

## **Facilitation Guide**

### **Introductory HML (High-Medium-Low) Protocol**

**Session time: 100 min (90 min for Protocol alone)**

**Preparation time: 2 hours**

**Purpose:** To introduce the use of a protocol to collaboratively examine student work and to develop shared expectations of student learning and performance.

**Description:** This protocol uses an assessment probe and student responses to explore and develop shared expectations for student learning.

**Modification:** This session may be conducted using student work collected at a school site. *Uncovering Student Ideas in Science* (NSTA Press) is an example of a good source of probes and supporting documentation about standards and science ideas.

#### **Materials needed for protocol:**

Slide show and presentation set up

Protocol – one per participant

H-M-L record sheet – two per participant (back to back)

Roles- one per group

Markers

Chart paper

(Large groups: add large chart version of H-M-L Grid.)

#### **Materials needed for student work examples**

\*"Can It Reflect Light?" – one per participant

Scientists Ideas – one per participant

Student Work Packets - one per participant (packet to include approximately ten examples of student work)

\*(Assessment Probe) "Can It Reflect Light?" p. 25, Page Keeley, *Uncovering Student Ideas in Science*, Vol. 1, Arlington VA: NSTA Press. 2005.

#### **Step 0 Introduction PowerPoint: (10 min.)**

The slide show introduces uses and purposes of using a protocol.

**Step 1 The Roles:** Hand out protocol and role strips. Direct group to read the purpose. Explain how to use the protocol. Point out that the process column is what they will be doing and that the right column is for support of those processes. Set stopping time for reflection (10-15 min before protocol end time).

**Step 2 The Probe:** Hand out blank probe (e.g. “Can It Reflect Light?”) Have participants complete probe individually and then share their answers with group members. *Facilitators need to be sensitive to individuals level of scientific knowledge. It is common for participants to feel discomfort with sharing their understanding or lack thereof.* Participants should come to consensus on correct answer. Read Scientists’ Ideas after consensus is reached. If necessary re-visit correct answer.

**Step 3 H-M-L Sorting:** Hand out student work on same probe and H-M-L record sheet. Allow groups to start. Facilitate collaboration to ensure the participation of all group members. Some groups do this informally, while others work better with formal procedures such as think-pair-share or expressing thoughts in pre-determined order.

**Tallying responses:** Have recorder tally the individual scoring per student and display for all members to see. (e.g. Student A was scored as “high” by 3 people, “medium” by 2, “low” by 1). Small groups should use one of the HML grid blanks and record with tally marks in the Group Sort Column. Large groups with multiple small groups – prepare a chart size **H-M-L record sheet**. Have recorder take small group marks and record them on the public chart.

**Step 4. Sorting Criteria:** Each member writes descriptors or criteria for assigning work to each level and then discusses their criteria.

**Step 5. Developing Common Criteria:** When the group/groups seem to be at the point of developing group criteria, pause the group and share a sample format for recording the criteria on chart paper. If using Chart Paper, the simplest way is to make three columns titled H-M-L. Allow each member to share criteria on first round without being challenged. Then come to consensus on group rubric. Use the new rubric (backside of first rubric) to do a second sorting of student work and second sharing.

**Step 6. Reflection:** Give members time to process the reflection questions individually at first. Then do some group sharing of their ideas. Starting with a “pair-share” is a good way to start the process.

- What insights into knowledge and beliefs about teaching and learning did the protocol help reveal?
- How could using this protocol to look at student work improve student learning?
- How could using this protocol to look at student work improve your classroom practice?
- How could using this protocol to look at student work improve your work with peers?

For more information on Looking at Student Work (LASW), visit [www.lasw.org](http://www.lasw.org)