

## WHY FORMATIVE ASSESSMENT?

Formative assessment, until recently largely overlooked, has come into its own, and great strides have been made in its design and delivery (Furtak, 2009). The power of formative assessment lies in its ability to reveal student thinking in a way that offers teachers opportunities for midcourse corrections. Summative assessments, which are designed to evaluate students' grasp of domain-specific content, do not always help teachers recognize to what degree students understand material. Under ordinary summative assessment plans, students receive feedback at the end of a learning cycle, leaving no opportunity to revisit material. In formative assessment, feedback keeps the learning going; it informs the next step. So summative assessments are assessments of learning already achieved, while formative assessments are assessments for learning still to come. There is solid evidence that formative assessment promotes learning and leads to higher student achievement (Black and Wiliam, 1998, Fennema, Carpenter, Franke, Levi, Jacobs, and Empson, 1996, Black, Harrison, Lee, Marshall, and Wiliam 2002).

## TRY IT!

Exploiting the opportunities for formative assessment embedded in the Foundation Science: Biology Learning Experiences takes planning and keeping track on your part.

Here are some major opportunities in Learning Experience 3, for example:

- I. In the Brainstorming Discussion, students' answers to open-ended questions shared during partner talk reveal much about their ideas about non-observable traits and how heritability works.
- II. Students' written responses to the Think About What You Read questions, particularly their updating of the insertion of a new gene in cell diagrams will reveal the changes in their understanding.
- III. In the Analysis Questions in the experiment that includes a negative and positive control, students will show what they know about research design and what they still need to learn.
- IV. In the Take a Stand Discussion and/or Poster Presentation students' grasp of ideas and logical reasoning concerning the pros and cons of transgenic plants will emerge.
- V. The summative multiple choice Assessment Questions at the end of the LE can be used formatively as well. Assign several questions to each table group and have them debate the alternative answers until consensus is reached.