



The 5 E Learning Cycle Model

<i>Engagement</i>	Object, event or question used to engage students. Connections facilitated between what students know and can do.
<i>Exploration</i>	Objects and phenomena are explored. Hands-on activities, with guidance.
<i>Explanation</i>	Students explain their understanding of concepts and processes. New concepts and skills are introduced as conceptual clarity and cohesion are sought.
<i>Elaboration</i>	Activities allow students to apply concepts in contexts, and build on or extend understanding and skill.
<i>Evaluation</i>	Students assess their knowledge, skills and abilities. Activities permit evaluation of student development and lesson effectiveness.

Adapted from Bybee, R.W. et al. (1989).

Using a Learning Cycle Model in Lesson Planning

The chart below is based upon a four step learning cycle model as featured in Bentley, Ebert & Ebert (2000) , but the examples of learner and teacher behaviors provided here can be adapted to fit other learning cycle models.

Engage: Learner has a need to know, therefore, defines questions, issues or problems that relate to his/her world.

Learner	Teacher
calls up prior knowledge	poses problems
has an interest	asks questions
experiences doubt or disequilibrium	reveals discrepancies
has a question(s)	causes disequilibrium or doubt

identifies problems to solve, decisions to be made, conflicts to be resolved	assess prior knowledge
writes questions, problems, etc.	
develops a need to know	
self reflects and evaluates	

Investigate (Explore): Learner gathers, organizes, interprets, analyzes, evaluates data

Learner	Teacher
hypothesizes and predicts	questions and probes
explores resources and materials	models when needed
designs and plans	makes open suggestions
collects data	provides resources
builds models	provides feedback
seeks possibilities	assesses understandings and processes
self reflects and evaluates	

Explain and Clarify: Learner clarifies understandings discovered, reaches conclusions or generalizations and communicates in varying modes and forms.

Learner	Teacher
clarifies understandings	provides feedback
shares understandings for feedback	asks questions, poses new problems and issues
forms generalizations	models or suggests possible modes
reflects on plausibility	offers alternative explanations
seeks new explanations	enhances or clarifies explanations
employs various modes for explanation (writing, art, etc)	evaluates explanations

Expand: Learner applies these conclusions or generalizations to solve problems, make decisions, perform tasks, resolve conflicts or make meaning

Learner	Teacher
applies new knowledge	asks questions
solves problems	provides feedback
makes decisions	provides resources
performs new related tasks	makes open suggestions
resolves conflicts	models when necessary
plans and carries out new project	evaluates
asks new questions	
seeks further clarification	

Source: Needham, R. A., Powell, D. & Bentley, M. L. (1994). Using Big Books in Science and Social Studies. Paper presented at the Annual Meeting of the International Reading Association, Toronto, Canada, 1994.
