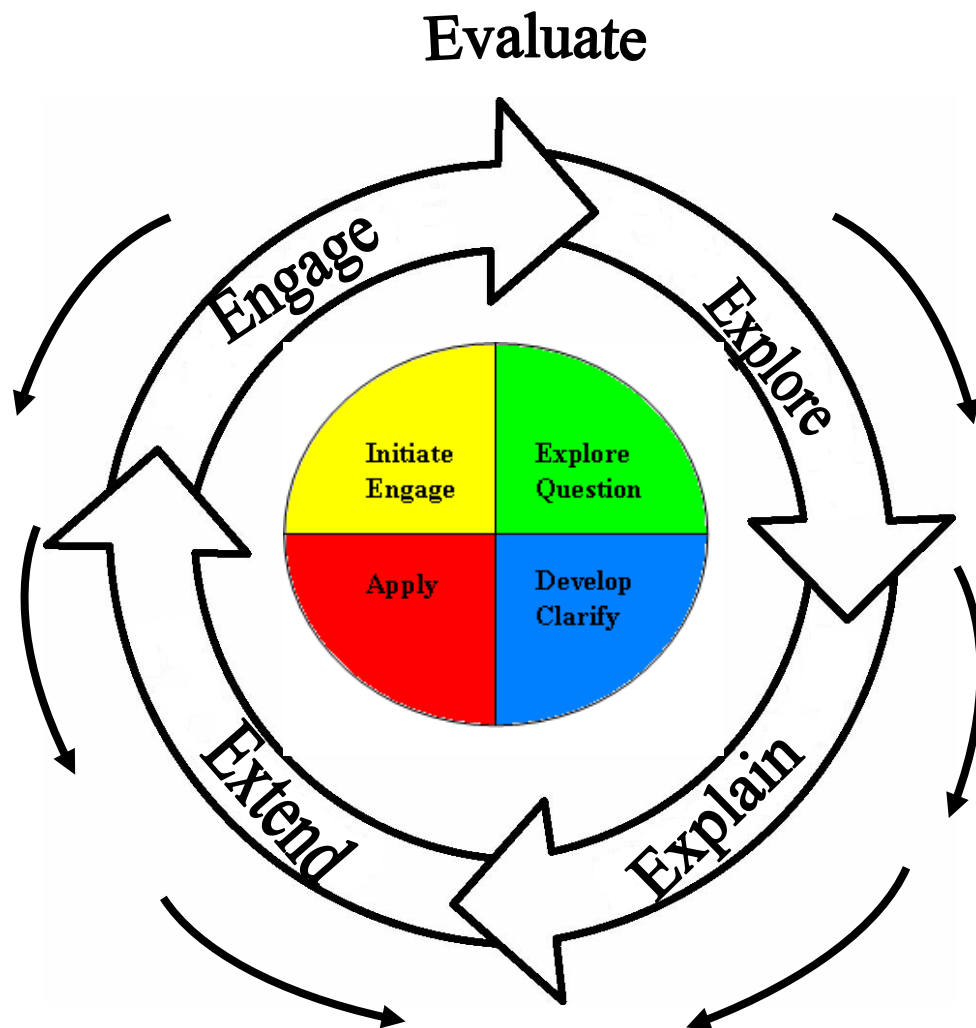

The Learning Cycle



“The Five E’s”

	Purpose	Student Behaviors	Teacher Behaviors
Engage	<ul style="list-style-type: none"> • Access prior knowledge • Connect past experiences • Set parameters of the focus • Frame the idea 	<ul style="list-style-type: none"> • Calls up prior knowledge • Shows interest • Experiences disequilibrium • Has questions • Develops a need to know • Self reflects and evaluates 	<ul style="list-style-type: none"> • Creates interest • Generates curiosity • Raises questions • Elicits questions that uncover what students know or think about the concept/subject
Explore	<ul style="list-style-type: none"> • Experience key concepts • Discover new skills • Probe, inquire, and question experiences • Students examine their own thinking • Establish relationships and understanding 	<ul style="list-style-type: none"> • Hypothesizes and predicts • Explores resources and materials • Designs and plans • Records observations and ideas • Collects data • Builds models • Seeks possibilities • Tries alternatives and discusses them with others • Self reflects and evaluates 	<ul style="list-style-type: none"> • Encourages students to work together • Observes and listens to students as they interact • Asks probing questions to redirect investigations when necessary • Provides time for students to puzzle through problems • Acts as a consultant • Creates a “need to know” setting
Explain	<ul style="list-style-type: none"> • Connect prior knowledge and background to new discoveries • Communicate new understandings • Connect informal language to formal language (vocabulary) 	<ul style="list-style-type: none"> • Clarifies understandings • Shares understandings based on evidence • Forms generalizations • Reflects on plausibility • Seeks new explanations • Employs various modes for explanation (speech, writing, drawing, etc.) • Self reflects and evaluates 	<ul style="list-style-type: none"> • Encourages students to explain concepts and definitions in their own words • Asks for justification and clarification from students • Formally provides definitions, explanations and new labels • Uses students previous experiences as the basis for explaining concepts
Extend	<ul style="list-style-type: none"> • Apply new learning to a new or similar situation • Extend and explain concept being explored • Communicate new understanding with formal language 	<ul style="list-style-type: none"> • Applies new labels, definitions, explanations, and skills in new, but similar situations • Solves problems • Makes decisions • Performs new related tasks • Resolves conflicts • Asks new questions • Seeks further clarification • Self reflects and evaluates 	<ul style="list-style-type: none"> • Expects students to use formal labels, definitions and explanations provided earlier • Encourages students to apply or extend concept and skills in new settings • Reminds students of alternate explanations • Refers students to existing data and evidence and asks: <ul style="list-style-type: none"> • What do you already know? • Why do you think...?” • (Explore strategies also apply here)
Evaluate	<ul style="list-style-type: none"> • Assess understanding (self, peer, and teacher evaluation) • Demonstrate understanding of new concept by observation or open ended responses • Show evidence of acquired knowledge 	<ul style="list-style-type: none"> • Answers open-ended questions by using observations/evidence • Demonstrated an understanding or knowledge of the concept or skill • Evaluates his/her own progress and knowledge • Asks related questions that would encourage further investigations 	<ul style="list-style-type: none"> • Observes and assesses student knowledge and/or skills • Looks for evidence that students have challenged their own thinking or behaviors • Allows students to assess their own learning and group process skills • Asks open-ended questions: <ul style="list-style-type: none"> • Why do you think...? • How would you explain...?