Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**I CAN design a good controlled scientific investigation.**

Distinguish between an observation and an inference.

Make an inference from an observation.

Period \_\_\_\_\_Date\_\_\_\_\_\_\_\_\_\_\_

Standard 7.3.1

 **Observations & Inferences**

What is **inferring**? The explanations that we use to EXPLAIN the happenings around us are called **inferences**. **Inferences** are based on observations. The better we are at making observations and communicating observations, the more valid our **inferences** will be. The ability to **infer** helps us understand the world around us. **Inferring** has to be LOGICAL. **Inferences** are subject to change and there may be more than one valid logical explanation to an observation.

Example: Observation 1: You walk into the kitchen, and you see someone in your family with watery eyes that appear to have been crying.

First **inference**:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Observation 2: Upon further observations, you see onion peels in the sink and discover that your mom is chopping onions over by the stove and placing them in the frying pan.

Second **inference**:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Read the observation column. Write your **inference** in the “**inference** column.”

|  |  |
| --- | --- |
| OBSERVATION | **INFERENCE** |
| 1. You observe the sky at noon is getting dark. |  |
| 2. The principal interrupts class and calls a  student from the room. |  |
| 3. All HEDRICK MIDDLE SCHOOL students are bringing a lunch from home. |  |
| 4. Ozzy Osbourne, a former rock and roll band member, has bad hearing. |  |
| 5. You come out of Tinseltown at night and find the streets are wet. |  |
| 6. During a handshake, you feel the palms of the person are rough and calloused. |  |
| 7. You come to class, the door is closed,  and the lights are off. |  |
| 8. A siren is heard going past the school. |  |
| 9. A student at Hedrick wears a South Medford sweatshirt. |  |
| 10. A student is sitting in the hallway during class time. |  |

Put an **‘O’** next to any statement which is an **observation**.

Put an **‘I’** next to any statement which is an **inference**.

\_\_\_\_\_1. I flipped the switch, but the light didn’t go on.

\_\_\_\_\_2. The bulb is burnt out.

\_\_\_\_\_3. Birds fly south to escape cold weather.

\_\_\_\_\_4. I found the pillbug under a moist piece of wood.

\_\_\_\_\_5. Pillbugs must like moist dark places since I usually find them under there.

\_\_\_\_\_6. There are large dark clouds in the sky.

\_\_\_\_\_7. The clouds mean rain by morning.

\_\_\_\_\_8. Wilbur sings to his calculator and tries to feed it ice cream.

\_\_\_\_\_9. Wilbur is crazy.

\_\_\_\_\_10. The hawk must like to hunt from high places, since I always see it on top of the

telephone pole.

\_\_\_\_\_11. I saw a hawk on top of the telephone pole.

\_\_\_\_\_12. When I dissected the frog, it had ten flies in its stomach.

\_\_\_\_\_13. The frog’s favorite food must be flies, since I found ten in its stomach during the

 dissection.

\_\_\_\_\_14. The piece of wood had chew marks on it.

\_\_\_\_\_15. A person has a temperature of 103o.

\_\_\_\_\_16. The person with a 103o temperature has the flu.

\_\_\_\_\_17. Plants have spines or needles to protect them from being eaten.

\_\_\_\_\_18. That plant has spines.

\_\_\_\_\_19. Some animals look like their surroundings, so they won’t get eaten.

\_\_\_\_\_20. Some animals look like their surroundings.



Look at this picture and list two observations and make two inferences.

Observations:

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Inferences:

3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Look at this picture to the left and list two observations and make two inferences.

Observations:

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Inferences:

3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

