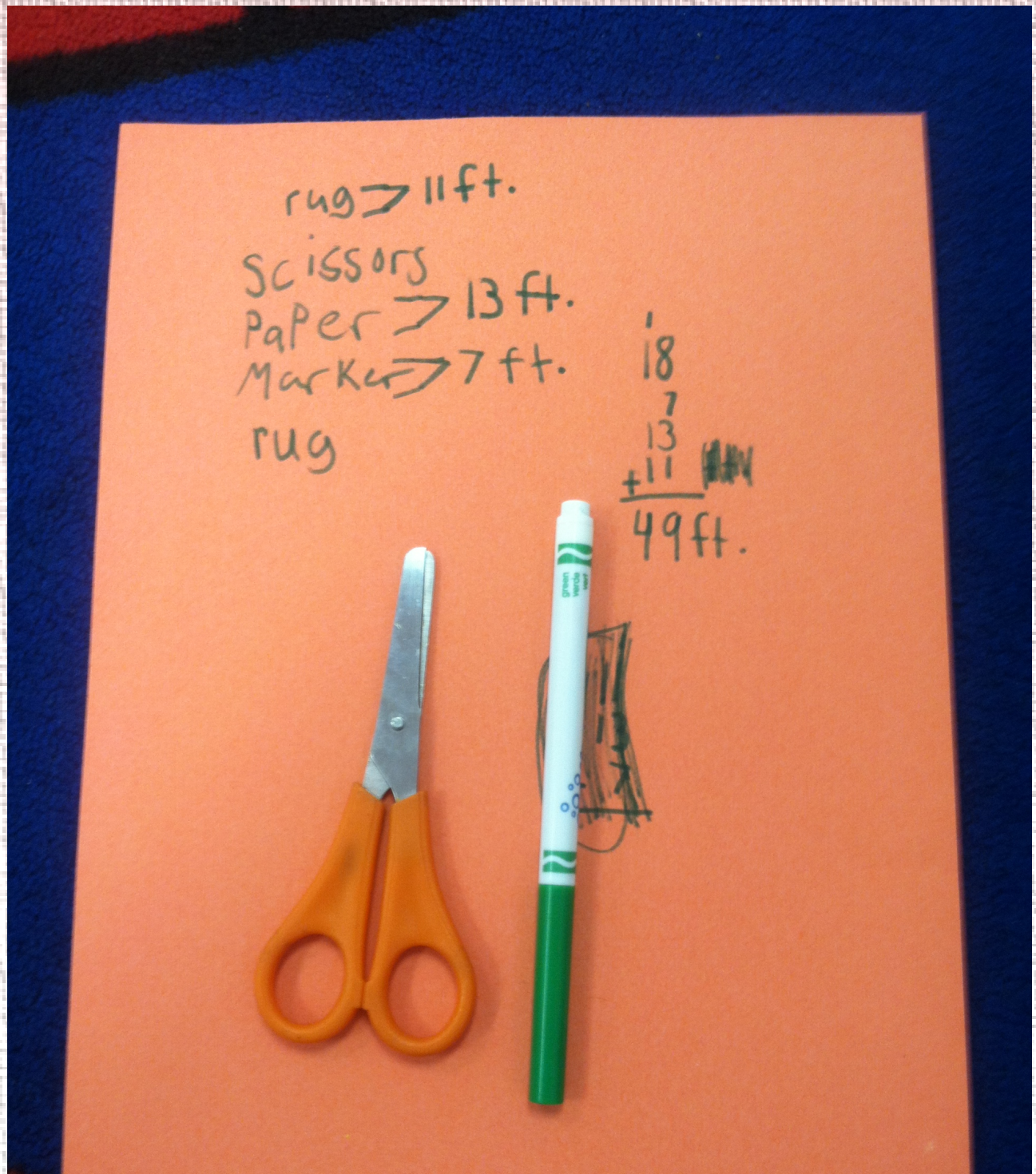
- Discuss and predict
- How many unique handshakes?
- 3 people $\rightarrow$? handshakes
- 4 people $\rightarrow$? handshakes
- 5 people $\rightarrow$? handshakes
- Formula?

