



Designed for the NGSS: Foundations Teacher Support Evidence Chart

Teacher materials...	Strong	Adequate	Weak
F1. Presence of Phenomena/Problems. Identify and provide background information about the phenomena/problems in the unit and how they match the targeted learning goals.	✓		
F2. Presence of Three Dimensions. Identify and provide background information about each of the three dimensions in the unit. Make note of any support for nature of science and engineering, technology, and applications of science. <ul style="list-style-type: none"> the SEPs the DCIs (including engineering) the CCCs also note NoS and ETS 	✓		
F3. Presence of Logical Sequence. Identify and provide background information on the sequence of learning in the unit.	✓		

Strengths related to these Teacher Supports

F1. Presence of Phenomena/Problems.

The module is strong at identifying and providing background information about the phenomena/problems in the unit and how they match the targeted learning goals.

Evidence

- The **Module Introduction (TE p. i)** online and in print (TE p. i–iii) sets out at high level how students will solve the Module Phenomenon.
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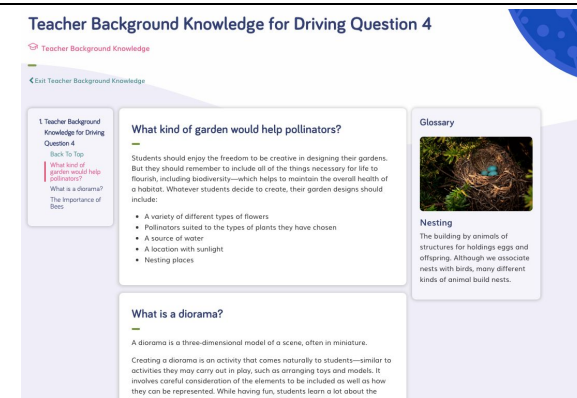
A Garden for Life
How do living things in an environment depend on one another and what do they need to grow?

GRADE 2
MODULE 4

Plant a seed for the future...
Welcome to the Twig Science A Garden for Life module!
In this module, students create a vibrant habitat for plants and animals, by designing a school pollinator garden!
Students are introduced to the concept of biodiversity, and compare the biodiversity in their own schoolyard with that of other habitats around the world. Students then plan and carry out investigations into what plants need to grow, and use the findings to inform their garden designs.
Students also discover the way flowering plants and pollinators such as bees depend on each other, and model the process of pollination in the classroom. Using their new knowledge, students ensure their garden will be the perfect place for pollinators and plants to live and thrive.
Let it grow!

Module Introduction p.i

- **Teacher Background Knowledge** on the phenomena and DCIs addressed in every Driving Question is explained simply in a Q&A format with supporting diagrams and visuals. A glossary of scientific terms is also provided. For example, DQ1 provides background information on the habitats students will explore, including a discussion of biodiversity and quadratting, while DQ4 explains features of pollinator gardens, types of dioramas, and the importance of bees. (DQ4 Teacher Background Knowledge).



Teacher Background Knowledge for Driving Question 4

Teacher Background Knowledge

Exit Teacher Background Knowledge

1 Teacher Background Knowledge for Driving Question 4

Back To Top

What kind of garden would help pollinators?

Students should enjoy the freedom to be creative in designing their gardens. But they should remember to include all of the things necessary for life to flourish, including biodiversity—which helps to maintain the overall health of a habitat. Whatever students decide to create, their garden designs should include:

- A variety of different types of flowers
- Pollinators suited to the types of plants they have chosen
- A source of water
- A location with sunlight
- Nesting places

What is a diorama?

A diorama is a three-dimensional model of a scene, often in miniature.

Creating a diorama is an activity that comes naturally to students—similar to activities they may carry out in play, such as arranging toys and models. It involves careful consideration of the elements to be included as well as how they can be represented. While having fun, students learn a lot about the subject they are modelling.

Glossary

Nesting
The building by animals of structures for holding eggs and offspring. Although we associate nests with birds, many different kinds of animal build nests.

DQ4 Teacher Background Knowledge

F2. Presence of Three Dimensions.

The module is strong at identifying and providing background information about each of the three dimensions in the unit. It also supports opportunities to connect to the nature of science (CNS) and engineering, technology, and applications of science (CETAS).

Evidence

- A digital guide to SEPs and CCCs provides a clear explanation for each practice and concept with guidance on what these skills should look like in a 5th grade classroom, with specific reference for how students ask questions and develop investigations in Grade 2 Module 4.
- Additional module-specific support is frequently given at point of use in the instructional materials for all dimensions, including the Nature of Science (CNS) and Engineering, Technology, and Applications of Science (CETAS), often in the Connect. For example, in Driving Question 3, the teacher connects today's learning to CCC-6, Structure and Function (**DQ3L4 TE p. 162**).

Connect Today's Learning to CCC-6— Structure and Function

Remind students that different pollinators visit different plants.

- *Why are the shapes and colors of the flowers important?*
- *They attract the right pollinators.*
- *Some pollinators, like birds and butterflies, need to visit flowers with a special shape so they can land on them or reach the nectar.*

Review an example, such as how one flower is wide and flat so the butterfly can land on it and another is tube-shaped so the hummingbird's long beak can fit inside.

