Scientific Method

Understanding the World Around Us – with SCIENCE!

General Steps

- **Make an observation**
- **Ask a question**
- **Form a hypothesis**
- **And make a prediction**
- **Do a test or experimentation**
- **Analyze data and draw a conclusion**

Observation

- What do I see?
- What have I noticed?

EXAMPLE:

My blue crayon broke three times this week!

Question

- Wonder about what you are seeing?
- What questions do you have?

EXAMPLE:

I wonder if my blue crayons are not as strong as the other crayons I am using?

Form a Hypothesis

- Make your question into a statement that could be proven as true or false.

EXAMPLE:

I hypothesize that blue crayons are weaker than red and yellow crayons.

Make a Prediction

- If _____, then____.

EXAMPLE:

If my blue crayon is weaker than my other crayons, then if will break more often than the others.

Make a Prediction

- If _____, then____.

EXAMPLE:

If my blue crayon is weaker than my other crayons, then it will break more often than the others.

Experiment

- Design and experiment and then make sure you have a chart that you can use to gather your data.

EXAMPLE:

I will use three blue, three red, and three yellow. I will drop each off the edge of my desk and see how many drops it takes for each of them to brake.

I will record my observations on this chart:

Experiment Colour	**First Try**	**Second Try**	**Third Try**
Red			
Blue			
Yellow			

Analyse and Conclude

- Design and experiment and then make sure you have a chart that you can use to gather your data.

EXAMPLE:

Experiment Colour	**First Try**	**Second Try**	**Third Try**
Red	15 drops	10 drops	12 drops
Blue	4 drops	15 drops	8 drops
Yellow	12 drops	6 drops	8 drops

I calculate the average by adding together all of one colored crayon's drops, and then dividing it by the total number of times I tried the experiment.

Analyze and Conclude

- Design and experiment and then make sure you have a chart that you can use to gather your data.

Experiment Colour	**Total**	**Nuber of experiments**	**Average**
Red	15+10+12 =37	3 tries	37/3 = 12r1
Blue	4+15+8 =27	3 tries	27/3 = 9
Yellow	12+6+8 = 26	3 tries	26/3 = 8r2

EXAMPLE:

Experiment Colour	**First Try**	**Second Try**	**Third Try**
Red	15 drops	10 drops	12 drops
Blue	4 drops	15 drops	8 drops
Yellow	12 drops	6 drops	8 drops

I calculate the average by adding together all of one colored crayon's drops, and then dividing it by the total number of times I tried the experiment.

"Based on my observations, I know that the red crayons I had were stronger than the yellow and blue crayons. I also know that blue crayons and yellow crayons break almost the same amount, on average."