Traveling Salesman Problem

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


Graph Theory
vertex
vertices
edge
S
23 ft.
P
11 ft.
7 ft.
13 ft.
18 ft.
M
10 ft.
R


Marker(M)
Paper(P)
Rug (R)
Rug, Scissors, marker, paper, rug
R S M P R
11 + 13 + 7 + 18 = 49ft.
R S P M R
11 + 23 + 7 + 10 = 51ft.
R M S P R
10 + 13 + 23 + 18 = 64ft.
R M P S R
10 + 7 + 23 + 11 = 51ft.
R P M S R
18 + 7 + 13 + 11 = 49ft.
R P S M R
23 + 13 + 10 = 64ft.


rug → 11 ft.
Scissors
Paper → 13 ft.
Marker → 7 ft.
rug
1
18
7
13
+11
49 ft.

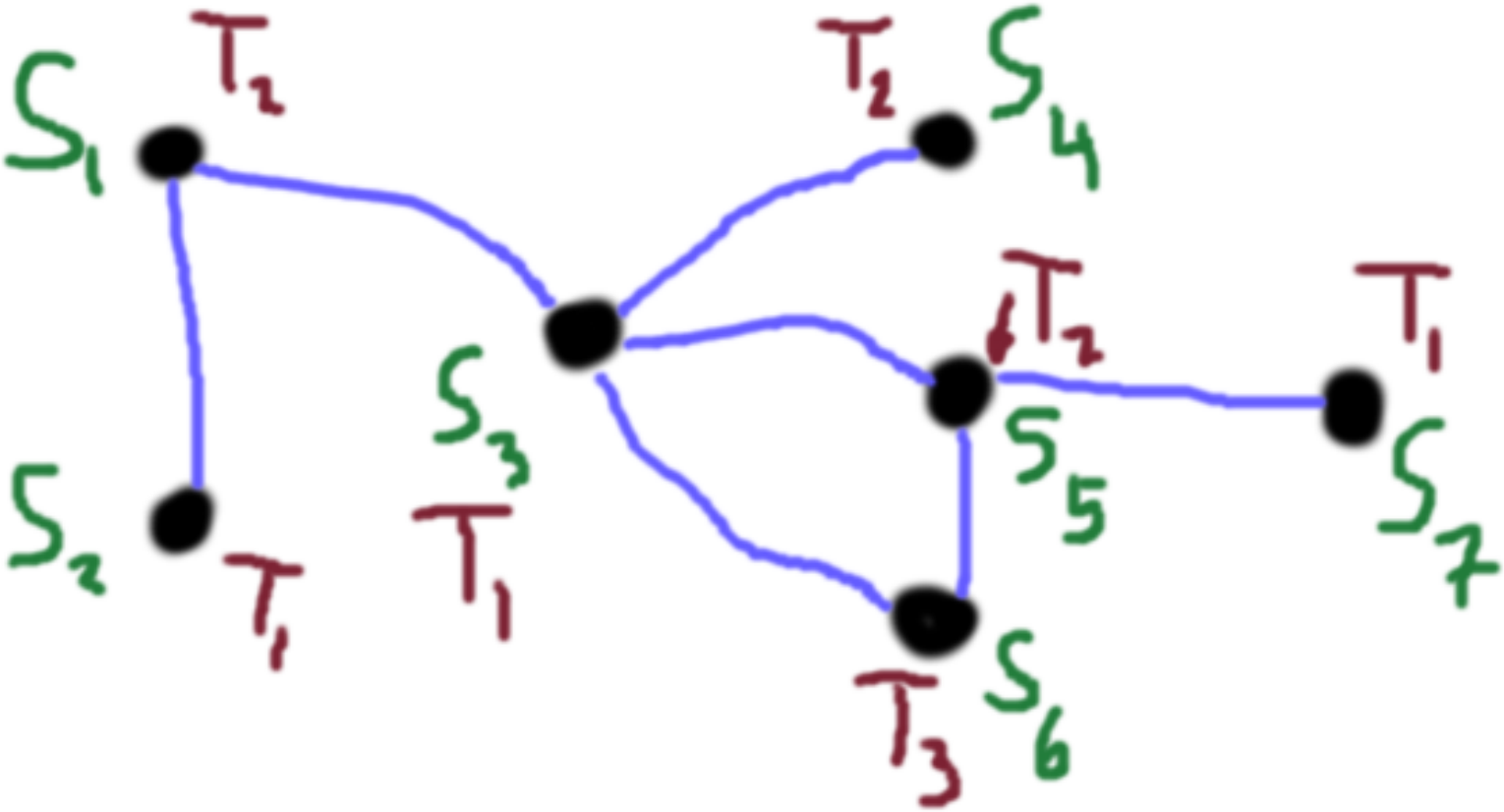
Graph Theory

- 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!

