



EXPEDITIONARY
LEARNING

Grade 3: Module 2A: Unit 1: Lesson 9

Science Talk: How do Bullfrogs Survive?



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Long-Term Targets Addressed (Based on NYSP12 ELA CCLS)

I can effectively participate in a conversation with my peers and adults. (SL.3.1)

Supporting Learning Targets

- I can effectively participate in a Science Talk about how bullfrogs survive.
- I can follow our class norms when I participate in a conversation.
- I can prepare for the conversation by using evidence from bullfrog texts.
- I can ask questions so I am clear about what is being discussed.
- I can ask questions on the topic being discussed.

Ongoing Assessment

- Preparing Evidence and Questions for the Science Talk recording form
- Science Talk criteria checklist

Agenda

1. Opening
 - A. Engaging the Reader: Why Science Talks and Unpacking the Learning Targets (5 minutes)
2. Work Time
 - A. Preparing Evidence and Questions for the Science Talk (20 minutes)
 - B. Conducting the Science Talk (25 minutes)
3. Closing and Assessment
 - A. Debrief of Science Talk (5 minutes)
4. Homework

Teaching Notes

- Science Talks provide students the opportunity to collectively theorize and build on each other's ideas. These talks provide a window on student's thinking that can help teachers figure out what students really know and what their misconceptions may be.
- In advance, prepare a new Participating in a Science Talk anchor chart that lists the criteria from the Science Talk Criteria checklist identified (see supporting materials):
 - * Follow norms
 - * Prepare with evidence
 - * Ask questions when you don't understand
 - * Connect questions to others
- Review Science Talk protocol (Appendix 1).
- Students will need access to *Bullfrog at Magnolia Circle* texts as well as their close reading recording forms from previous lessons. Organize those materials for students to access easily.



Lesson Vocabulary	Materials
Science Talk, participate, effectively, discussion, evidence	<ul style="list-style-type: none">• <i>Bullfrog at Magnolia Circle</i> by Deborah Dennard (book; one per student)• Preparing Evidence and Questions for the Science Talk recording form (one per student)• Preparing for a Science Talk (For Teacher Reference)• Participating in a Science Talk anchor chart (new; teacher-created; see Teaching Note above and Science Talk Criteria checklist in supporting materials)• Science Talk protocol (Appendix 1)• Science Talk Criteria checklist (for Teacher Use)

Opening	Meeting Students' Needs
<p>A. Engaging the Reader: Why Science Talks and Unpacking the Learning Targets (5 minutes)</p> <ul style="list-style-type: none">• Introduce the Science Talk by saying that researchers share information they have learned with others and ask questions of other experts. This helps experts build their understanding by sharing their own thoughts as well as learning from what others say. Experts in the real world talk all the time to grow their thinking.• Remind students of all the learning they have done so far about bullfrogs. Tell them that today they will have the opportunity to use what they've learned in a Science Talk. Share today's learning target: "I can effectively participate in a Science Talk about how bullfrogs survive." Ensure that students understand the meaning of the words <i>effectively</i> and <i>participate</i>. Invite students to identify the key words in the supporting targets. Guide them toward the words <i>norms</i>, <i>prepare</i>, <i>evidence</i>, <i>questions</i>, and <i>topic</i>.• Review the meanings of the words as necessary.	<ul style="list-style-type: none">• Making connections between past and present learning helps students solidify understanding.• Provide nonlinguistic symbols to support students' understanding of words in the targets (i.e: a question mark over the word <i>question</i>).



