Process Standards Rubric

Measurement

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
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.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

NAME: _____

Task Sheet 13

13) Look at the chart on the right. A student is measuring the weight of objects. Help him complete the chart based on what he finds out.

Object	Weight
Paper clip	1 gram
Pencil	
Nickel (coin)	
	10 grams

a) A paper clip weighs one gram. A pencil is equal to two paper clips. How much does a pencil weigh?

_____

b) A nickel coin weighs as much as a pencil and three paper clips. How much does the nickel coin weigh?

_____

c) How many grams will one paper clip, one pencil, and one nickel coin weigh? Explain your answer.

_____

_____

Explore With Technology

Think about what you learned. Then, use an online resource to find items that weigh **ten grams** and could be included on the chart. Make a list of three possible items: _____

_____

NAME: _____

Drill Sheet 1

1) Tell which unit you would use to measure the length of each object: inches or feet

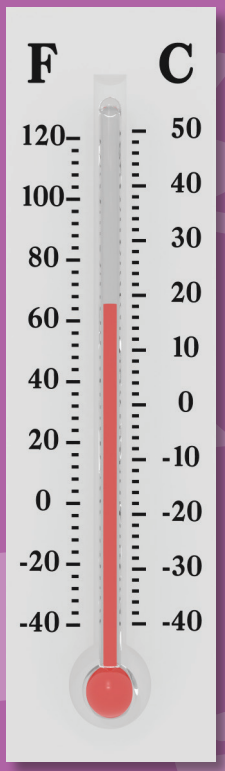
a) car	_____	b) eraser	_____
c) shoe	_____	d) house	_____
e) your yard	_____	f) pen	_____
g) dog	_____	h) birthday card	_____
i) building	_____	j) kite	_____
k) town	_____	l) goldfish	_____

Circle what you think is the best estimate for the weight or volume of each object.

m) Grape:	1 g	1 kg
n) Basketball:	1 oz	1 lb
o) Fish bowl:	1 gallon	1 cup
p) Sneaker:	2 oz	2 lbs
q) Cat:	9 lbs	79 oz
r) Whale:	5 lb	5 tons
s) Large TV:	20 oz	20 lbs
t) Nickel:	1 g	1 mg
u) Back pack:	10 lbs	10 tons
v) Soft drink can:	1 mL	1 L

Warm and Cool

Thermometers are used for measuring temperature. This helps determine how warm or cool an object feels. For this activity, you will need to use a thermometer to measure outside air temperatures. With the help of an adult, measure the temperature at the same time each day for five days. Record the temperature. Then, discuss what you recorded.



Day One temperature: _____

Day Two temperature: _____

Day Three temperature: _____

Day Four temperature: _____

Day Five temperature: _____

What did you s...

1. Did the temperatures get warmer or colder? _____

2. Which day was warmest? _____

3. Which day was coldest? _____

4. What do you think the temperature will be if you took it on Day Six?

_____