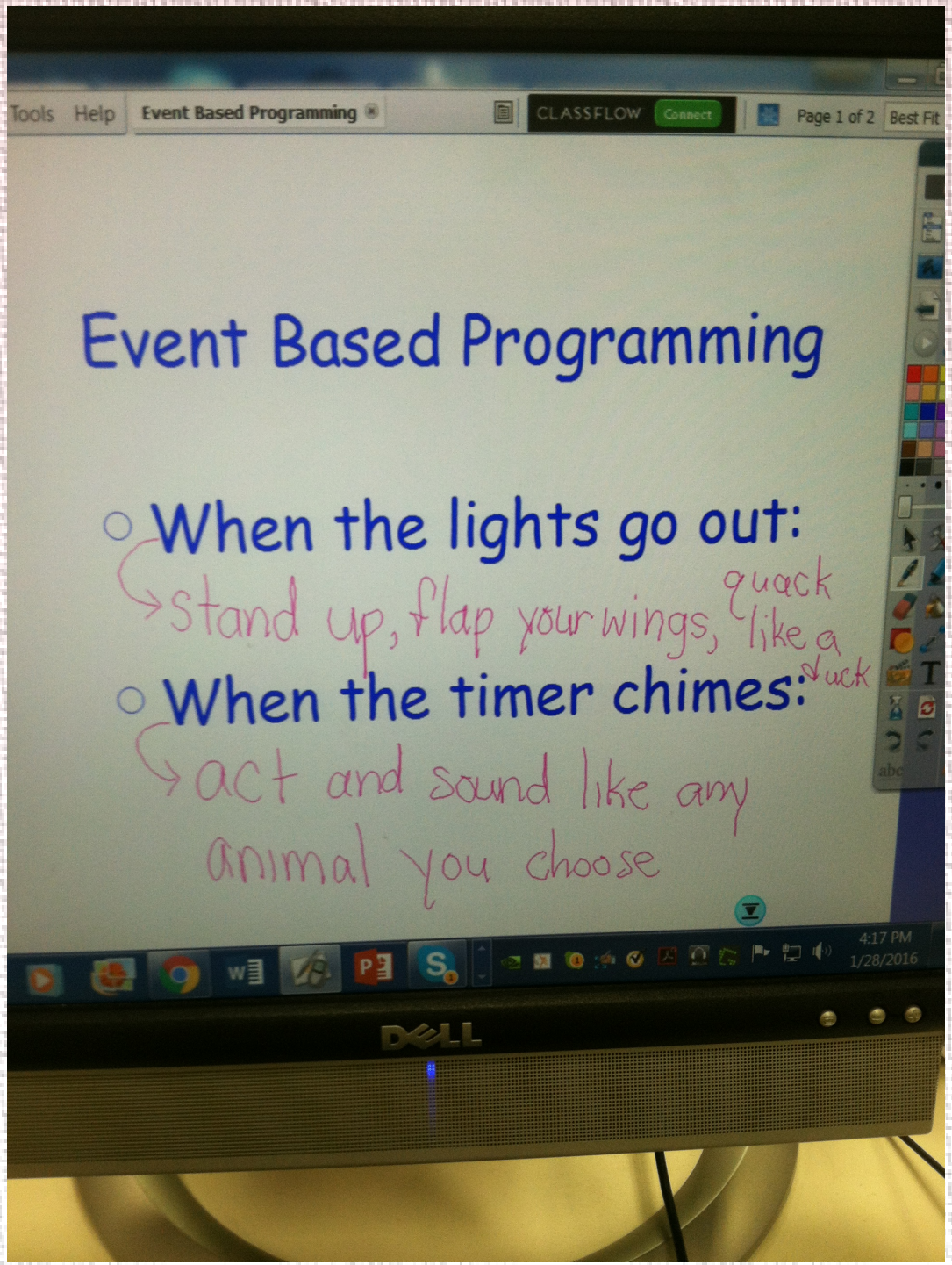
- Seven students $(1, 2, 3, 4, 5, 6, 7)$
- Three tables
- 1 can't sit with $2, 3$
- 3 can't sit with $4, 5, 6$
- 5 can't sit with $6, 7$

