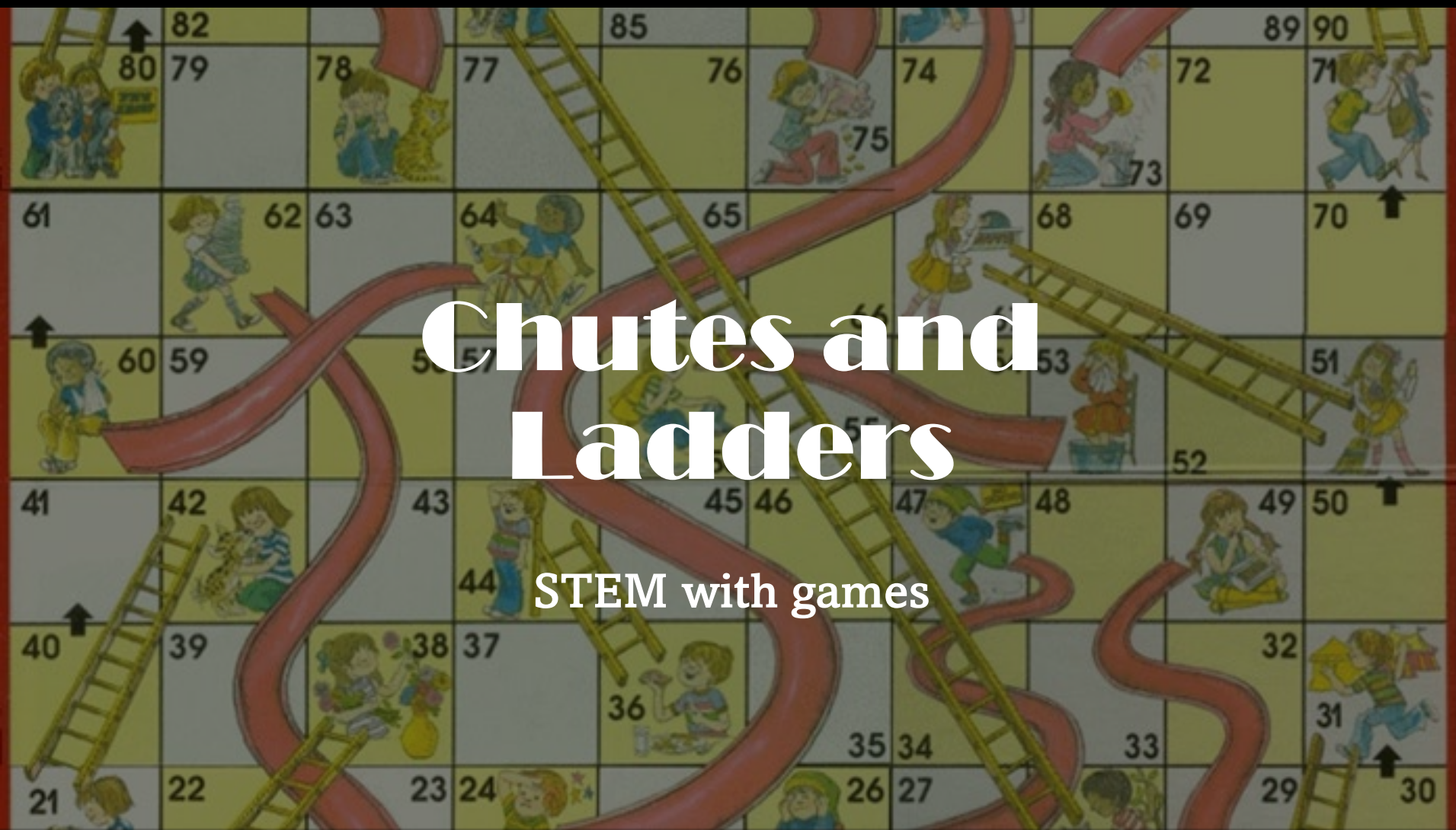# Chutes and Ladders

STEM with games

MAFS Standards covered

- Kindergarten
  - K.CC.1.1; K.CC.1.2

- First
  - 1.NBT.1.1; 1.NBT.2.2; 1.NBT.3.4; 1.NBT.3.5

- Second
  - 2.OA.1.1; 2.OA.3.3; 2.NBT.1.2; 2.NBT.1.3; 2.NBT.2.5; 2.NBT.2.6; 2.NBT.2.8

