

BEFORE YOU WATCH THE VIDEO - DO THIS SECTION

READ this selection and fill in the examples below:

OBSERVATIONS AND INFERENCES

Scientists rely on their skills of observation in the world. **Observations** are anything that can be detected directly with the use of our five senses: sight, hearing, touch, taste, smell. There are 2 types of observations, qualitative and quantitative. **Qualitative observations** describe the general qualities of something that are hard to measure. Examples of qualitative observations are color, taste, smell, size, and shape. **Quantitative observations** describe the quantities or measurements of something. Examples of quantitative observations include temperature, mass, length; anything with numbers. A good scientist becomes **curious** after making observations, generating questions that can be tested to explain the observations. **Inferences** are logical conclusions our brain makes to explain our observations. The same **observations** can lead to different **inferences**, depending on the scientists' **perspectives**. For example, if you notice your plant's **leaves are turning brown**, you don't just say, "Huh. Brown leaves." You automatically jump to the inference that **your plant is dying** and wonder what you should do to help it live. You don't SEE it die; you SEE a color change and INFER an outcome.

Practice Time!

For each example decide if it is a Qualitative Observation (QL), a Quantitative Observation(QNT), or an Inference (I).

_____ 1. The candy was sour

_____ 2. Since the candy was sour, I think it must be Sour Patch Kids.

_____ 3. The snake was 2 m wide

_____ 3. The flower is red

_____ 4. The slug was slimy

_____ 5. The volume was turned up to level 8

_____ 6. The mass of the beaker is 122 g

_____ 7. My fingernail is 2 cm long

_____ 8. He has 3 sisters

_____ 9. It made a loud popping sound

_____ 10. Since it is 4th of July, the loud popping sound must have been fireworks.

**NOW WATCH THE VIDEO - LINK #11 ON THE
SCIENTIFIC METHOD PAGE**

AFTER YOU WATCH THE VIDEO - DO THIS SECTION

Observations vs. Inferences

DEFINE these words:

Observation-

Qualitative observation:

Quantitative observation:

Inference (infer):

Statement & Explain why you chose what you chose	CIRCLE (you may circle more than one) quantitative observation, qualitative observation, or inference
1) Bird is covered in feathers of different colors.	quantitative observation qualitative observation inference
Why did you choose to circle what you did?	
2) Bird is large, so it probably does not fly.	quantitative observation qualitative observation inference
Why did you choose to circle what you did?	
3) Bird has long tail feathers protruding almost 2 feet from rear.	quantitative observation qualitative observation inference
Why did you choose to circle what you did?	
4) Bird has brown beak directly in front of eyes.	quantitative observation qualitative observation inference
Why did you choose to circle the one you did?	

<p>5) Bird has 4 large claws on each of its two feet.</p>	<p>quantitative observation qualitative observation inference</p>
<p>Why?</p>	
<p>6) The bird is a predator that eats small rodents.</p>	<p>quantitative observation qualitative observation inference</p>
<p>Why?</p>	
<p>7) The bird has a white ring of feathers around its neck.</p>	<p>quantitative observation qualitative observation inference</p>
<p>Why?</p>	
<p>8) Bird is 1.4 m tall, so it probably does not fly.</p>	<p>quantitative observation qualitative observation inference</p>
<p>Why?</p>	
<p>9) The bird is dragging a wing along the ground and chirping.</p>	<p>quantitative observation qualitative observation inference</p>
<p>Why?</p>	

10) There are four feathers missing from the right wing.	quantitative observation qualitative observation inference
Why?	
11) Wingspan is as large as my car.	quantitative observation qualitative observation inference
Why?	

Directions: Observe an object at your table. Create at least 3 qualitative observations, 3 quantitative observations and 3 inferences about the object

Qualitative Observations	Quantitative Observations	Inferences