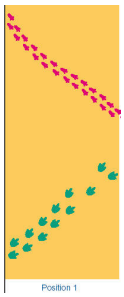
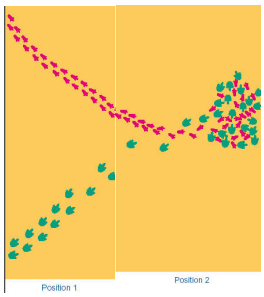
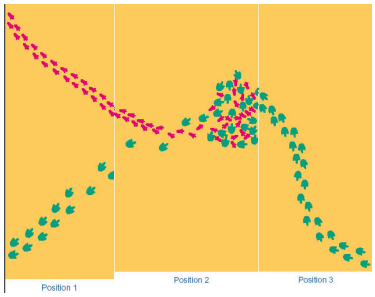
Observation vs. Inference



Observation vs. Inference



Observation vs. Inference



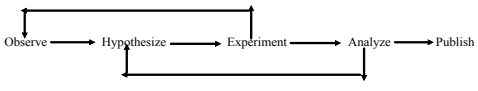
Observation = recording information that you can actually see

Inference = making logical conclusions based on what you know and what you have seen

Scientific Methods

- Not the same process for each problem

- Use _____ and _____throughout the process



What is a Hypothesis?

- If a hypothesis is supported by data and multiple tests it is considered valid and is accepted by the scientific community

- **A HYPOTHESIS IS NOT AN EDUCATED GUESS**

Experimentation

Control group = a group used for comparison in an experiment

Experimental group = a group that is exposed to a factor being tested in an experiment

In an experiment, scientists can only change _____ factor at a time. This factor is called a _____

Variables

Independent Variable = a tested variable that might effect the outcome of the experiment

Dependent Variable = results from or depends on changes to the independent variable

A _____ is a factor that remains unchanged or fixed during an experiment while the IV and DV are changed

Analyzing Data

Scientists look for data and evidence to _____ their hypothesis

Why?

Theory vs. Law

Theory = an _____ of a natural phenomenon supported by many observations and experiments over time

Law = _____ a natural phenomenon

- we often use theories to explain laws

THEORIES DO NOT BECOME LAWS