Remind students of how the structure and function of certain things (such as the wristbands and felt from the game in Lesson 2) work together.

- *In what other ways did the flowers suit their pollinators?*

Invite students to share their ideas. Prompt them to think about bats and moths.

Remind students that, in this Driving Question, they have been investigating how the plants and animals in their garden depend on one another.

Summarize that many plants and animals depend on each other in specific ways. Some animals can't get food without the right kind of flowers, and some plants can't reproduce easily without the right pollinators. The class will need to make sure to consider these types of matches when they create their garden plans.

DQ3L4 TE p. 162

F3. Presence of Logical Sequence.

The module is strong at identifying and providing background information on the sequence of learning in the unit.

Evidence

- A **Module Introduction video** provides the teacher with an engaging overview on the phenomena explored in A Garden for Life, the sequence of learning, and an explanation of how the performance expectations are addressed and how they build on each other.



Module Introduction video

- The **Module Contents (TE pp. ii–iii)** identifies the sequence of three dimensions addressed in Grade 2 Module 4, and states how they build on each other. For example, in DQ1, students use an interactive to explore different habitats. Across DQ2–4, they develop an increasingly sophisticated understanding of the interdependent relationships in all habitats, which supports them in the final task of designing a pollinator garden.

A Garden for Life Module Contents

Module Introduction	1	Driving Question 2 How can we help the plants in our garden grow?	87
Module Contents	2	Performance Expectation: 2-LS2-1 Plan and conduct an investigation to determine if plants need sunlight and water to grow.	
Collaborative Think Tank	IV	Students begin the process of designing a garden habitat for plants and animals. They plan and execute experiments to see if plants need water and light to grow, making predictions, drawing conclusions, and sharing their results with the class. They will apply their findings toward the creation of their garden plan.	
Built for CA NGSS	V		
Spark Student Curiosity	V		
K-4 Program Components	VI		
Access for All	VII		
3-D Assessments	IX	Overview	88
NGSS Science Levelled Readers	X	Resources and Assessments	89
Module ELA Connections	X	Differentiated Instruction	90
Module Hands-On Lab Kit	X	Lesson 1 The Plant Problem	92
		Lesson 2 How Does Your Garden Grow?	96
		Lesson 3 Grow, Grow, Grow!	106
		Lesson 4 Fruits of Our Labor	112
		Lesson 5 Making Claims	120
Driving Question 1 How can we compare different habitats?	1		
Performance Expectation: 2-LS4-1 Make observations of plants and animals to compare the diversity of life in different habitats.			
This Driving Question prompts students to think about how the types of living things vary from habitat to habitat. Students observe the living things in three habitats (desert, rain forest, farm) using an interactive. They design and execute a study comparing the biodiversity in two areas of their school.			
Overview	2		
Resources and Assessments	3		
Differentiated Instruction	6		
Lesson 1 What is a Habitat?	8		
Lesson 2 Desert Life	16		
Lesson 3 Living in the Rain Forest	24		
Lesson 4 Old MacDonald	32		
Lesson 5 Spot the Difference	40		
Lesson 6 Habitat Diversity	48		
Lesson 7 A Small Sample	56		
Lesson 8 Sample That!	62		
Lesson 9 School Sampling	70		
Lesson 10 Exploring Biodiversity	80		

Scientist and Engineer Investigation Experience:

Digital Investigation Guided Investigation Hands-On Investigation Reading for Evidence 3-D Assessment Video Investigation

Module Contents (TE pp. ii–iii)

- More detail is provided in each **Driving Question Divider**, which tells the story of how students will sequentially use the three dimensions in each lesson in the DQ to answer the question posed. For example, in DQ3 students apply the concept of structure and function as they explore pollination. They obtain and evaluate information on pollination and interdependent relationships among plants and animals which supports them to develop and use physical pollinator models. By the end of the Driving Question, they apply their learning to choose the best design solution for their pollinator garden.

GRADE 2
MODULE 4

A GARDEN FOR LIFE

Module Phenomenon:
How do living things in an environment depend on one another
and what do they need to grow?

Driving Question 2
How can we help the plants
in our garden grow?

Performance Expectation: 2-LS2-1 Plan and conduct an investigation to determine if plants need sunlight and water to grow.

Students begin the process of designing a garden habitat for plants and animals. They plan and execute experiments to see if plants need water and light to grow, making predictions, drawing conclusions, and sharing their results with the class. They will apply their findings toward the creation of their garden plan.

Driving Question Divider

- The **Lesson Overview** includes the lesson's targeted standards and 3-D Learning Objectives, which identify the dimensions and detail how they relate to the learning experience. For example, in DQ3 L10, the 3-D Learning Objectives explain that in this lesson students will demonstrate the function of an animal in pollinating plants using models, communicate knowledge of the pollination process, and watch a video to obtain information about artificial pollination. (DQ3L10 TE p. 198)

Proud to Present Pollination

OVERVIEW

Spark	5 min	Students review the requirements they need to include when they present their models.
Investigate	30 min	Students practice reading their reports and then present their models to the class.
Report		There is no Report in this lesson.
Connect	5 min	Students connect what they have learned about disappearing pollinators with a video about artificial pollination.
Reflect	5 min	Students share one way they might improve their model.

