Observation Exercise
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- Such as?
Types of observations
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An inference, on the other hand, is something we assume (or infer or conclude) based on our observations.

Examples:
<table>
<thead>
<tr>
<th>Observations</th>
<th>Inferences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Qualitative Observations:</td>
<td>The conclusions you can draw from these</td>
</tr>
<tr>
<td>What you can find out with</td>
<td>observations.</td>
</tr>
<tr>
<td>your senses</td>
<td></td>
</tr>
<tr>
<td>Quantitative Observations:</td>
<td></td>
</tr>
<tr>
<td>What you can measure</td>
<td></td>
</tr>
</tbody>
</table>
Practice

- What observations could we make of giraffes?
- What inferences (conclusions) could we make about their feeding behavior?
- An inference is a hypothesis - we can test it to find if it is true.
Quick Check

- What is the difference between a qualitative observation and a quantitative observation?
- Which is more useful in science?
- What is an inference?
Reseachable Questions
Researchable Questions

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2. Not usually written as a “why” question.
3. The answer should not be found in a book.
4. Should have clear independent variable (IV) and dependent variable (DV)
Rewrite the following to be good researchable questions:

- Will this car roll down the ramp faster than the other one?

- What would happen if I burned this marshmallow?
Practice
Rewrite the following to be good researchable questions:

- Will this car roll down the ramp faster than the other one?
  = How does the mass of the car affect the speed it rolls?

- What would happen if I burned this marshmallow?
  = How does burning affect the mass (or chemical composition, etc) of a marshmallow?
General Format of a Researchable Question

How does (doing a series of related variations of the independent variable) affect (something measurable about the dependent variable)?

For example:

How do different concentrations of solute affect the mass of a de-shelled chicken egg?