- Third
  - 3.OA.1.3; 3.OA.1.4; 3.OA.2.5; 3.OA.2.6; OA.3.7; 3.OA.4.8; 3.NBT.1.1; 3.NBT.1.2; 3.NBT.1.3

- Fourth
  - 4.OA.1.3; 4.OA.1.b; 4.OA.2.4; 4.OA.3.5; 4.NBT.1.3; 4.NBT.2.4; 4.NBT.2.6

- Fifth
  - 5.OA.1.1; 5.OA.2.3; 5.NBT.1.4; 5.NBT.2.5; 5.NBT.2.6

CSTA Standards covered

- K-2
  - 1A-AP-08 step by step
  - 1A-AP-09 arrows
  - 1A-AP-10 sequence
  - 1A-AP-11 steps
  - 1A-AP-12 program
  - 1A-AP-14 debug

- 3-5
  - 1B-AP-08 different paths
  - 1B-AP-10 sequence
  - 1B-AP-11 steps
  - 1B-AP-12 modify
  - 1B-AP-15 debug

Break It Down

- Read/Write numbers
  - Word form
  - Expanded
  - Number
  - Base ten
- Rounding
  - To the ten
  - Decimals to the whole

- Counting/Skip Counting
- Even/Odd
- Addition/ Subtraction/ Multiplication/Division
  - Expressions
  - Word problems
  - Properties
  - Patterns

Coutning/Skip Counting

- This is NOT a hundred board
  - Skip counting is not the same pattern
    - Counting by 10s is not up and down.

How to use the bot

Beebot   Code and Go Mouse

DICE

Regular 6-sided

Place value (tens and 10-sided)

10-sided

GAMES K-2

With dice- 10-sided

- Play normally- Counting/Addition
- Odd/Even
- Addition/ Subtraction/ Multiplication
  - Add- start at 1
  - Subtract- start at 100
  - Multiply- start at 1

Without dice

- Skip counting
- Word problems
- Read/write in different forms

GAMES 3-5

With dice- place value

- Play normally- Addition
- Rounding
- Addition/ Subtraction/ Multiplication/ Division
  - Use two 6-sided to practice to 12x12
- Factors (use 10-sided)
- Multiples (use tens)

Without dice

- Word problems
- Properties
- PEMDAS

Critical Thinking

- Give students the learning goal (standard) and have them come up with the game-directions, rules, etc.

- Have other students play the game

    - Ask questions

    - Make suggestions

- Give students expressions or word problems and have them solve

- Then students put the numbers/answers in order (forward or reverse)

- Robots are then programed to move to each answer

- OR just have them go in the original order of the answers (requires more program)

Your turn

1. Teacher with the most years goes first

2. Fill in your sheet for each round

3. Start at 100

4. Roll both dice

5. Subtract from 100

6. Continue subtracting each turn

7. First to 1 wins (does not have to land exactly)

- If you land on a ladder, follow it up to the box/number it stops at

- If you land on a chute (slide), follow it down to the box/number it stops at

- Don't forget to fill in your sheet

Odd or Even

- Oldest goes first
- Start at 1
- Roll the die (10-sided) and move your robot that many spaces
- Did you land on Odd or Even?

Multiplication

- Next birthday goes first
- Roll the dice (two 6-sided)
- Multiply the two numbers
- Move your robot to that space

Skip Count

- Youngest goes first
- Start anywhere less than 10
- Skip count by _____
- Move your robot to the next number
- Look for the pattern

Rounding

*First name alphabetically goes first
*Roll the dice (tens and 10-sided)
*Make the number from tens and ones
*Round to the nearest ten and move your robot to that space

Multiplication pt2

* Shortest hair goes first
* Start at 2
* Roll the die (10-sided)
* Multiply by that number
* Move your robot
* Continue from the last number each time

Number Forms

Addition, Subtraction, Multiplication, or Division but with filling in the sheet for word form, expanded form, and base 10

Factors

- Tallest goes first
- Roll dice (tens and 10-sided)
- Find the factors of that number
- Move robot to all factors in order
- If prime, roll again

Multiples

- Shortest goes first
- Roll dice (two 6-sided)
- Add the numbers together
- Find the multiples of that number
- Move robot to all multiples in order

Contact me

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Thank You

QUESTIONS?