Process Standards Rubric

Data Analysis and Probability

Exercise columns: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, Drill Sheet 1, Drill Sheet 2, Review A, Review B, Review C

SAMPLE

Expectations

Instructional programs from pre-kindergarten through grade 12 should enable all students to:

GOAL 1: Problem Solving
- build new mathematical knowledge through problem solving;
- solve problems that arise in mathematics and in other contexts;
- apply and adapt a variety of appropriate strategies to solve problems;
- monitor and reflect on the process of mathematical problem solving.

GOAL 2: Reasoning & Proof
- recognize reasoning and proof as fundamental aspects of mathematics;
- make and investigate mathematical conjectures;
- develop and evaluate mathematical arguments and proofs;
- select and use various types of reasoning and methods of proof.

GOAL 3: Communication
- organize and consolidate their mathematical thinking through communication;
- communicate their mathematical thinking coherently and clearly to peers, teachers, and others;
- analyze and evaluate the mathematical thinking and strategies of others;
- use the language of mathematics to express mathematical ideas precisely.

GOAL 4: Connections
- recognize and use connections among mathematical ideas;
- understand how mathematical ideas interconnect and build on one another to produce a coherent whole;
- recognize and apply mathematics in contexts outside of mathematics.

GOAL 5: Representation
- create and use representations to organize, record, and communicate mathematical ideas;
- select, apply, and translate among mathematical representations to solve problems;
- use representations to model and interpret physical, social, and mathematical phenomena.

Task Sheet 13

13) **Emily put 6 yellow marbles and 10 red marbles in a bag. Yellow marbles are worth 5 points and red marbles are worth 1 point. Emily and Joseph take turns to pull out one marble each. Below are their results:**
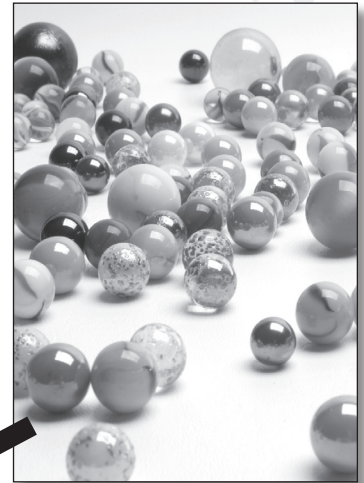
Name	Yellow	Red
Emily	4	4
Joseph	2	6

a) **Who wins the most points?**

_____

If Emily puts another 3 yellow marbles and 5 red marbles into the bag, how likely is it that:

b) **Emily will have the most points?**

_____

c) **Joseph will have the most points?**

_____

d) **Emily will pull out more red marbles than Joseph?**

_____

Reflection Try this yourself. Team up with a classmate and play the same game as Emily and Joseph. Who will win?

Review B

A Girl Guide group is getting ready to sell cookies to the community. They want to determine what flavors to buy based on sales from last year. Below is the number of cookies for three flavors sold last year.

Mint

Vanilla   = 2 cookies

Chocolate

SAMPLE

a) Which cookie sold the most among the community?

b) Which cookie sold the least?

c) How many more mint cookies were sold than the vanilla cookies?

Create a Spinner

Create a spinner for use in a game.

Predict the outcome.

When we play, _____ will come in first.

When we play, _____ will come in second.

When we play, _____ will come in third.

How did you make your game?

_____

_____

_____

What strategy did you use to play your game?

_____

_____

_____

SAMPLE