STANDARDS

NGSS

- PS** 2-LS2-2 Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants.
- K-2-ETS1-2** Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.
- DCI** LS2.A Interdependent Relationships in Ecosystems
- ETS1.B** Developing Possible Solutions
- SEP-2** Developing and Using Models
- SEP-8** Obtaining, Evaluating, and Communicating Information
- CCO** CCC-6 Structure and Function

CALIFORNIA

- SL.2.4** Presentation of Knowledge and Ideas
- LA.10.1** P1.2.8 Presenting
- IA.10** Principle I People Depend on Natural Systems
- Principle II People Influence Natural Systems
- Principle III Natural Systems Change in Ways that People Benefit from and Can Influence

3-D LEARNING OBJECTIVES

Students will:

- Demonstrate the function of an animal in pollinating plants, using the models built in Lesson 8
- Communicate knowledge of the pollination process
- Watch a video to obtain information about artificial pollination.

Lesson Overview

Designed for the NGSS: Foundations Teacher Support Evidence Chart

Teacher materials...	Strong	Adequate	Weak
SW1. Phenomena/Problems. Provide support and strategies for how to help students figure out/solve authentic and relevant phenomena/problems using the three dimensions.	✓		
SW2. Three-dimensional Conceptual Framework. Provide support and strategies for how teachers: <ul style="list-style-type: none"> help students develop a conceptual framework from which to develop scientifically accurate understanding of the NGSS, ELA and math standards create a learning environment that values students' ideas, motivates learning, and helps students negotiate new meaning as they interact with others' ideas, new information, and new experiences. 	✓		
SW3. Prior Knowledge. Provide support and strategies to leverage students' prior knowledge and experiences to motivate learning.	✓		
SW4. Metacognitive Abilities. Provide support and strategies for how to help students develop metacognitive abilities.	✓		
SW5. Equitable Learning Opportunities. Provide resources and strategies for how to ensure that <i>all</i> students, including those from non-dominant groups and with diverse learning needs, have access to the targeted learning goals and experiences.	✓		

Strengths related to these Teacher Supports

SW1. Phenomena/Problems.

The module is strong at providing support and strategies for how to help students figure out authentic and relevant phenomena using the three dimensions.

Evidence

- The instructional materials have been designed to support the teacher to guide students on a scaffolded learning journey to solve the Module Phenomenon: How do living things in an environment depend on one another and what do they need to grow? They tackle the problem one Driving Question at a time, applying the three dimensions with increasing sophistication, building the skills and knowledge they need through a series of investigations.
- The teacher is supported in the instructional material to connect their learning experiences back to the Module Phenomenon at strategic points with frequent class discussions where students share their ideas and evidence. **(DQ4L1 TE p. 222)**
- For example, in DQ1L10 TE p. 85, the teacher reviews the Module Phenomenon before connecting this to the garden design project students complete in DQ4, and leading a discussion of biodiversity in the habitats students have studied so far.

Connect Today's Learning to the Module Phenomenon and Science and Engineering Practices

Review the Module Phenomenon: How do living things in an environment depend on one another and what do they need to grow?

Remind students that they are designing a plan for a garden. Today, they made a sketch to show their design ideas. Summarize the steps they have taken to make their designs and connect to the Garden Plan poster.

Review that students have:

- Investigated different habitats
- Learned about biodiversity
- Done an experiment to find out what plants need
- Studied the relationship between plants and pollinators
- Used their learning to sketch their ideas about what would make a great garden habitat for pollinators and plants.

DQ4L1 TE p. 222

SW2. Three-dimensional Conceptual Framework.

The module is strong at providing support for helping students develop a conceptual framework across the dimensions and creating a learning environment that values all students.

Evidence

- The instructional materials are designed to elicit students' understanding of habitats and ecosystems at the start of the module and develop their understanding over time, through hands-on, reading, digital, video and data investigations.
- Opportunities to articulate, question, and revise their conceptual framework are woven into the instructional resources with teachers supported with continuous assessment for learning strategies and with support for how to tailor instruction accordingly.
- Support is given for how to create a positive learning environment where all contributions are valued along with activities that support teamwork and collaboration. Many of the activities involve students working in pairs and teams and they understand what effective teamwork looks and feel like, having completed the 3-D Team Challenge in Grade 2 Module 1: My Journey West. Throughout A Garden for Life, students are given many opportunities to support each other. For example, in DQ3, students watch a video about pollination and take notes, then work in teams to share their ideas and engage in critical discussion. The team comes to a consensus about the video's main ideas, which they record (DQ3L6 TE pp. 174–175). These activities are scaffolded with sidebars that provide additional support for special needs, English Learner, and Standard English Learner students.

Introduce the Activity

Today, students will watch a video to learn more about pollinators. Introduce the focus questions students should consider as they watch the video:

- How do humans depend on pollinators?
- How do human actions affect pollinators?

Students should listen for information to help them answer these questions. They will write their ideas and share them with their teams after the video. Group students into teams of 4.

Discuss the Video

Remind students to watch carefully during the video and listen for information to help them answer the focus questions.

