About Responsive Mini-Lessons

Responsive Mini-Lessons (RMLs) provide short, targeted lessons that are responsive to each class's facility with oral argumentation, as assessed with the DiALoG Tool. The DiALoG Tool has eight components. Four are intrapersonal—claims, evidence, reasoning, and relevance; four are interpersonal—listening, co-constructing, critiquing, and regulation. RMLs are aimed at providing more practice with one of the eight components of the DiALoG Tool, so your students are more able to work together to enact rich, thoughtful, and engaging oral argumentation. For each component, the following phrases can be assigned, via the DiALoG Tool, to describe your students' abilities: Not Descriptive, Somewhat Descriptive, or Very Descriptive. An assigned phrase of Not Descriptive or Somewhat Descriptive indicates that your students likely need more support with that particular component of oral argumentation; a lesson is then suggested to help your students strengthen their abilities in that area. If the Not Descriptive phrase is assigned, the lesson provides basic, introductory support; if the Somewhat Descriptive phrase is assigned, the lesson assumes some basic facility with that component and provides an opport unity to practice it with more focus.

For the Listening RMLs, the Not Descriptive lesson asks students to analyze a discussion to identify examples of listening behavior and behavior when people do not appear to be listening. The Somewhat Descriptive lesson builds on this by engaging students in an argumentation task that requires active listening.

Does a Responsive Mini-Lesson for the Somewhat Descriptive Level Make Sense for Your Class?

The suggestion to provide a Responsive Mini-Lesson for the Somewhat Descriptive level indicates that, based on your use of the DiALoG Tool, the following statement best describes your students' use of listening during oral argumentation: *Students sometimes acknowledge one another's ideas, sometimes ask one another to clarify/elaborate their positions, and sometimes show respectful "listening" body language.* For more detail about this level and how it compares to other levels, please see the DiALoG Tool User Guide.

There is one Responsive Mini-Lesson provided for the Somewhat Descriptive level.

Goal

• Improve students' listening skills as they engage in a collaborative argumentation task that requires active listening.

Responsive Mini-Lesson

Materials and Teaching Considerations

For the class

- Copymaster: Life on Other Planets Evidence
 Cards
- 2 sheets of chart paper*
- marker*
- masking tape*
- scissors or paper cutter*
- paper clips*

For each pair of students

• 1 set of Life on Other Planets Evidence Cards, clipped together (6 cards/set)

*teacher provided

Getting Ready

- 1. Create T-chart. (If you completed the lesson for the Not Descriptive level, you can refer to the T-chart you made in that lesson.) Make a simple T-chart. As the heading for the left column, write "Signs of Not Listening"; as the heading for the right column, write "Signs of Listening." You will record students' responses on this T-chart during the introduction for this lesson.
- 2. Make copies of Life on Other Planets Evidence Cards. Make enough copies of this card set so each pair of students gets one set of cards. There are six cards/set. Clip together each set.
- **3.** Write a claim on the board. On the board, write "Claim: There is definitely life on other planets (or moons)."
- 4. Create Guidelines for Listening. (If you completed the lesson for the Not Descriptive level, you can refer to the guidelines you made in that lesson.) At the top of a sheet of chart paper, write

Time frame: 30 minutes (This lesson can be extended, through discussion, to a full class period.)

Teaching Considerations

Most lessons will begin with an introduction followed by the lesson itself. The introduction is a brief activity that sets up and supports the lesson that follows. Each introduction is teacher-led, while the lesson that follows is more student-centered.

"Guidelines for Listening." Once you have recorded students' responses in the "Signs of Listening" column of the T-chart, you will record those responses onto this class list.

5. Decide how you will write notes about students' listening abilities. During the lesson, you will circulate and listen as students' discuss the claim and the Life on Other Planets Evidence Cards.

Introduction

- 1. Explain that students will be practicing listening. Explain that listening is an important part of many aspects of school (and life), and it is especially important when participating in oral argumentation.
- 2. Introduce the T-chart. Have students help you create a list of physical and oral signs they notice when someone is listening and when someone is not listening. (If you completed the lesson for the Not Descriptive level, you can refer to the list you made.)

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3. Create Guidelines for LIstening. Create a separate list of students' most important ideas from the "Signs of Listening" column of the T-chart and explain that students should refer to this list during the lesson.

Lesson

- 1. Explain the activity. Explain that students will have an opportunity to practice good listening skills by discussing in small groups.
- 2. Refer to the claim on the board. Read aloud the claim: "Claim: There is definitely life on other planets (or moons)." Explain that students will discuss this claim in small groups. However, before they can begin their discussions, they will need to read and think about some evidence that either supports or goes against (refutes) this claim.
- **3.** Arrange students in pairs. Explain that one student in the pair will represent ideas that support the claim, while the other student in the pair will represent ideas that go against, or refute, the claim.
 - Make sure students understand that, during this activity, it doesn't matter what their own personal opinions are. Their job is to explain and represent ideas for whichever side they are assigned to support.
 - Assign roles to each pair or have pairs decide their roles.
- 4. Distribute Life on Other Planets Evidence Cards. Distribute one set of cards to each pair. Explain that students who are supporting the claim should take the three cards that say "supports the claim"; students who are not supporting the claim should take the three cards that say "goes against the claim."

