

Standard

2-LS2 Ecosystems: Interactions, Energy, and Dynamics

<https://www.nextgenscience.org/dci-arrangement/2-ls2-ecosystems-interactions-energy-and-dynamics>

The chart below makes one set of connections between the instruction outlined in this article and the *NGSS*. Other valid connections are likely; however, space restrictions prevent us from listing all possibilities. The materials, lessons, and activities outlined in the article are just one step toward reaching the performance expectation listed below.

Performance Expectation	Connections to Classroom Activity
2-LS2-2. Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants.	<i>Students:</i> <ul style="list-style-type: none">• use coding to guide a bee robot to its hive while pollinating flowers and avoiding predators (assessed through coding trails and reflections as seen in Figures 4 and 6)
Science and Engineering Practice	
Developing and Using Models Planning and carrying out investigations	<ul style="list-style-type: none">• write a code for the Bee-Bot to get to its hive while pollinating flowers and avoiding predators• critique and test the codes of others (these critiques were used for formative assessment)
Disciplinary Core Idea	
LS2.A: Interdependent Relationships in Ecosystems <ul style="list-style-type: none">• Plants depend on animals for pollination or to move their seeds around	<ul style="list-style-type: none">• interactive read aloud of <i>What if there were no bees?</i> by Suzanne Slade (assessed through turn and talk questioning and advocacy posters)• apiarist visit to teach about the bee industry and how bee keepers seek to protect, grow, and sell bee populations for pollination of food crop and more.

Crosscutting Concept	
Cause and Effect <ul style="list-style-type: none"> Events have causes that generate observable patterns 	<ul style="list-style-type: none"> interactive read aloud of <i>What if there were no bees?</i> by Suzanne Slade

<p>ELA Tennessee State Standards</p> <p>ELA Common Core Standards</p>	<ul style="list-style-type: none"> 2.RI.KID.1 Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text. CCSS.ELA-LITERACY.RI.2.1 Ask and answer such questions as <i>who, what, where, when, why, and how</i> to demonstrate understanding of key details in a text. 2.RI.CS.4 Determine the meaning of words and phrases in a text relevant to a grade 2 topic or subject area. CCSS.ELA-LITERACY.RI.2.4 Determine the meaning of words and phrases in a text relevant to a <i>grade 2 topic or subject area</i>. 2.RI.CS.5 Know and use various text features to locate key facts or information in a text efficiently. CCSS.ELA-LITERACY.RI.2.5 Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts or information in a text efficiently. 2.RI.CS.6 Identify the main purpose of a text, including what an author wants to answer, explain, or describe. CCSS.ELA-LITERACY.RI.2.6 Identify the main purpose of a text, including what the author wants to answer, explain, or describe. 2.RI.IKI.7 Identify and explain how illustrations and words contribute to and clarify a text. CCSS.ELA-LITERACY.RI.2.7 Explain how specific images (e.g., a diagram showing how a machine works) contribute to and clarify a text. 2.RI.IKI.8 Describe how reasons support specific points an author makes in a text. CCSS.ELA-LITERACY.RI.2.8 Describe how reasons support specific points the author makes in a text.
<p>Math Common Core Standards</p>	<ul style="list-style-type: none"> 2.NBT.B.7: Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of

	<p>operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.</p> <ul style="list-style-type: none"> • 2.NBT.B.8: Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900. • SMP3: Construct viable arguments and critique the reasoning of others. • SMP7: Look for and make use of structure.
<p>Social Studies C3 Standards</p>	<ul style="list-style-type: none"> • D2.Geo.5.K-2. Describe how human activities affect the cultural and environmental characteristics of places or regions. • D4.7.K-2. Identify ways to take action to help address local, regional, and global problems. • D1.1.K-2. Explain why the compelling question is important to the student. • D1.2.K-2. Identify disciplinary ideas associated with a compelling question. • D2.Eco.1.K-2. Explain how scarcity necessitates decision making. • D2.Eco.3.K-2. Describe the skills and knowledge required to produce certain goods and services.