

Design Process Rubric

	Level 1	Level 2	Level 3	Level 4
INITIATING AND PLANNING	works on a problem set by the teacher or group suggests a solution to the problem and, with prompting, offers ideas about procedure with prompting, identifies some materials which could be used to carry out the plan	identifies a problem to solve but it may not be practical suggests a solution to the problem and makes a simple plan identifies some materials and describes how they could be used to carry out the plan	identifies a practical problem to solve suggests several possible solutions to the problem and chooses one; makes a simple plan selects appropriate materials and describes how they will be used to carry out the plan	identifies a practical problem to solve and gives some criteria for solving it suggests several possible solutions to the problem that address the criteria; chooses the best solution and makes a simple plan selects appropriate materials to carry out the plan and explains reasons for choice
PERFORMING AND RECORDING	with prompting, carries out the plan/follows a simple procedure with prompting, uses some appropriate tools with assistance makes simple observations using senses and, with prompting, records observations in provided charts or drawings needs help to estimate measurements and, with prompting, records simple measurements constructs a prototype but does not follow the plan needs help to follow safety procedures and rules	carries out the plan/follows most of a simple procedure selects and uses common tools makes some relevant observations using senses and records observations in provided charts and drawings estimates measurements but units may not be appropriate and records measurement which may be incomplete constructs a prototype according to the plan but the device may not be usable needs occasional prompting to follow safety procedures and rules	carries out the plan/follows a simple procedure selects and uses some appropriate tools makes relevant observations using appropriate senses and records observations using a suitable method estimates measurements using appropriate units and records measurements accurately constructs a usable prototype according to the plan follows most safety procedures and rules	carries out the plan/follows a simple procedure, making adjustments as necessary selects and uses all appropriate tools makes relevant, detailed observations using appropriate senses and records observations and chooses an effective method for recording observations consistently estimates measurements using the most appropriate units and records measurements accurately in a variety of ways constructs a usable prototype according to the plan with modifications for improvement follows all safety procedures and rules and explains why they are needed

Design Process Rubric (Continued)

	Level 1	Level 2	Level 3	Level 4
ANALYZING AND INTERPRETING	with prompting, says whether or not a solution works with prompting, identifies some patterns and discrepancies in objects and events with prompting, identifies some new questions but they may not be on the same topic with prompting, makes simple suggestions for changes to improve the device/solution	says whether a solution works in terms of some simple criteria identifies and suggests simple explanations for some patterns and discrepancies in objects and events identifies some new questions on the same topic suggests some practical changes to improve the device/solution	evaluates and explains the effectiveness of a solution in terms of simple criteria identifies and suggests explanations for most patterns and discrepancies in objects and events identifies some new questions that arise from the solution suggests and makes practical changes to improve the device/solution	evaluates and explains the effectiveness of a solution in terms of a broad range of criteria identifies and suggests clear explanation for patterns and discrepancies in objects and events identifies new questions that arise from the solution and suggests how they could be solved makes effective changes to improve the device/solution
COMMUNICATING AND TEAMWORK	willingly asks for help and accepts help from other group members understands some scientific terminology but rarely uses it with prompting, describes the solution and some of the procedures listens to others and learns from their observations	makes suggestions to group members as to what should be done understands simple scientific terminology but does not always use it correctly communicates basic information about the solution and most of the procedures listens to others and learns from their observations, and draws on their language use	communicates with group members, sometimes with problems usually uses scientific terminology appropriately communicates most of the information about the solution and procedures considers and responds to the ideas of others and learns from their observations and descriptions	communicates and works effectively with group members consistently uses scientific terminology appropriately accurately communicates the information about the solution and procedures considers and responds to the ideas of others and applies the observations and descriptions to their own ideas and understandings