Play the **Tracking Honey Bees** video.

Pause the video at key points to allow students time to independently write ideas in the "My Ideas" section of the table on page 67 in their Twig Books.

Let them know they will add to the column called "My Team's Ideas" later.

After the video, give students a few minutes to write additional ideas in their Twig Books. Replay the video as necessary.



DQ3L6 TE pp. 174–175

SW3. Prior Knowledge.

The module provides strong support and strategies to leverage students' prior knowledge and experiences to motivate learning.

Evidence

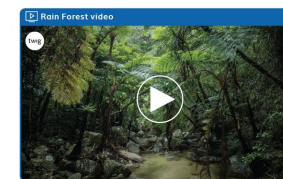
- Teachers are supported with strategies to leverage prior knowledge of ecosystems through resources such as videos, e.g., the Rain Forest video in DQ1L6 TE p. 54 and the My Favorite Place Prior-Knowledge Read-Aloud in DQ1L1 TE Spark p. 10. Additional support is provided at point of use for strategies to leverage prior knowledge and answer the Module Phenomenon. For example, in DQ4L1 TE Spark p. 218, the teacher prompts students to review all they have learned over the course of the three previous Driving Questions before leading a discussion of students' garden plans.

Observe the Video

Play the **Rain Forest** video.

Invite students to share their observations or anything they found interesting.

Highlight that rain forests are a type of habitat with very high biodiversity.



DQ1L6 TE p. 54

Review Prior Knowledge

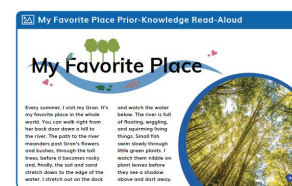
Today, the class will begin to discuss habitats. On the board or on chart paper, write:

- What is a habitat?

Invite students to share their thoughts:

- It's where animals live.

Invite them to follow along and listen for more details about habitats as you read the **My Favorite Place** Prior-Knowledge Read-Aloud.



DQ1L1 TE Spark p. 10

SW4. Metacognitive Abilities.

The module provides strong support and strategies for how to help students develop metacognitive abilities.

Evidence

- Support is given at point of use for how to develop students' metacognitive abilities. The Connect of the lesson often guides the teacher to draw students' attention to their growing use of the SEPs and CCCs, understanding of the DQ, or increasing ability to answer the Module Phenomenon (for example, connecting to SEP-4 in DQ1L5 TE p. 46, and CCC-2 in **DQ2L2 TE p. 104**).
- Discussions following diagnostic pre-assessments (Pre-Explorations) in DQ1 and DQ3 support teachers to track students' understanding of the three dimensions that make up the module's Performance Expectations (**DQ2L4 TE Investigate p. 116**).

Connect Today's Learning to CCC-2—Cause and Effect

Discuss cause and effect. Emphasize that the purpose of this investigation is to find out the effects of different conditions on the plants. Those conditions—sunlight/no sunlight, water/no water—are the causes. The effects are whether or not the plants grow.

Encourage students to connect this concept to other examples of cause and effect they have seen.

- What other investigations have we done this year that involve cause and effect?
- In Module 1 we found out that when you put ice in the sunlight, it melts.
- In Module 3 we found out that waves can move the sand on a beach.

Explain that simple tests, such as this investigation, can be designed to gather evidence (data) that points to causes.

DQ2L2 TE p. 104

Misconceptions from the Pre-Exploration

Make note on the **Plant Needs Progress Tracker** of students who have cleared up the following misconceptions.

Misconception	What to Do
Plants can grow without water or light.	Revisit students' drawings from the Pre-Exploration in Driving Question 1, Lesson 10, and interpret what their drawings means. Then ask students to interpret the results of their investigations and describe the differences between their earlier ideas and what they learned from the results. Check in again during or after the Report, once students have seen the class results.
Plants need things other than sunlight and water (and a place to grow).	Revisit students' drawings from the Pre-Exploration in Driving Question 1, Lesson 10, and explain what they included in the drawing (e.g., plant pots, a gardener). Show students a few pictures of plants growing in nature. Ask them if they notice any of those things in the pictures. Point out that plants all around can grow without these things. Then ask students whether the plants can get the things they are testing in class (water and sunlight) in nature. Have them recognize a few ways plants might get water in nature (e.g., rain, rivers).

DQ2L4 TE Investigate p. 116

SW5 Equitable Learning Opportunities

This module provides strong resources and strategies to ensure that all students have access to the targeted learning goals and experiences.

Evidence

- Frequent support is given at point of use in all lessons on strategies to ensure that all students have access to the targeted learning goals. Numerous scaffolds are provided for Special Needs, English Learner and Standard English Learner students, for example in DQ1L1 TE p. 11, **DQ2L2 TE p. 102**, and DQ4L3 TE p. 237.

English Learners

Monitor students' progress as they participate in collaborative conversations. Model conversation exchanges to support students' growth.

Substantial Support (Emerging Proficiency)

Students engage in 1 short answer. The exchange is often highly structured.

Moderate Support (Expanding Proficiency)

Students engage in 2–4 exchanges. They ask and answer questions, agree and disagree, and build on each other's ideas.


