

LESSON OBSERVATION RESOURCE FOR ADMINISTRATORS AND/OR TEACHER SELF-EVALUATION

LESSON  
STEP 1

DEVELOP: PROBLEM-BASED LEARNING

From the Authors:

The enVisionmath2.0 core instructional model is based on research related to both teaching and learning. (For a source, see *Munter, Charles. "Developing Visions of High-Quality Mathematics Instruction." JRME, 2014*).

Every lesson begins with an experience called "Solve and Share" in the Student's Edition. This is a problem-based learning task where students solve a problem -- not to apply mathematics, but to think about new mathematics.

The teacher introduces the *Solve and Share*. Students work together to develop strategies and solutions to the problem. The teacher facilitates the students' thinking and work. Students share their thinking and work and critique the reasoning of others.

Conceptual understanding is the product of this cognitive productive struggle because when students solve a problem that involves a new math concept, they often connect previously learned ideas to new ideas.

Problem-based learning provides an optimal environment for teachers to select, coordinate, manage, and implement multiple mathematical practices.

Listen and look for teachers to do the following:

- Engage learners by connecting prior knowledge to new ideas.
- Ask *Before/During/After* questions from the Teacher's Edition in order to monitor "real-time" progress on the problem.
- Develop students' understanding through rich, question-driven conversations.
- Utilize whole class/small group organization. Allow sufficient time for students to solve the problem posed and then compare solutions.
- Provide access to tools (manipulatives, technology, paper/pencil) that students can use to represent mathematical ideas and problem situations.
- Make multiple strategies and alternate solutions apparent to students by providing them with opportunities to share their thinking. (*Analyze Student Work* feature in Teacher's Edition.)
- Utilize *Extension for Early Finishers* (when appropriate).

Listen and look for throughout the lesson:

- Program components displayed and in full use, including the NY Student Companion for NY custom lessons (Grades K-3)
- Related technology available and integrated
- Efficient use of time

Observation Notes

## LESSON STEP 2

# DEVELOP: VISUAL LEARNING

### From the Authors:

The next step that's essential for developing conceptual understanding is to make explicit the important math concepts. In **enVisionmath2.0** this second part of instruction is called Visual Learning.

Teachers and students need to reflect on the work students did in the *Solve and Share*. Then, through a teacher-led, rich classroom conversation, important ideas are made explicit via an example, new vocabulary, and so forth.

The *Visual Learning Bridge*, also available as an online *Visual Learning Animation Plus*, teaches key mathematics of the lesson through a series of step-by-step visual illustrations that promote student understanding.

*Guided Practice* includes problems that can be used to evaluate students' understanding of important ideas in the lesson.

*Independent Practice/Problem Solving* can be used to build students' mathematical proficiency.

### Listen and look for teachers to do the following:

#### *Visual Learning Bridge (or Animation)*

- Explicitly connect the video and/or the worked-out problem in the Student's Edition to the *Solve and Share* activity.
- Develop student's understanding of new vocabulary as appropriate.
- Make the key mathematics explicit.
- Address common misconceptions.

#### *Guided Practice*

- Assess student understanding of concepts and skills.
- Utilize error intervention; provide remediation; and reteach.
- Bring closure to the lesson by formalizing the important ideas.

#### *Independent Practice/Problem Solving*

- Select appropriate exercises that provide additional opportunities for content mastery.
- Assign online *Practice Buddy* for personalized lesson support starting at Grade 3.
- Use the *Quick Check* to gather formative assessment data.

### Observation Notes

*Visual Learning Bridge (or Animation)*

*Guided Practice*

*Independent Practice/Problem Solving*

## LESSON STEP 3

# ASSESS AND DIFFERENTIATE

### From the Authors:

Scores from *Quick Check* can be used to prescribe intervention, on-level, or advanced resources.

The *Intervention Activity* offers students strategic intervention with focused help from the teacher either in a one-on-one or in a small group setting.

*Reteach to Build Understanding* provides guided reteaching to prepare students for *Homework and Practice*.

*Centers* provide a variety of options, both print and digital, for differentiation.

Students may benefit from teacher support and guidance during the *Problem-Solving Reading Activities* and *Math and Science Activities*.

There are three options for *Homework and Practice*: Print, Online *Practice Buddy* starting at Grade 3, and online *Adaptive Homework and Practice* for Grades 3-5.

### Listen and look for teachers to do the following:

#### *Intervention Activity; Reteach to Build Understanding*

- Provide intervention support through *Intervention Activity* and/or *Reteach to Build Understanding* worksheet as needed.

#### *Centers*

- Make use of the following resources as appropriate:
  - *Center Games*
  - *Problem-Solving Reading Activity*
  - *Math and Science Activity*
  - *Math Tools and Math Games*

#### *Homework & Practice*

- Assign one the following resources:
  - *Leveled Homework and Practice* (according to *Leveled Assignment Guide*.)
  - Online *Practice Buddy* for personalized lesson support starting at Grade 3.
  - Online *Adaptive Homework and Practice* for Grades 3-5 provides learning and practice tasks as direct responses to student behaviors in real time.

### Observation Notes

*Intervention Activity; Reteach to Build Understanding*

*Centers*

*Homework & Practice*

NOTE: Lessons may take 1-2 days, depending on several factors, including student readiness and length of class period.