One Possible Solution



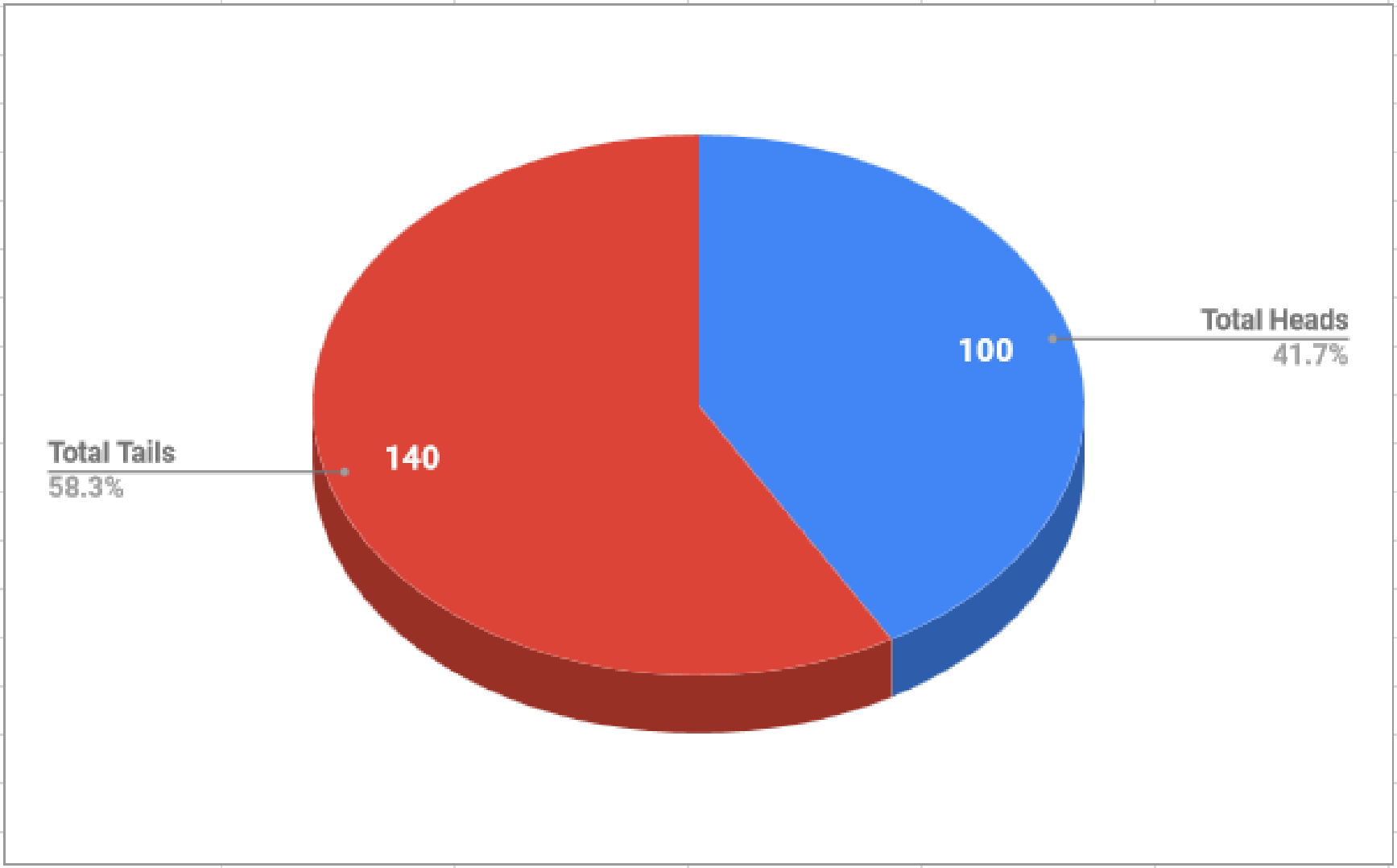
Programming Without A Computer

- 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!


Tools Help
Event Based Programming
CLASSFLOW Connect
Page 1 of 2 Best Fit
Event Based Programming
When the lights go out:
stand up, flap your wings, quack like a duck
When the timer chimes:
act and sound like any animal you choose
4:17 PM
1/28/2016
DELL

Coin Flip!