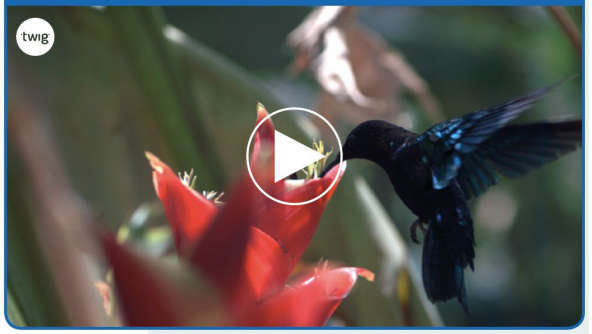
Light Support (Bridging Proficiency)

Students engage in 5 or more exchanges. They support their ideas with evidence and sufficiently synthesize ideas.

DQ2L2 TE p. 102

- The reader that complements the module **Where Are the Bees? Leveled Reader** is provided at four levels—Above, On, Below, and EL, with on-level lesson instruction embedded in the TEs and above-, below-, and EL lesson instruction available online.



	Where Are the Bees? Leveled Reader (Front Cover)
<ul style="list-style-type: none">• Digital versions of the Twig Book and Leveled Readers have text-to-speech functionality.	
<ul style="list-style-type: none">• Short, high quality videos that engage and support learners with diverse learning needs are frequently provided to spark interest, summarize key concepts, and make ideas relevant to Grade 2 students. For example, the Rain Forest video (in DQ1L6) lets students explore the incredible biodiversity of the rain forest from the classroom, while the Specific Pollination video (DQ3L7) helps students connect their learning about pollination to the concept of interdependence in ecosystems.	<div data-bbox="1318 435 1906 799"><p>Rain Forest video</p>A thumbnail image for the 'Rain Forest video' showing a lush, green rainforest scene with a small stream flowing through the center. The image is framed by a blue header with the text 'Rain Forest video' and a 'twig' logo in the top left corner. A white play button icon is centered over the image.</div> <p>Rain Forest video</p> <div data-bbox="1318 873 1906 1237"><p>Specific Pollination video</p>A thumbnail image for the 'Specific Pollination video' showing a close-up of a hummingbird with iridescent blue feathers hovering near a bright red flower. The image is framed by a blue header with the text 'Specific Pollination video' and a 'twig' logo in the top left corner. A white play button icon is centered over the image.</div> <p>Specific Pollination video</p>

Designed for the NGSS: Foundations Teacher Support Evidence Chart

Teacher materials...	Strong	Adequate	Weak
SP1. Three-dimensional Performances. Provide support with a range of sample student responses and/or rubrics for interpreting evidence of student learning across the three dimensions, specific to the element of each dimension, and related to the phenomenon/problem that provides context for the student performance.	✓		
SP2. Variety of Measure. Provide guidance and scoring tools for using a variety of measures matched to the targeted learning goals to help students monitor their progress toward learning goals and reflect on what they have learned, how they learn it, and how to use metacognition productively.	✓		
SP3. Student Progress Over Time. Provide guidance for using formative and summative assessments to monitor student progress over time. Examples include support for capturing student growth, interpreting results, adjusting instruction and planning for future instruction, providing feedback to students, and prompting students to consider what and how they've learned.	✓		
SP4. Equitable Access. Provide support and strategies for ensuring that assessments are accessible to students from diverse backgrounds and with diverse learning needs.	✓		

Strengths related to these Teacher Supports

SP1. Three-dimensional Performances.

The module provides strong support with a range of sample student responses and rubrics for interpreting evidence of student learning across the three dimensions. These are specific to the element of each dimension and related to the Module Phenomenon that provides the context for the student performance.

Evidence

- Rubrics are provided for the Performance Tasks. The rubrics provide sample answers in the form of look fors that support teachers to interpret evidence of student attainment of the four different levels—emerging, developing, proficient, and advanced. The rubrics are specific to certain Performance Expectations and show highlighted assessed dimensions.
- The assessment tasks are well-connected to the problems, phenomena, and dimensions being assessed. In the DQ4 Performance Task, students demonstrate their ability to develop and use models (SEP-2) which enable them to develop possible solutions (ETS1.B) for a garden built with the interdependence of organisms in ecosystems in mind (LS2.A). Students complete performance tasks at the end of each DQ, assessing their grasp of each Driving Question as they go, and supporting them in understanding the Module Phenomenon.

SP2. Variety of Measure.

The module provides strong guidance and scoring tools for using a variety of measures matched to the targeted learning goals to help students monitor their progress toward the learning goals and reflect on what they have learned, how they learn it, and how to use metacognition productively.

Evidence

- Teacher support for guidance and scoring tools matched to the learning goals is integrated through the module. In addition to the rubrics mentioned above, the printed teacher edition contains TB pages with sample student answers, so at a glance teachers have guidance on what student understanding looks like (e.g., **DQ1L7 TE Reflect p. 60**, **DQ3L3 TE Investigate p. 154**). A digital version of this completed TB is available online.

Formative Assessment

Ask students to complete the exercise on page 19 of their Twig Books.

