



Great Lakes Field Service Council – STEM Committee
Michigan Crossroads Council

Name: _____

Nova Cub Scout Math
1-2-3 Go!

Pack: _____

Date: _____

(b). Conduct and keep a record of a coin toss probability experiment. Keep track of at least 25 tosses. Probability is the chance that an event will happen. When flipping a coin, there are equal chances that it will land heads or tails. Want to prove it? Flip a coin 25 times. Record your outcomes in the chart. Answer the questions below.

Before you flip, try to make a prediction.

Out of 25 flips, how many times do you think it will land on a head side? _____ times.

How many times do you think it will land on a tail side? _____ times.

Flip Number	Heads	Tails	Flip Number	Heads	Tails	Flip Number	Heads	Tails
1			10			19		
2			11			20		
3			12			21		
4			13			22		
5			14			23		
6			15			24		
7			16			25		
8			17					
9			18					

How many times did it land heads? _____ times.

How many times did it land tails? _____ times.

Is the outcome different from your prediction, and by how much?

Option B: Complete both of the following: (a) Interview four adults in different occupations and see how they use measurement in their job. (b) Measure how tall someone is. Have them measure you. Complete in both inches and centimeters.

3. Explore TWO options from A or B or C and complete ALL the requirements for those options.

Keep your work to share with your counselor. The necessary information to make your calculations can be found in a book or on the Internet. (See the Helpful Links box for ideas.) You may work with your counselor on these calculations.

A. Choose TWO of the following places and calculate how much you would weigh there.

1. On the sun or the moon



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2. On Jupiter or Pluto

3. On a planet that you choose

B. Choose ONE of the following and calculate its height:

1. A tree; 2. Your house; 3. A building of your choice

C. Calculate the volume of air in your bedroom. Make sure your measurements have the same units—all feet or all inches—and show your work. $Volume = Length \times Width \times Height$



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4. Secret Codes

A. Look up, then discuss with your counselor each of the following:

1. Cryptography

2. At least three ways secret codes or ciphers are made

3. How secret codes and ciphers relate to mathematics

D. Design a secret code or cipher. Then do the following:

1. Write a message in your code or cipher.

2. Share your code or cipher with your counselor.

5. Discuss with your counselor how math affects your everyday life.
