



Activity B.7: Mountain Goat Scramble I (Addition & Subtraction Only)

Special Note: This is one of children's favorite games. Advanced versions allow multiplication, division, and factoring. See Activity C.6.

Learning Objectives:

- 1) Practice counting.
- 2) Practice simple addition & subtraction.

Examples of Skills Accomplished:

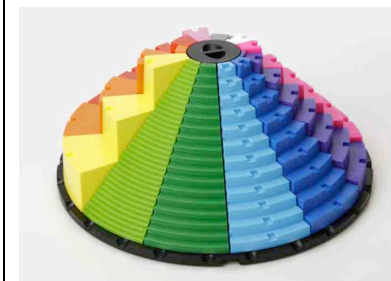
- 1) $2 + 5 = 7$
- 2) $6 - 2 = 4$

Setup:

- 1) Staircases setup in order counter-clockwise.
- 2) For the collaborative version, place a goat (any color token blank side up) at the bottom of each staircase, except 1x.
- 3) Use three dice.

Maximum Number of Players for Small Group Activities: 4

Players Positions: Standing



Activities:

Game Objective: Working together as a team, help each goat (token) scramble to the top of their trail (staircase). When a goat gets to the top, the player who moved the goat to reach the top gets to decide what the goat finds to eat there.

Explain that any player may move any goat and several players may move the same goat on the same staircase, even on the same turn. Nobody owns a goat and nobody owns a staircase. For example, if two players plan to move the goat on the 11x staircase, the first player moves the goat up one step and then the second player moves the same goat up another step.

Hints:

- For the children, the stated objective is to get all goats to the top. Our real objective is to have them practice as much math as is tolerable. That is why they may roll three dice but only use two of them. This requires more mental math and strategy.

1) Write the numbers 2, 5 and 6 on the board. Ask each player to plan a move based on the value of the dice and then review possible choices (see below). They can move a goat up a step on its staircase based on the value of one dice or the sum or difference of two dice. For example, if a 2, 5, and a 6 were rolled, the possible moves are:

- a) Move the goat on the 2x staircase up one step.
- b) Move the goat on the 5x staircase up one step.
- c) Move the goat on the 6x staircase up one step.
- d) Move the goat on the 7x staircase up one step ($2 + 5$).
- e) Move the goat on the 8x staircase up one step ($2 + 6$).
- f) Move the goat on the 11x staircase up one step ($5 + 6$).
- g) Move the goat on the 3x staircase up one step ($5 - 2$).
- h) Move the goat on the 4x staircase up one step ($6 - 2$).

2) Each player then moves the appropriate goat for his/her play.

3) After every player has moved a goat on the first roll, allow players to take turns rolling the dice, but remember every player moves every time the dice are rolled.

4) Continue moving goats up Zillio. When a goat gets to the top, the player who moved the goat to reach the top gets to decide what the goat finds to eat there. Often choices will be pretty silly.

5) Continue play until all goats have reached the top or time is up.

- The reason all players use the same roll to make their move is so players will see that some choices from the same roll result in more optimum movements. They will begin to see that skill as well as luck is involved.
- Who rolls the dice may deserve some discussion. Players can take turns rolling the dice but everyone moves a goat each time the dice is rolled.
- You may have to say "Only one goat can eat pizza" or "I've heard sea stars are particularly tasty" to get their creativity in gear. Allow players to say "a basket of _____" and then everybody says something that meets those criteria.

Competitive Variation:

Each player selects a color for his/her goats, and places his/her goat at the bottom of every staircase (2x – 12x). This version will take longer but makes wining more fun.

Observe and Assess:

- 1) Players' fluency in calculating and evaluating choices.
- 2) Players' attention span.

Group Discussion:

- 1) N/A

Transition to Paper:

- 1) N/A