

## Probe and Predict

Gather **observations** in order to **infer**.

**Observation:** information that is gathered through measurement or descriptions that require the use of senses. These are non-questionable because anyone would make the same observation.

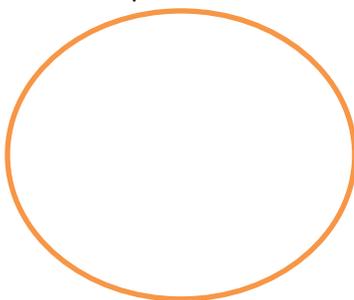
**Inference:** a conclusion or prediction based on the observations. This may or may not be accurate. Additional observations may require the inference to be adjusted.

*Scientists cannot see atoms, nor can they see the particles that make them. Indirect observations had to be made in order to infer the structure of an atom. We will attempt to do something similar.*

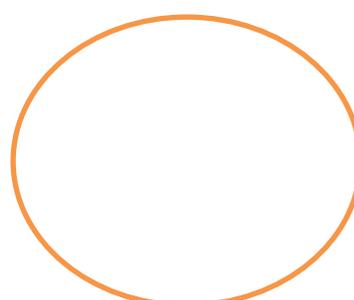
*You will be given an "atom" (ball of clay). There are object(s) hidden in your ball of clay. You may NOT change the shape of your clay or bore into the clay in order to see or remove these items. The only way you may gather information about what is inside the clay is to probe the "atom" with your probe. That means, you may poke the probe straight in and then pull it straight back out at the same angle. Follow the directions below:*

1. Place your atom on the table so that you can identify at top and bottom.
2. Make three probes (straight in and straight back out at the same angle) into the top part of the atom. Mark the circle below by making dots where you made the probes. Number each probe so that you can make notes on the observations found at each spot.
3. Turn the atom over so that you can make three probes in the bottom. Mark the circle below as you did before.
4. What are your predictions at this time?
5. Repeat this process by adding three more probes to the top and three more probes to the bottom. Adjust your inferences if your new observations provide more information that is helpful.

Top of Atom



Bottom of Atom



Name:

Period:

NB#:

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After making only 3 probes in the top:

How many objects?	Size and shapes of object(s): Draw your inference.	What are object(s) made of?

After making only 3 probes in the bottom:

How many objects?	Size and shapes of object(s): Draw your inference.	What are object(s) made of?

After making 3 more probes (6 total) in the top:

How many objects?	Size and shapes of object(s): Draw your inference.	What are object(s) made of?

After making 3 more probes (6 total) in the bottom:

How many objects?	Size and shapes of object(s): Draw your inference.	What are object(s) made of?

Name:

Period:

NB#:

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