- 5. Students read and annotate cards. Remind the class that each student should read and annotate (with their thinking) their set of three cards. Provide approximately five minutes for students to do this.
- 6. Explain the next part of the activity. Explain that each pair will join with another pair to form groups of four. In each group, one pair will support the claim by using evidence, and the other pair will go against, or refute, the claim.
 - Let students know that this activity intentionally includes some controversy, so students can really practice listening carefully, even when very different ideas are presented.
 - Remind students that listening is more than just attentive body language.
 Students also have to really listen and process what others are saying.
 - Explain that after each pair supports or refutes the claim, the other pair should restate an important idea they heard.
- 7. Review the Guidelines for Listening. Review the guidelines that you discussed at the start of class.
- 8. Pairs join with another pair to form groups of four. Have each pair join with another pair. Let students know that they should decide which pair in their groups will go first.
- 9. Groups discuss. Have groups begin discussing—one pair supporting the claim by using evidence, and the other pair going against (refuting) the claim. Provide students with approximately five minutes to discuss.

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- **10. Circulate and listen in as groups discuss.** As you circulate, write notes about positive listening behaviors you notice.
- 11. Remind pairs to restate an idea they heard while listening to the other pair in their groups. If they haven't done so already, remind students to restate an important idea they heard from the other pair in their group.
- 12. Discuss observations you made about listening behaviors during the group discussions. Provide students with examples of what you saw and heard. As needed, add to Guidelines for Listening that you started at the beginning of class.
- 13. Discuss using these skills in upcoming oral discussions. Encourage students to use the same skills they exhibited during these small-group discussions whenever they are discussing in class.

Why This Mini-Lesson Matters

This mini-lesson asks students to focus on their listening skills as they engage in an argumentation task that requires active listening. Research has shown that the nature of a task, such as needing to come to consensus or respond to one another's ideas, can prompt students to focus more on listening to one another (Berland 2011). Such tasks help clearly establish and communicate expectations for listening. Since active listening during argumentation can entail shifts from other types of dialogue in science class, explicit opportunities to learn and practice the norms around listening help students interact appropriately during oral argumentation (Berland and Reiser 2011).

Resources

Berland, L. K. (2011). Explaining variation in how classroom communities adapt the practice of scientific argumentation. *Journal of the Learning Sciences* 20(4): 625–664.

Berland, L. K., and Reiser, B. J. (2011). Classroom communities' adaptations of the practice of scientific argumentation. *Science Education* 95(2): 191–216.









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Atmosphere (supports the claim)

Most scientists believe that for life to exist on other planets, there has to be an atmosphere around the planet. Earth has an atmosphere, and it helps to keep the planet from getting too warm or too cold. The atmosphere also provides gases such as oxygen and nitrogen that are important for life. Scientists have found other planets and at least one moon that have atmospheres.

Copymaster: Life on Other Planets Evidence Cards

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Atmosphere (goes against the claim)

Many planets besides Earth have atmospheres. However, their atmospheres are often very different from Earth's atmosphere. For example, Venus has an atmosphere, but it is mostly made of carbon dioxide, and it has very little oxygen in it. Venus's atmosphere is also much hotter than Earth's atmosphere, and it is very thick. So far, no life has ever been found on Venus.

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Water (supports the claim)

Many scientists think that having water is one of the most important things that is needed for life to begin and survive on a planet. Earth has an abundance of water, found in its large oceans and seas as well as in smaller bodies such as rivers, lakes, and underground sources. Earth has likely had water for billions of years. Scientists believe that the first tiny forms of life began in liquid water. Scientists have found water on other planets and moons.

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Water (goes against the claim)

Other planets and moons have water. There is evidence that liquid water sometimes flows on Mars, but water on Mars is usually in a solid, ice form. There is also much less water on Mars than on Earth. Saturn's moon, Enceladus, also has liquid water under its surface. So far, scientists have not been able find life in the water on either Mars or on Enceladus.

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Distance from a Star (supports the claim)

Scientists think that the best condition for life is when a planet is a certain distance from its closest star. The distance should be neither too close nor too far away so the planet doesn't get too hot or too cold. Earth is at a distance from our star, the sun, which keeps it from getting too hot or too cold. This is one reason scientists think that Earth is able to have formed life and keep living things going for so long.

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Distance from a Star (goes against the claim)

There are many stars in our galaxy with planets around them that are almost the exact same distance as Earth is from its star, the sun. So far, scientists have not been able to observe these planets in detail to know whether or not life exists on them.

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