**Gathering Information:  
Observations and Inferences**Observation: using senses to gather information.  
  
Two types of observations:  
1. Qualitative observation: Usually made with our senses.  
Examples:

•Olivia is wearing a blue sweater.

•The lab tabletop is smooth.

•The dog’s fur is shiny.  
  
2. **Quantitative observation**: Will always have a number and is based on exact measurement.

Examples:

•The room is 8 meters across.

•Sarah is 141-cm tall.

•Sam weighs 450 Newtons.  
  
**Inference:** A logical interpretation of an event that is based on observations and prior knowledge.

Examples: happily purring cat, blood, feathers = ?????  
crying student, walking out of office = ?????  
  
  
**Observation vs Inference**  
  
Observation – Based on the five senses:

•Sight

•Smell

•Touch

•Taste

•Hearing

Inference – Based on prior knowledge or opinion