Circulate as students are working and ask prompting questions:

- *What would the square look like?*
- *What might I find there?*

Students should then complete the rest of the exercise on page 20 of the Twig Book.

Let students know that they can use simple sketches (or symbols) for different plants and animals. You might want to model drawing and labeling a simple animal, like a cat, so students understand the basic level of detail required.

My Chosen Habitat
Develop a Model • Draw what you think one small square of your chosen habitat might look like. Label your drawing.

The drawing should show a small sample of one of the habitats previously studied. It should show examples of living things that are present in this habitat, but only a small selection.

Construct Explanations • How would the small square be similar to or different from the rest of your habitat?

It would be similar because the plants and animals in the small square would also be present in other parts of the habitat. It would be different because the rest of the habitat would have lots of other plants and animals that were not in the small square.

DQ1L7 TE Reflect p. 60

Play the **Specific Pollination video**. Pause the video at various points (see Lesson Preparation) to allow students time to write notes and make drawings. Replay sections as necessary.

Ask prompting questions as students fill out their Twig Books:

- *Can you tell me which plant the <pollinator> pollinates?*
- *What do you notice about the shape of that flower?*
- *Why is that pollinator a good match for that flower?*

Use the **Plants and Animals Progress Tracker** to note students who understand that pollinators and flowers have special shapes, colors, and textures that support their functions, and students who can explain how plants depend on animals for pollination.

DQ3L3 Investigate TE p. 155

Introduce the Activity

Let students know that, today, they will finish their dioramas and share them with the class.

They will use the checklist on page 93 in their Twig Books to determine if they have included everything their diorama needs:

- A water source
- A location with enough sunlight
- Pollinators
- The right plants for the pollinators
- Nesting places

Let students know that, as they check off each requirement, they should also explain how their design meets that requirement.

Requirement	How My Garden Design Meets It
<input type="checkbox"/> Water source	
<input type="checkbox"/> Location with enough sunlight	
<input type="checkbox"/> Pollinators	
<input type="checkbox"/> Good plants for the pollinators	
<input type="checkbox"/> Nesting places	

🔗 Finish Building Dioramas

Have students meet with their partners. Ask one of them to retrieve the diorama and supplies. They can then continue building their dioramas.

As students build, visit each group and go through the checklists with them to ensure they have included all of the requirements.

If students are struggling, remind them of their pollinator models and offer suggestions for using the materials (such as using pipe cleaners for bees, string for nests, etc.).

DQ4L4 Reflect TE p. 241

Reflect on Pollination Models

Ask students to turn to page 75 in their Twig Books. Read through the checklist as a class.

Have students review their writing and complete the self-assessment checklist.

Assess Student Work

Review students' responses and their reports to determine if students have a deeper understanding of their performance as it relates to the criteria.

Use the **Pollination Model Rubric** to assess students' reports.

Reflect

Review your report and your model. Have you done everything on the checklist?

- ☐ My model represents a matching plant and pollinator.
- ☐ My model shows the animal's parts.
- ☐ My model shows the flower and the pollen.
- ☐ The materials I chose for my model help to show the shape and structure of the plant and animal parts.
- ☐ My report explains all the parts of my model.

Share your model with another team. You should:

- Give the name of your pollinator
- Explain what each material represents
- Explain the shape(s) you chose
- Explain how your model shows how pollen is moved.

Evaluate Information • Listen as the other team presents their model. Write one thing they did well in the model they shared with you.

DQ3L9 Reflect TE p. 196

Investigate

30 min

Introduce the Activity

Today, students will present their models to each other. Remind students of the checklist of requirements they filled out in the previous lesson (on page 75 of the Twig Book). When they present their models, they will need to:

- Identify the pollinator being modeled
- Explain what each material represents
- Explain your choice of shape(s)
- Explain how the model shows how pollen is moved.

Two pairs or teams will meet up and present their models to each other. They can refer to their Twig Books and their reports they as they present.

Remind students that they should listen carefully and respectfully to presentations. Listening students should ask presenters questions about their model, then write down one good thing about the team's model on page 76 in their Twig Books.



DQ3L10 Investigate TE p. 200

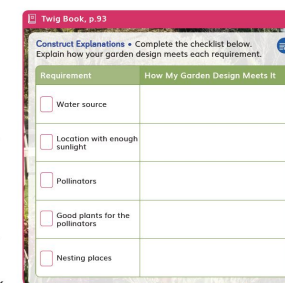
Introduce the Activity

Let students know that, today, they will finish their dioramas and share them with the class.

They will use the checklist on page 93 in their Twig Books to determine if they have included everything their diorama needs:

- A water source
- A location with enough sunlight
- Pollinators
- The right plants for the pollinators
- Nesting places

Let students know that, as they check off each requirement, they should also explain how their design meets that requirement.



Finish Building Dioramas

Have students meet with their partners. Ask one of them to retrieve the diorama and supplies. They can then continue building their dioramas.

As students build, visit each group and go through the checklists with them to ensure they have included all of the requirements.

If students are struggling, remind them of their pollinator models and offer suggestions for using the materials (such as using pipe cleaners for bees, string for nests, etc.).

