DATE: NAME: CLASS:

GENERAL SCIENCE TOOLKIT

Observation Skills

BLM G-36

Goal • To refine science observation skills.

Making observations is an important aspect of science. Good observations skills will help you to SEE rather than just LOOK at investigations and the corresponding results.

Different objects have different properties. Through the use of our senses we are able to perceive an object's characteristic properties. We often think of observations as something we do only with our eyes. But, all five of our senses—sight, hearing, touch, smell, and taste (not done in the science lab) can be used to make observations.

Observation in science expects you to pay attention to details. You should be able to distinguish between quantitative and qualitative observations of a scientific experiment, and record and organize data collected during an experiment.

We can make two kinds of observations: those that are quantitative which include measurement (include numbers) and those that are qualitative which describe the qualities of objects. Qualitative observations often include reference to the state of matter, colour, smell, texture, taste, shininess, and clarity of a substance. Quantitative observations give more precise information than our senses alone.

Observations are based upon what was actually observed and not inferred. You should be able to distinguish between an observation and an inference. The colors and colour changes, the temperature and temperature changes that occur in a lab are directly observed and they can be classified as observations. When you make conclusions or offer explanations, then you are making inferences.

Observation Skills Checklist

	Yes	Sometimes	No	N/A
• I am able to develop a scientific question or a purpose that can be investigated through observations.	☐	☐	☐	☐
• I can select appropriate tools to collect data.	☐	☐	☐	☐
• I use equipment/tools properly.	☐	☐	☐	☐
• I use materials to make a variety of accurate qualitative observations.	☐	☐	☐	☐
• My qualitative observations include the use of multiple senses.	☐	☐	☐	☐
• I am able to safely and accurately follow scientific procedures to conduct investigation.	☐	☐	☐	☐
• I am able to collect accurate specific, measurable data (time, speed, temp) as required.	☐	☐	☐	☐
• My quantitative measurements are recorded using appropriate units.	☐	☐	☐	☐

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Observation Skills

	Yes	Sometimes	No	N/A
• My observations are based upon what was actually observed and do not include inferences.	☐	☐	☐	☐
• I am able to organize data into tables and/or charts as needed.	☐	☐	☐	☐
• I use all of the skills of observing, describing, classifying and measuring in the scientific investigation.	☐	☐	☐	☐
• I am able to use evidence (descriptions, observations, data) from investigation to analyze and answer questions/communicate results/write conclusions.	☐	☐	☐	☐
• I state conclusions based on experimental results with appropriate accuracy.	☐	☐	☐	☐
• I am able to analyze whether evidence supports proposed explanations and evaluate the success of the lab.	☐	☐	☐	☐

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