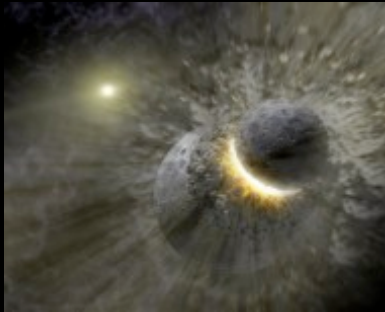


Scientific Investigation: Observations and Inferences



Most important scientific tool?

YOUR POWERS OF . . .

OBSERVATION

Observation

Observation: using your senses to describe the world around you.

-These are facts and not opinions

Examples

OBSERVATIONS

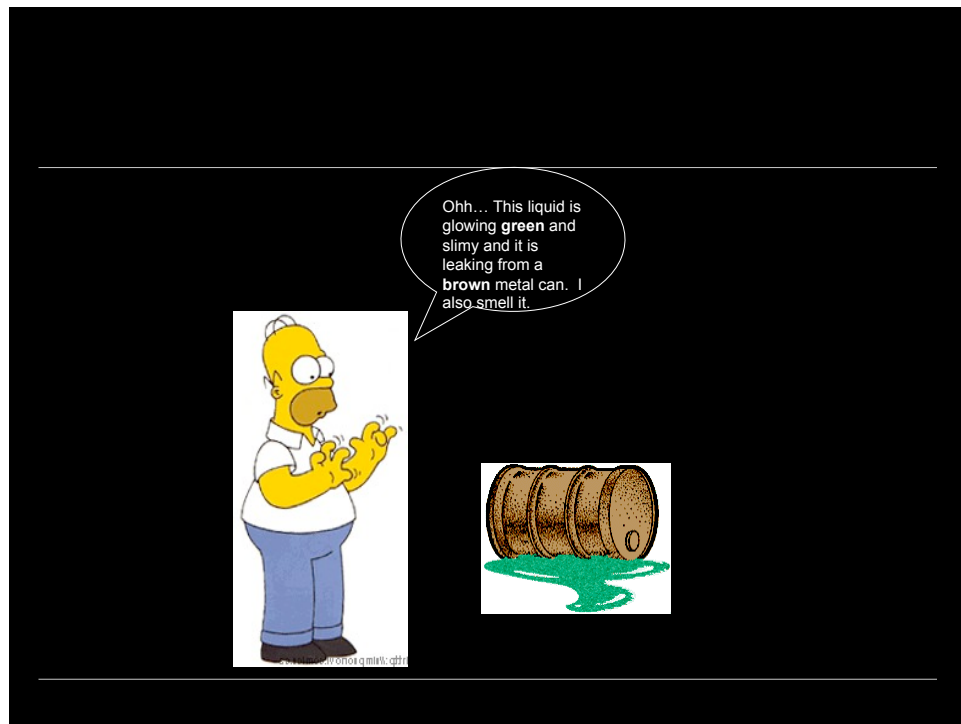
It is green and slimy
He scored 5 goals
The chicken is greasy and tough
40 kids wore blue today

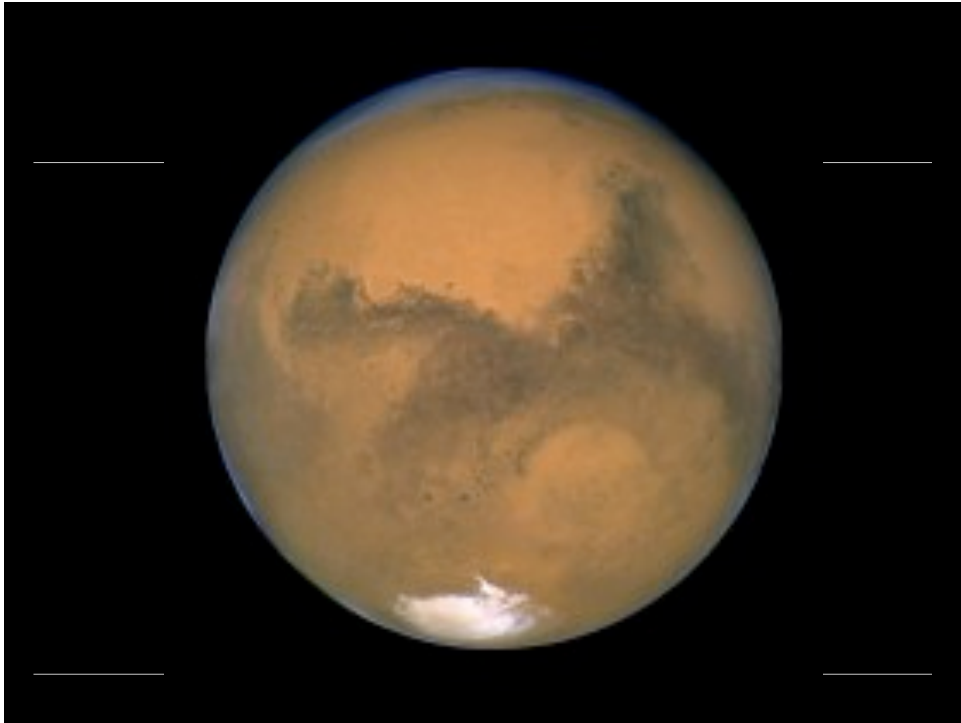
OPINIONS

It's totally gross!
He's the greatest player
The chicken tastes funny
Blue is their favorite color

Your Senses ... Your Friends

- Using your sense
 - Sight – color, size, shape, numbers, patterns, movement,
 - Touch – textures (sharp, dull, rough, smooth, fuzzy, hard, soft, wet oily, dry)
 - Smell – sweet, rotten, strong, fresh, spicy, minty, like strawberries
 - Hear – loud, soft, high, low, quick, long, quiet
 - Tastes – salty, sour, bitter, sweet (umami)





Making Observations

Qualitative Observation

- Using descriptive words
- Uses senses
- Examples:
 - ✓ large round head
 - ✓ rotten smell
 - ✓ Crusty brown scab
 - ✓ Little furry blue pets

Quantitative Observation

- Using numbers to describe
- Forms of measurement
- Examples:
 - ✓ 10 cm tall
 - ✓ 50 kg
 - ✓ 110 F
 - ✓ 110 kph

Qualitative vs. Quantitative observations

- | | |
|--|---|
| <ul style="list-style-type: none"> • <u>Qualitative</u> (descriptive) <ul style="list-style-type: none"> • The cute, fuzzy, tan colored lion has sharp teeth and a long tail. | <ul style="list-style-type: none"> • <u>Quantitative</u> (numbers) <ul style="list-style-type: none"> • The 500 kg lion has 6 cm long claws at the end of each of its 18 toes. |
|--|---|