DQ4L4 Reflect TE p. 241

- Assessments are multimodal and support a variety of learning styles and abilities. They include:
 - Performance Tasks (written, DQ1L10 TB p. 25, DQ2L5 TB pp. 41–42, DQ3L9 TB pp. 73–74, **DQ4L4 TB p. 93**)
 - Formative Assessments (oral, written, drawn, DQ1L2 TE Investigate p. 20, DQ1L5 Reflect TE p. 47, DQ2L5 Reflect TE p. 125, DQ3L5 Reflect TE p. 169)
 - Constructed response (written and drawn, **DQ1L5 TE p. 47**, DQ1L8 Reflect TE p. 69, DQ2L2 Reflect TE p. 105, DQ3L3 Investigate TE p. 155)
 - Self- and peer assessment (DQ3L9 Reflect TE p. 196, DQ3L10 Investigate TE p. 200, DQ4L4 Reflect TE p. 241).

Construct Explanations • Complete the checklist below. Explain how your garden design meets each requirement.

Requirement	How My Garden Design Meets It
<input type="checkbox"/> Water source	
<input type="checkbox"/> Location with enough sunlight	
<input type="checkbox"/> Pollinators	
<input type="checkbox"/> Good plants for the pollinators	
<input type="checkbox"/> Nesting places	

DQ4L4 TB p. 93

Formative Assessment

Ask students to complete the Reflect exercise on pages 14–15 in their Twig Books.

Twig Book, p. 14

Reflect

Communicate Information • Put a check mark next to the statements you agree with. On page 15, make a drawing that helps to explain the answer(s) you chose. Your drawing should have at least two habitats. Label the habitats and living things in your drawing.

☐ Every habitat has all the same types of plants and animals.

☒ Some living things can be found in more than one habitat.

☒ Some living things can only be found in one habitat.

Twig Book, p. 15

5

Make a habitat drawing.

The drawing should display at least two different habitats containing different living things. One or two living things should also be present in more than one of the habitats.

DQ1L5 TE p. 47

- Text-to-speech functionality is available for all assets.
- Class discussions are supported with suggested question scaffolds and sample answers (for example **DQ2L1 TE Report, p. 95**).

Discuss the Close Reading

Lead a class discussion on "The Plant Problem" cartoon:

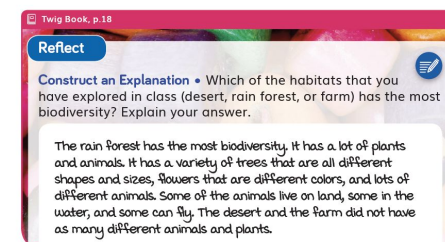
- What question were the students in the cartoon investigating?
- Do plants need water and light to grow?
- What did they find out?
- The plant that got water and light grew; the plant that did not get water and light died.
- What question do the students still have?
- Why did the plant die?
- Do the results show which thing caused the plant to die—no light, no water, or both? [Ask students to turn and talk with a partner for 30 seconds before sharing with the class.]
- They didn't find out what would happen if the plant only got water, but no sunlight (or vice versa).
- What could Amy and Ahmed do to find the answer to their question?
- They could try giving a plant water but no sunlight to see if it survives; they could try giving a plant sunlight but no water to see if it lives.

DQ2L1 TE Report, p. 95

- The Reflect of most lessons integrates Formative Assessment opportunities for students to reflect on what they have learned and how they used the three dimensions to grow their understanding of the Module Phenomenon and problems (for example, **DQ1L2 TE p. 55**, DQ4L2 TE p. 135).

Reflect on Biodiversity

Ask students to respond to the question on page 18 in their Twig Books.



Use the Reflection

Review students' responses. The best responses will:

- Identify that the rain forest has the highest amount of biodiversity of the three habitats explored.
- Refer to the greater number of types of plants and animals observed in the habitat chosen, compared to other habitats.
- Refer to the differences in the shapes, sizes, and other characteristics of the plants and animals in the habitat chosen.

DQ1L2 TE p. 55

SP3. Student Progress Over Time.

The module provides strong guidance for using formative and summative assessments to monitor student progress over time. Examples include support for capturing student growth, interpreting results, adjusting instruction and planning for future instruction, providing feedback to students, and prompting students to consider what and how they've learned.

Evidence

- Teachers can use Pre-Explorations digitally or in print. Answers are tagged to specific dimensions and, if administered digitally, teachers will be able to track student growth in level of attainment of the dimensions over time and tailor instruction accordingly. Teachers can also provide students with feedback digitally. Teachers can opt to add the scores manually for all non-digital assessment tasks.
- Downloadable Progress Trackers support teachers to track students' mastery of their misconceptions as assessed in the Pre-Explorations, as well as the results of Formative Assessments of the three dimensions across the DQs (for example, the Plant Needs Progress Tracker used in DQ1). Guidance for teachers on how to adjust instruction for students needing more support to clear up their misconceptions is provided at point of use in the instructions (for example, **DQ1L2 TE Investigate p. 20**, DQ1L5 TE Investigate p. 44, and DQ1L8 TE Investigate p. 67).

Misconceptions from the Pre-Exploration

Make a note on the **Habitats Progress Tracker** of students who have cleared up any of the following misconceptions.

