Snail Math Races

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

These materials may be used for educational purposes

Snail Math Races

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. What's Going On? (tabletop sign/printout)
    - Print suggestion: 1 to put in a plastic sign holder
    - Explains the science and background information behind the activity
3. Participant Instructions (tabletop sign/printout)
    - Print suggestion: 1-2 to put in a plastic sign holder
4. Activity Printout(s) for participants
    - Print suggestion: number of expected participants, plus any extras for participants to take home
    - Printouts needed for participants to do the activity (e.g., cutout templates)

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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.MP2** Reason abstractly and quantitatively
- **CCSS.Math.Content.1.OA.C.6** Add and subtract within 20, demonstrating fluency for addition and subtraction within 10

Next Generation Science Standards: Science and Engineering Practices

- **Using Mathematics and Computational Thinking** Use counting and numbers to identify and describe patterns in the natural and designed world(s).

Objective: Use addition to advance game pieces to the finish line and analyze winning patterns with knowledge of probability

Activity overview and background: Student-directed or adult-directed, 1-4 player board game

Materials:

- Crayons
- Game board printout
- 40 beans or markers (small enough to fit in the game board circles)
- Two dice

Setup:

1. Start with a blank game board and a pair of dice
2. Each player must then choose a snail they think will reach the garden first and identify the snail as theirs by coloring it or by placing initials on it

Family Math II: Achieving Success in Mathematics (pg. 23)

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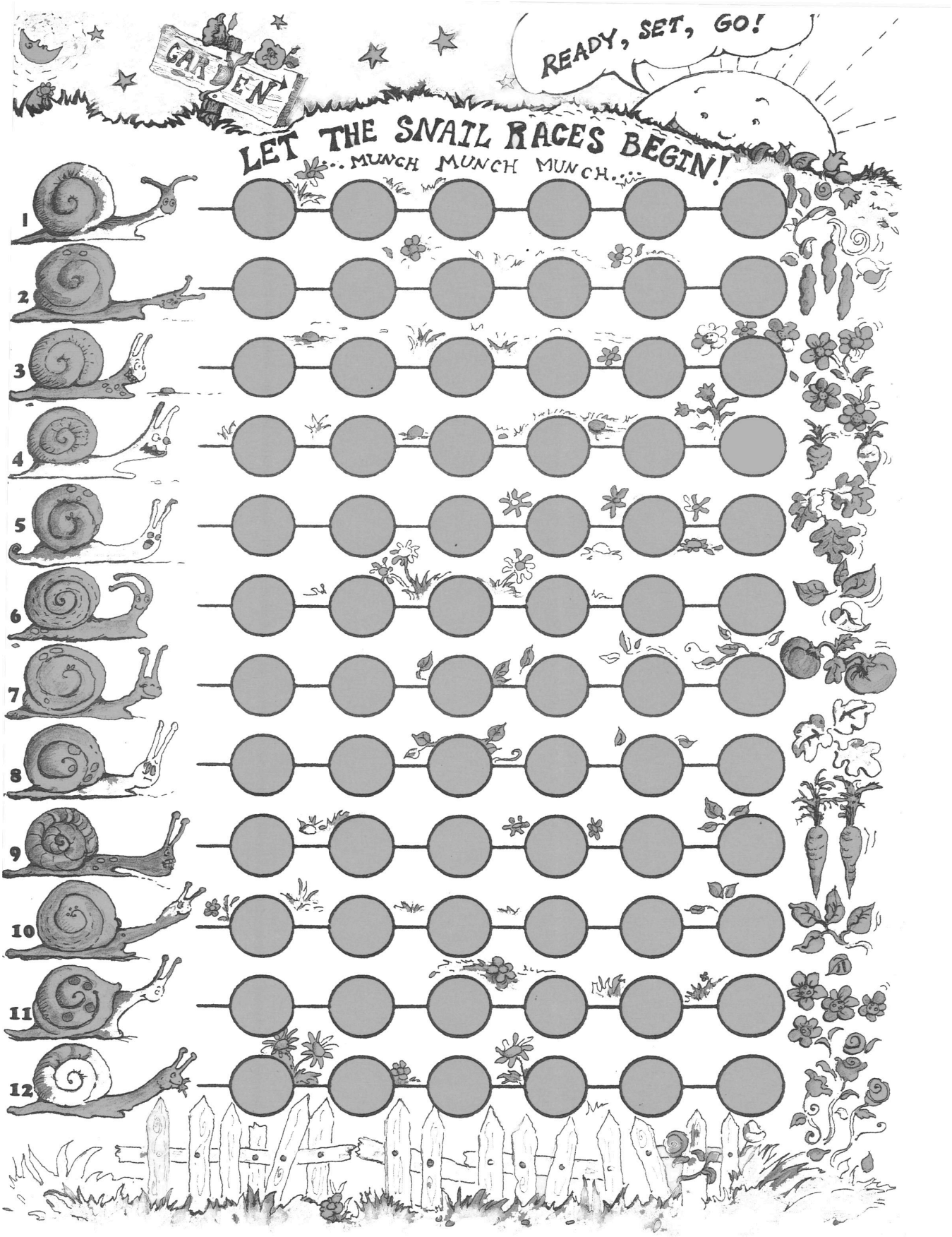
What's Going On?

The game involves using mental addition to advance pieces and knowledge of probability. Sometimes we can predict events based on past experiences. For example, if it rained in your town every first week of December for the last thirty years, one might say it is almost certain that it will rain at the same time this year.

We explore probability based on the outcome of rolling two dice. This means that regardless of past experience, one cannot predict which two dice will come up next.

Instructions

1. One to four people can play this game
    - Each player must choose a snail they think will reach the garden first
    - Identify your snail by coloring or by placing your initials on it
2. In this game, you will find yourself advancing any of the snails including your opponents' snails
3. The first player rolls two dice and adds the numbers together
    - Place a marker on the first circle of the snail with that number
4. Take turns rolling the dice. To advance a snail, place a marker on the next circle each time that snail's number comes up
    - This means that every circle in a snail's path is covered as it advances
5. Remember all the snails are racing—you may have to place markers on a snail that is not yours
6. Keep rolling the dice until one snail crosses the finish line and reaches the garden for a tasty snack
7. Play at least four times and keep track of the races you played and the snail that won
8. Which snails moved at a snail's pace?

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