

Name _____
Date _____ Period _____

Observations vs. Inferences

A good scientist is first a good observer. In order to make good observations, you must pay attention to details and use your five senses. In science, we pay very close attention to observations, what we can see, hear, or touch, or smell (Tasting doesn't always translate into good science practice). Senses can be enhanced with technology.

Inferences, on the other hand, are how we interpret the observations we make.

Observations themselves are facts. Inferences take those facts and try to make sense of them by filling in any missing observations/facts by using what we already know. You use your thinking ability in order to make inferences instead of senses.

For example: You are asleep in bed, when early one morning you are woken up by a tremendous crash outside, followed by a flash of light.

What are your observations? Use your senses - You heard a loud noise. You saw a flash of light.

Now, what is your inference? You might think a thunderstorm is happening. Maybe you'd think it was going to rain. Both of these are inferences, because you did not see them directly- you are guessing. You are making logical guesses, but guesses nonetheless. It can storm without rain, so that it is "raining out" may not be true. With lightning, the light always comes before the sound.

Now, you look outside and make some more observations. You see a car that is crumpled next to an electrical pole. You see sparks falling from the power transformer at the top of the pole. Inferences can change with new observations or facts. What is your inference?

Part I. You will determine whether each of the following is an observation or inference, by putting O or I on the blank next to the description.

- | | |
|--|---|
| ___ A bird is sitting on a post | ___ The baby birds are chirping because they are hungry |
| ___ A bird is sitting on its nest | ___ The baby birds are 20 feet off the ground |
| ___ A bird is on the ground because it is hurt | ___ The baby birds are covered in fuzzy feathers |
| ___ A bird is on the ground because it is looking for food | ___ The nest is made of twigs and grass |
| ___ A chirping noise from the tree must be the bird's babies | ___ Twigs and grass make the best nests |

Part II. Look at the pictures on the back. For each picture write three observations about the picture. Then write one inference.

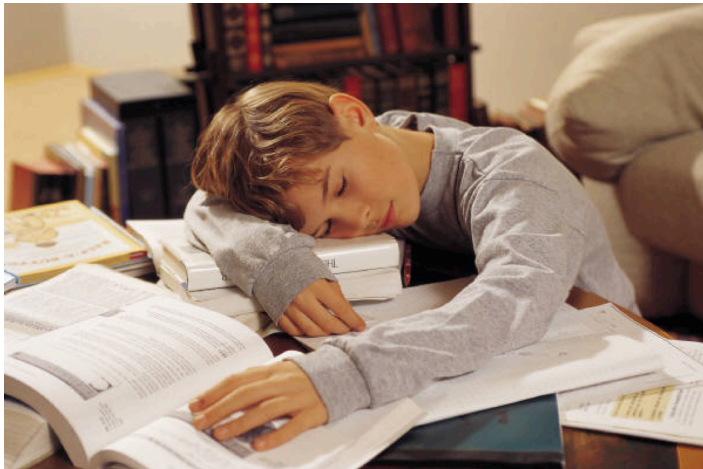


Observation 1 _____

Observation 2 _____

Observation 3 _____

Inference _____



Observation 1 _____

Observation 2 _____

Observation 3 _____

Inference _____

Keeping these in case I want to ever use them. Currently not including them on the worksheet.

- What kind of coin? _____ observation or inference? 1.
- How old is the coin? _____ observation or inference? 2.
- What color is the coin? _____ observation or inference? 3.
- Who is on the coin? _____ observation or inference? 4.
- What shape is the coin? _____ observation or inference? 5.
- What is the coin made of? _____ observation or inference? 6.
- Are there ridges on the coin? _____ observation or inference? 7.
- How thick is the coin? _____ observation or inference? 8.