Process Standards Rubric

Measurement

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

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 1

1) **Think about ways you measure length. Most times, you measure length with a ruler. Sometimes you measure length with other items. For this problem, you will need a quarter and small paper clips. Use these items to help you answer the questions below.**
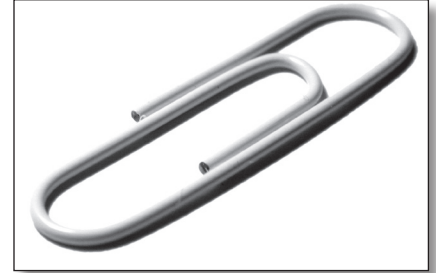
a) **Think about the desk you sit at in school. Suppose you had to measure the length of the desktop with quarters and paper clips.**

i) How many quarters do you think would fit across the length of your desk?   Answer: _____

ii) How many paper clips do you think would fit across the length of your desk?   Answer: _____

b) **Now, try it. Use your quarter. Then use your paper clip. Write the measurements below.**

i) How many quarters fit across the length of your desk?   Answer: _____

ii) How many paper clips fit across the length of your desk?   Answer: _____

c) **Imagine you had to measure three desks. How would the measures change?**

i) How many quarters would you need to fit across three desks?   Answer: _____

SAMPLE

Drill Sheet 2

2) **Look at the pictures. How much money is shown in each picture?**

Answer:

Answer:

[blank answer box]

[blank answer box]

[blank answer box]

[blank answer box]

[blank answer box]

[blank answer box]

[blank answer box]

[blank answer box]

Tell one way to make each amount listed below.
You can use pennies, nickels, dimes, or quarters.

20 cents: _____

37 cents: _____

55 cents: _____

63 cents: _____

75 cents: _____

90 cents: _____

SAMPLE

Ways To Make A Dollar

There are many different types of change you might find in your pocket. Now, think about how you can use such change to make $1.00.

Working alone or with a partner, come up with ways to make $1.00 using coins. You can not use all of one type of coin to make it, but have to use at least two types of coins. How many ways to make a dollar can you come up with in ten minutes? Share your results on this chart in the class.

Coins you used to make $1.00	Number of coins used

Think about your results. How many ways did you find to make a dollar? Which way used the most coins? Which way used the least coins?