

## POGIL Endorsement Criteria

Rubrics that have been developed by The POGIL Project for Learning Cycle Activities and Application Activities will be applied to the selected activities by at least two expert reviewers.

POGIL Endorsement Criteria:

- A. One to three **Learning goals** are articulated and can be achieved by successful completion of the activity.
- B. At least one **Process skill goal**<sup>1</sup> is clearly articulated and is developed in the activity or can be inferred by specific prompts in the activity. If process skill goals are not embedded in the structure and/or content of the activity, a clear description should be provided to explain how they will be achieved through facilitation.
- C. The activity guides students through an exploration to construct, deepen, refine and/or integrate understanding of relevant disciplinary content. **Learning cycle and/or application approach**<sup>2</sup> is indicated and is appropriate for achieving the stated Learning and Process Skill goals.
- D. The **quality of the model(s)** is sufficient to achieve the goals of the activity.
- E. The activity is designed for use with self-managed teams that employ the instructor as a facilitator of learning rather than as a source of information.

**High quality activities** are good or very good (but not necessarily perfect). An activity should be ranked as 'high quality' if it fulfills the POGIL Endorsement Criteria.

**Acceptable activities** sufficiently meet the POGIL Endorsement Criteria, but would be considerably improved from relatively minor changes to structure or content.

**Unacceptable activities** show gross errors in content accuracy **or** significant problems in meeting the endorsement criteria. These activities lack too many required characteristics to be classified as a POGIL activity, and considerable changes are necessary to meet the POGIL Endorsement Criteria.

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<sup>1</sup> The traditional POGIL process skill goals are teamwork, management, information processing, critical thinking, oral and written communication, problem solving, and assessment. Activities might include one or more of these process skills or others not in this list.

<sup>2</sup> There are two broad categories of POGIL activities, each defined below with a brief description of the typical structure:

- a. **Learning Cycle Activities:** These activities predominantly guide the student to develop content knowledge through a Learning Cycle structure of Exploration, Concept Invention/Term Introduction, and Application. They generally begin with a model (diagrams, figures, tables, graphs, simulations, text, etc.) that provides sufficient exemplars for students to draw appropriate inferences or conclusions. A series of questions leads students to explore the model (Exploration) and then to develop the appropriate conclusion; new terms related to the central concept are typically introduced at this point (Concept Invention/Term Introduction). At least one question then follows which requires the use of this new concept (Application). In some cases, this application may also serve as a component (Exploration and/or Concept Invention) of the next Learning Cycle.
- b. **Application Activities:** These activities deepen, refine, and/or integrate the understanding of one or more previously developed or presented concepts through application of relevant process skills.

The structure of these activities is less uniform than for the Learning Cycle activities because the appropriate structure can depend heavily on the process skill that is being emphasized. In some cases (particularly for more advanced courses), some review of background knowledge prior to class is appropriate. Students are then prepared for the in class activity that focuses on synthesis and application of that prior knowledge. For introductory courses, however, the activity begins by presenting a model (definition, equation, diagram, figure, etc. or some combination of these things) containing the main concept that is to be further developed or better understood. A series of questions leads the student to explore the important components of the model and then deepen or refine their understanding through further questions that further probe the model and its implications. As mentioned above, the nature of the questions will depend strongly on the process skill that is being developed. The activity ends with at least one question in which the central concept is applied to a new situation.

Thus, **Learning Cycle** activities are intended to develop new concepts while **Application** activities build on content that has already been presented, or that is presented in the activity and is then explored. Although in general an activity will fall into one of these two categories, in some cases there may be roughly equal emphasis on these two components.