

It All Adds Up

Thank you for downloading the science and mathematics activity packet! Below you will find a list of contents with a brief description of each of the items. This activity packet contains all the information (including any handouts) you will need to run this activity in your own classroom or at a science festival.

Please note: some activities might require the need for a facilitator to be present to oversee the activity. Activities that require a facilitator will be clearly noted.

-Community Resources for Science



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ACTIVITY PACKET CONTENTS

1. Organizer Instructions for the person running the activity
 - Print suggestion: 1 for the facilitator
 - Includes information for setup prior to the event (e.g., materials prep)
2. Participant Instructions (tabletop sign/printout)
 - Print suggestion: 1-2 to put in a plastic sign holder



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ORGANIZER INSTRUCTIONS

Grade(s): K-6

Standard connections:

- **CCSS.Math.Practice.MP1** Make sense of problems and persevere in solving them
- **CCSS.Math.Practice.MP5** Use appropriate tools strategically
- **CCSS.Math.Practice.MP2** Reason abstractly and quantitatively

Next Generation Science Standards: Science and Engineering Practices

- **Constructing Explanations and Designing Solutions** Generate and/or compare multiple solutions to a problem
- **Using Mathematics and Computational Thinking** Use counting and numbers to identify and describe patterns in the natural and designed world(s)

Objective: Solve one-digit, addition or multiplication problems

Activity overview and background: Student-directed activity that can be done independently or played as a game with 2 or more players. It is important to use numbers and operations (adding, subtracting, multiplying, or dividing) that the student can do successfully. Add new or more challenging skills when students are ready.

Materials:

- Sidewalk chalk or masking tape (for indoors)
- Bean bags or other hopscotch markers
- Paper and pencil (optional)

Setup:

1. Drawing a 3x3 grid and fill it with numbers as directed below
2. Each student starts with two bean bag or hopscotch markers in hand and a place to record their scores (e.g., on paper, sidewalk)



Instructions

1. Draw a 3-square-by-three-square grid on the sidewalk. Write the numbers 1-9 in squares like this:

FOR PRIMARY GRADES

0	3	5
5	1	2
2	4	1

FOR INTERMEDIATE GRADES

1	4	7
8	2	6
5	9	3

2. Take about ten big steps back from the grid and draw a starting line like the one below:

TOSS MARKERS

FROM THIS LINE

3. Toss two markers one at a time onto the grid you created. Add the two numbers on which the markers land. It's OK if both markers land on the same number, just add that number to itself or multiply times 2. Record your sum after each round. Remove your markers so that the next player can play. Repeat until each of you takes five turns.
4. Add up your five scores and see how large a number you get. Now add everyone's scores together. How large is your combined number?
5. Play again. This time try for the highest individual score. How did you change your strategy in the second game?

HERE'S MORE:

- Make up a new rule to play the game! For example, you could make up the rule that only one marker may land in a square. If your marker lands on an occupied square, it equals zero.
- Try multiplying instead of adding the numbers
- For older children, let the first marker you toss be the numerator and the second marker be the denominator of a fraction. Then add the resulting five fractions for your total score.