

## Process Skills Rubric

Skill	Beginning	Developing	Advanced
Observing	<ul style="list-style-type: none"> <li>• Uses single sense and minimal description</li> <li>• Struggles to uses magnifying glasses and other instruments to extend senses</li> <li>• Notices patterns or sequences in events when they are pointed out to him/her</li> </ul>	<ul style="list-style-type: none"> <li>• Uses single sense with more than one descriptor</li> <li>• Uses magnifying glasses and other instruments to extend senses when directed</li> <li>• Identifies details in objects, organisms and events when directed to observe more closely</li> <li>• Notices patterns or sequences in events when probed</li> </ul>	<ul style="list-style-type: none"> <li>• Uses more than one sense with multiple accurate descriptions</li> <li>• Uses magnifying glasses and other instruments to extend senses</li> <li>• Identifies details in objects, organisms and events</li> <li>• Notices patterns or sequences in events</li> </ul>
Measuring	<ul style="list-style-type: none"> <li>• Makes visual determinations that sometimes make sense</li> <li>• Inaccurate when using tools</li> </ul>	<ul style="list-style-type: none"> <li>• Uses appropriate tools</li> <li>• Sometimes inaccurate when using tools</li> </ul>	<ul style="list-style-type: none"> <li>• Uses appropriate tools</li> <li>• Accurate measurements are taken when using tools</li> </ul>
Communicating	<ul style="list-style-type: none"> <li>• <b>Oral:</b> answers direct questions</li> <li>• <b>Written:</b> student can read notes</li> <li>• <b>Diagrams:</b> unclear and need student explanation of observations of object or organisms</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Oral:</b> answers need prompting to include evidence</li> <li>• <b>Written:</b> are based on observation of objects and organisms with little evidence</li> <li>• <b>Diagrams:</b> are based on observation of objects and organisms without labels</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Oral:</b> answers complete with supporting evidence with no prompts</li> <li>• <b>Written:</b> detailed carefully written accounts of investigations and observations including evidence</li> <li>• <b>Diagrams:</b> are based on careful observation of objects and organisms with clear with labels</li> </ul>
Collecting data	<ul style="list-style-type: none"> <li>• Needs prompts when</li> </ul>	<ul style="list-style-type: none"> <li>• records data accurately</li> </ul>	<ul style="list-style-type: none"> <li>• Designs and labels data</li> </ul>

	<p>recording data, put your finger on ...</p> <ul style="list-style-type: none"> <li>• Does not construct charts</li> <li>• Teacher designed data is collected inaccurately so does not serve as evidence to support conclusions</li> </ul>	<p>when provided a chart, needs little direction</p> <ul style="list-style-type: none"> <li>• Does not construct or label charts</li> <li>• Records units of weight and measure when reminded</li> <li>• Teacher designed data collected serves as evidence to support conclusions</li> </ul>	<p>charts</p> <ul style="list-style-type: none"> <li>• Records data accurately</li> <li>• Records units of weight and measure</li> <li>• Student designed data collected serves as evidence to support conclusions</li> </ul>
Making graphs and Charts	<ul style="list-style-type: none"> <li>• Puts data into charts and graphs with directions</li> <li>• Data lacks organization and is inaccurate</li> </ul>	<ul style="list-style-type: none"> <li>• Puts data into prepared labeled charts and graphs with few prompts</li> <li>• Data lacks organization but is accurate</li> </ul>	<ul style="list-style-type: none"> <li>• Constructs, labels and uses charts and graphs to fit data that is being collected</li> <li>• Data is well organized and accurate</li> </ul>
Classifying	Needs help putting information into provided categories	Can sort information with provided categories	Able to sort information and puts into categories
Predicting	<ul style="list-style-type: none"> <li>• Makes predictions that do not fit the evidence, often are incorrect</li> <li>• Can test predictions when given directions</li> </ul>	<ul style="list-style-type: none"> <li>• Makes predictions using some evidence that are sometimes reasonable</li> <li>• Suggests how to test predictions when questioned or lead</li> </ul>	<ul style="list-style-type: none"> <li>• Explains basis of predictions using evidence makes reasonable predictions that fit the evidence, whether accurate or not.</li> <li>• Suggests how to test predictions</li> </ul>
Inferring	<ul style="list-style-type: none"> <li>• Still concrete learner who does not understand where inference comes from</li> </ul>	<ul style="list-style-type: none"> <li>• Makes inferences based on some evidence and scientific knowledge</li> <li>• Sometimes is able to explain basis for inferences</li> <li>• Does not suggest how to test inferences</li> </ul>	<ul style="list-style-type: none"> <li>• Makes reasonable inferences based on evidence and scientific knowledge</li> <li>• Explains basis for inferences</li> <li>• Suggests how to test inferences</li> </ul>
Hypothesizing	<ul style="list-style-type: none"> <li>• Cannot develop hypothesis without help</li> <li>• Can understand hypothesis</li> </ul>	<ul style="list-style-type: none"> <li>• Explains basis for hypothesis when probed with questions</li> </ul>	<ul style="list-style-type: none"> <li>• Makes reasonable hypothesis based on evidence and scientific</li> </ul>

	<p>proposed by others</p> <ul style="list-style-type: none"> <li>• Can test hypothesis when given a plan</li> </ul>	<ul style="list-style-type: none"> <li>• Needs help making reasonable hypothesizes based on evidence and scientific knowledge</li> <li>• Needs help with plans a means to test hypothesis</li> </ul>	<p>knowledge</p> <ul style="list-style-type: none"> <li>• Explains basis for hypothesis</li> <li>• Plans a means to test hypothesis</li> </ul>
Interpreting data	<ul style="list-style-type: none"> <li>• Reports data but needs help to finding meaning in it</li> <li>• Cannot make interpolations and extrapolations from patterns in information and observations</li> </ul>	<ul style="list-style-type: none"> <li>• Reports data and makes explanations with probing</li> <li>• Struggles to make interpolations and extrapolations from patterns in information and observations</li> </ul>	<ul style="list-style-type: none"> <li>• Can explain meaning of data</li> <li>• Makes interpolations and extrapolations from patterns in information and observations</li> </ul>
Making models	<ul style="list-style-type: none"> <li>• Follows directions to build model but has difficulty understanding its significance</li> </ul>	<ul style="list-style-type: none"> <li>• Follows directions to build model and understands the concept illustrated</li> </ul>	<ul style="list-style-type: none"> <li>• Makes models without directions to illustrate a concept</li> </ul>