

Category	Level 4	Level 3	Level 2	Level 1
<b>Communication</b>				
<b>visualizing the polymerization process</b>	variety of media employed to increase understanding of the chemical reactions; considerable effort and creativity are obvious; illustration of reaction is clear; effectively and accurately uses scientific terminology, and own words, to describe the chemical reaction	more than one type of media employed to increase understanding of the chemical reactions; good effort and creativity; illustration of reaction is helpful ; accurately uses scientific terminology, and own words to describe the chemical reaction	only one type of media employed to increase understanding of the chemical reactions; good effort, more creativity would be helpful; uses scientific terminology, and own words, to describe the chemical reaction with adequate success	media used is/are too complex/confusing or incorrect; model does not increase understanding of chemical reactions; little effort/creativity employed; uses scientific terminology to describe the chemical reaction but not in own words
<b>Inquiry</b>				
<b>construct three-dimensional models</b>	constructs three-dimensional molecular models of given compounds with a high degree of accuracy; materials used are vivid, logical and easily understandable; monomers and polymers are easily recognizable, polymerization reaction obvious	constructs three-dimensional molecular models of given compounds with considerable accuracy; materials used are clear, logical and understandable; monomers and polymers are easily recognizable and reaction is easy to understand	constructs three-dimensional molecular models of given compounds with some accuracy; materials used are clear; monomers and polymers are present but not easily distinguished; illustration of reaction absent or unclear	constructs three-dimensional models with limited success; models contains errors or are difficult to understand; monomers and polymers are not distinguished and/or illustration of reaction is absent
<b>Making Connections</b>				
<b>relate molecular structure to use</b>	describes <u>and</u> illustrates intermolecular forces that give the molecule specific properties related to its function accurately	describes <u>and</u> illustrates some of the intermolecular forces that give the molecule specific properties related to its function with considerable success	describes intermolecular forces that give the molecule specific properties related to its function with adequate success	describes and illustrates intermolecular forces that give the molecule specific properties related to its function with limited success
<b>Knowledge and Understanding</b>				
<b>demonstrate understanding of the process of polymerization</b>	demonstrates thorough understanding of the process of addition/ condensation polymerization	demonstrates considerable understanding of the process of addition/ condensation polymerization	demonstrates some understanding of the process of addition/condensation polymerization	demonstrates limited understanding of the process of addition/ condensation polymerization;