

Process Standards Rubric

Data Analysis and Probability

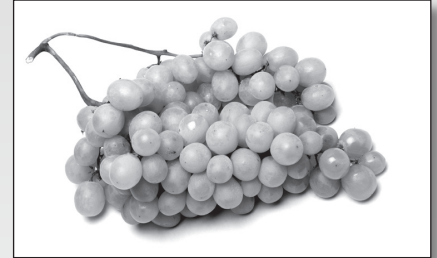
Expectations Instructional programs from pre-kindergarten through grade 12 should enable all students to:	Exercise	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Drill Sheet 1	Drill Sheet 2	Review A	Review B	Review C
		<p>GOAL 1: Problem Solving</p> <ul style="list-style-type: none"> build new mathematical knowledge 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. 	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<p>GOAL 2: Reasoning & Proof</p> <ul style="list-style-type: none"> 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. 	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<p>GOAL 3: Communication</p> <ul style="list-style-type: none"> 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. 	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<p>GOAL 4: Connections</p> <ul style="list-style-type: none"> 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. 	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<p>GOAL 5: Representation</p> <ul style="list-style-type: none"> 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. 	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

SAMPLE



Task Sheet 2

2) Roman and Sofia grew grapes on 325 acres. Boris and Elvira also grew grapes, but only had 205 acres. Catarina and Marcos grew the fewest number of grapes on 85 acres of land.



a) Create a pictograph with a title, a key, and include all the information above in your graph.

SAMPLE

Key

b) Write two observations about your graph once it is complete.

c) Write two questions that can be answered from the data in the graph.

NAME: _____



Drill Sheet 2

An outlier is a number that is significantly different from the rest of the grouping of numbers.

The following goals were scored at a basketball game.

The goals were scored at 1:56, 2:18, 2:35, 3:19, 4:12, 4:48, 1:56, 3:22, and 12:23.

- a) **What is the mode?**
- b) **What is the median?**
- c) **What is the range?**
- d) **What is the mean?**
- e) **Which time is the outlier?**
- f) **Calculate the mean, median, range, and mode without the outlier.**
 - Mean
 - Median
 - Mode
 - Range

SAMPLE

- g) **Explain how excluding the outlier changes the data. Is it a significant change. Why or why not?**

- h) **How can you explain the outlier?**

Mean, Median and Mode



Survey the class about how many hours they play video or computer games per week.



a) Finish creating the tally sheet then record the data collected.

Computer and Video Game time	Mon	Tue	Wed	Thur	Fri	Sat	Sun

b) Create two graphs that represent the data.



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c) What is the mean of the time spent on games weekly?

d) What is the mode of time spent on games weekly?

e) What is the median of time spent on games weekly?

f) What is the range of time spent on games weekly?

g) What is the percentage of time spent on games weekly?

h) Which day of the week do more students play games on?