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

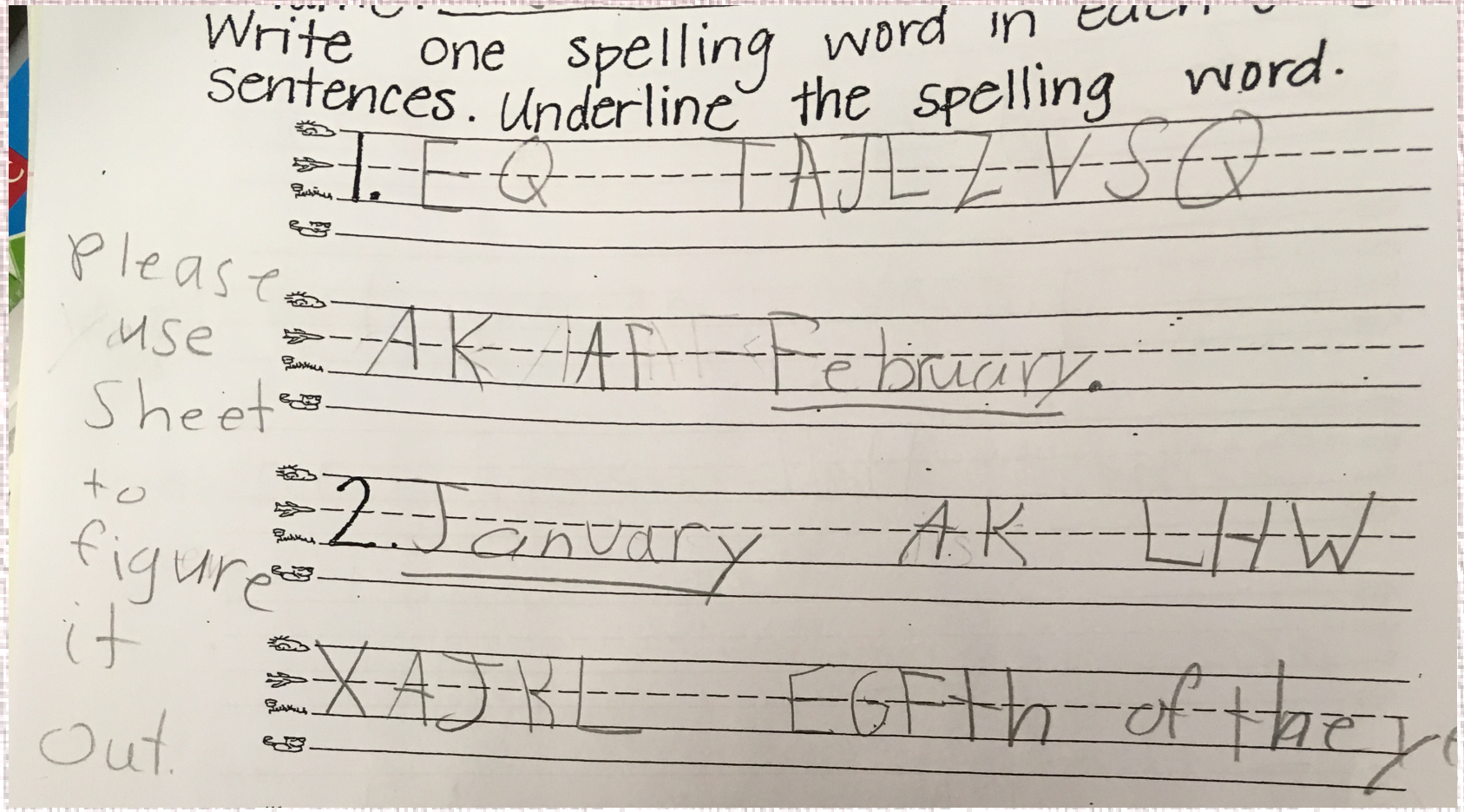

Total Heads
41.7%
100
Total Tails
58.3%
140

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.

Introduction

Activities & Lessons

Appendix

Other Activities

- Set Theory
  - start noticing your surroundings!
- Shadows & Measurement
  - geometry, trigonometry, physics
- Talk to us about professional development at your school!
  - MananShah@ThinkPlanDoLLC.com