Work Time	Meeting Students' Needs
<p>A. Preparing Evidence and Questions for the Science Talk (20 minutes)</p> <ul style="list-style-type: none">• Ask the class the Science Talk question: “How do bullfrogs survive?” Clarify the meaning of the word <i>survive</i> (“continuing to live or exist in spite of danger or hardship”), if necessary. Ensure that students understand the meaning of <i>survive</i> before beginning to plan for the Science Talk. During this talk, students will build an understanding of how bullfrogs adapt to their environment and make use of their different attributes in order to survive.• Refer to the second supporting learning target for today and explain the importance of experts sharing specific evidence from texts in their discussions with others. Show the Preparing Evidence and Questions for the Science Talk recording form on the document camera. Briefly model how to fill out the recording form using evidence from texts. For example: in the first column, write: “When I read the part in <i>Bullfrog at Magnolia Circle</i> about the bullfrog’s sticky tongue,” and in the second column write: “I learned that bullfrogs have special tongues that help them catch their prey.” (This refers to page 9 of the text.) Consider modeling a question as well.• Provide students with 15 minutes to complete their Preparing Evidence and Questions for the Science Talk recording form. Confer with students as necessary and remind them to use specific evidence from text to support their thinking.	<ul style="list-style-type: none">• Providing visual models of academic vocabulary supports language development and comprehension• Allow ELLs and other students to use pictures and symbols as necessary on their recording forms.
<p>B. Conducting the Science Talk (25 minutes)</p> <ul style="list-style-type: none">• Gather students in a circle on the floor or in chairs.• Display the Science Talk protocol for students to see. Briefly review the Science Talk protocol with students, and answer any clarifying questions.• Instruct students to use their recording forms to support their comments and questions. Model a comment for students based on the model recording form: “When I read the part in <i>Bullfrog at Magnolia Circle</i> about the bullfrog’s sticky tongue, I learned that bullfrogs have special tongues that help them catch their prey.” Consider modeling a question for students as well: “I wonder how male bullfrogs all have a different song that they sing to attract a mate?” Remind students that their questions and comments should be directed to one another, not the teacher.• Direct students to begin the Science Talk. Use the Science Talk criteria checklist during this time to monitor student progression toward the learning targets. Quickly redirect and support students as needed, but avoid leading the conversation.	<ul style="list-style-type: none">• Provide sentence frames for students to use as they participate in the Science Talk: “When I saw/heard _____, I learned _____.” and “I wonder _____.”



Closing and Assessment	Meeting Students' Needs
<p>A. Debrief of Science Talk (10 minutes)</p> <ul style="list-style-type: none">• Refer back to the learning targets for the Science Talk.• Ask students:<ul style="list-style-type: none">* “What new information did you learn from other experts today?”• Cold call students to share out whole group. Probe and look for opportunities to emphasize their emerging understanding about how frogs survive.• Then ask:<ul style="list-style-type: none">* “Based on our targets, what would you work on to improve your participation in our next Science Talk?”• Allow students to share out with a peer sitting next to them, and then cold call a few students to share out with the whole class. Consider charting a few student comments to refer back to in the next Science Talk.	<ul style="list-style-type: none">• Allowing students to share in small groups provides the opportunity for all students to share their voices.
Homework	Meeting Students' Needs
<ul style="list-style-type: none">• Continue reading in your independent reading book for this unit.	



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Supporting Materials



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Preparing Evidence and Questions
For the Science Talk

Question: How Do Bullfrogs Survive?

When I read or saw this evidence . . .	I learned that bullfrogs survive by . . .

What I wonder about how bullfrogs survive:



Science Talk Criteria Checklist

Teacher directions: List each student's name. Add any norms your class has agreed on. In the columns, note how well each student demonstrates the norms and meets the learning targets listed in the heading columns.

Learning Targets:

I can effectively participate in a Science Talk about how bullfrogs survive.

a. I can follow our class norms when I participate in a conversation.

(Review from Module 1.)

b. I can prepare for the conversation by using evidence from bullfrog texts.

c. I can ask questions so I am clear about what is being discussed.

d. I can ask questions on the topic being discussed.

Student Name	Complete Sentences	Norm 1	Norm 2	Norm 3	Norm 4	Norm 5



Science Talk Criteria Checklist

Student Name	Complete Sentences	Norm 1	Norm 2	Norm 3	Norm 4	Norm 5



Preparing for a Science Talk
For Teacher Reference

Tell students they are now going to participate in a Science Talk, like real scientists do.

Have students gather in two concentric circles on the floor, with their journals. Be sure each student in the inner circle is facing a partner in the outer circle.

Pose the question: How do bullfrogs survive?

Invite students to begin the Science Talk.

Approximately every 5 minutes, ask students in the inner circle to move two places to the left. They now will be facing a new partner.

Ask these new pairs to discuss the same question.

Students will move three times, so they have the opportunity to discuss the question, and make notations, with three of their peers.

As students talk in their pairs, circulate to note which students are speaking and what ideas they are sharing. Record on sticky notes any particularly intriguing comments made by students and additional questions that may arise during student discussions. Refer back to these in future lessons.