Misconception	What to Do
All habitats are the same.	Ask students to think about the living things in their garden habitats from the last lesson and the desert habitat from this lesson. How are they different?
An animal can live in any habitat.	When talking to students, remind them of the activity from the last lesson, and ask if the living things in their gardens are found in the desert habitat from the interactive.

DQ1L2 TE Investigate p. 20

SP4. Equitable Access.

The module provides strong support and strategies for ensuring that assessments are accessible to students from diverse backgrounds and with diverse learning needs.

Evidence

- Assessments of the three dimensions are multimodal and include multiple choice, writing, drawing, physical models, and oral discussions, allowing all students to access a range of assessment types to suit their learning style and/or reading level.
- The digital TB and digital assessment items (rubrics) have a text to speech function allowing students of all reading levels to access the assessments.
- The rubrics for the Performance Tasks (DQ1L10 TE p. 80, DQ2L5 TE p. 120, TB pp. 41–42, DQ3L9 TE p. 192, TB pp. 73–74, **DQ4L4 TE p. 244**, TB p. 93) have four levels (emerging, developing, proficient, advanced) allowing all students to demonstrate their current level of attainment.
- Writing, Reading, Listening and Speaking domain tasks dedicated to monitor English language development are integrated into the core instructional resources (DQ3L5 TE p. 170, **DQ4L2 TE p. 231**) and the On-Level reader lessons (TE Chapter 3 Second Read, p. 263).

Assess Student Work

Use the **Garden Plan Project Rubric** to assess students' pollinator garden dioramas and the responses in their Twig Books.

To extend and apply students' learning from this module you could:

- Write a letter to school or city officials, proposing a location for a pollinator garden and including a design (or photo of a garden diorama)
- Follow through with the class plan to build a pollinator garden on school grounds, or improve an existing one. This will require administrative approval and support.



DQ4L4 TE p. 244

Focus on Text Features—Captions

On subsequent days, revisit the article to focus on key text features and structures students will encounter in other informational texts.

Remind students that when reading informational texts, it is important to use text features to help us understand the information. The author often includes additional information or gives examples that help the reader understand the important ideas in the text.

Have students work with a partner to read the image captions in "Creating a Pollinator Garden." Students will make a list of what they learned by looking at each image and what they learned from the caption. Explain how this information helps us understand the text.

- *What important information can images and captions add?*

Have students write captions for the two images in the text that do not have captions already.

After students have finished, ask them to read their captions with the class.

Optional: Students may work in pairs to complete the activity, rather than writing individually.



DQ4L2 TE p. 231

Designed for the NGSS: Foundations	High Quality 5	Medium Quality 3	Low Quality 1
TS1. Phenomenon/Problem Driven Three-Dimensional Learning. Teacher materials provide: <ul style="list-style-type: none"> background information about the phenomena or problems included in the learning sequence and across sequences; an explanation of the role of phenomena or problems in driving student learning; rationale for why the unit phenomena or problems were selected for the targeted DCIs, SEPs, and CCCs. Refer to F1, F2, SW1, SW2, SP1.	Materials provide clear guidance to teachers on how students develop, use, and integrate the three dimensions to make sense of phenomena or design solutions to problems.	Materials provide some guidance to teachers about how students develop, use, and integrate the three dimensions.	Materials provide little guidance on developing, using, or integrating them to make sense of phenomena or design solutions to problems.
TS2. Coherence. Teacher materials describe and provide a rationale for: <ul style="list-style-type: none"> the conceptual framework and sequence of ideas, practices, and learning experiences in the learning sequences and across sequences; strategies for linking student experiences across lessons to ensure student sense-making and/or problem-solving focused on phenomena or problems is linked to learning across all three dimensions; connections to other science domains, nature of science, engineering, technology, and applications of science, math, and ELA. Refer to F2, F3, SW2, SP2.	Materials provide strong support for understanding unit coherence and helping students link experiences to learning across all three dimensions and to phenomena or problems.	Materials provide some support for understanding unit coherence and helping students link experiences to learning across all three dimensions and to phenomena or problems.	Materials provide little support for understanding unit coherence and helping students link experiences to learning across all three dimensions and to phenomena or problems.
TS3. Effective Teaching. Teacher materials support the use of, and provide a rationale and evidence of, effectiveness for strategies that: <ul style="list-style-type: none"> support students in learning through authentic and meaningful phenomena or design problems; support student learning across the three dimensions; make student thinking visible; promote reasoning, sense-making, and problem-solving; challenge student thinking; and develop metacognitive abilities. Refer to SW1, SW2, SW3, SW4, SP3.	Materials provide rationale and robust support for implementing strategies that enhance student performances, thinking, and metacognition.	Materials provide some rationale and support for implementing strategies that enhance student performances, thinking, and metacognition.	Materials provide little rationale and support for teachers to implement strategies that enhance student performances, thinking, and metacognition.

<p>TS4. Support for Students with Diverse Learning Needs. Teacher materials provide an array of strategies:</p> <ul style="list-style-type: none"> • to support student access to the targeted learning goals, experiences, and performances; • that help teachers differentiate instruction. <p>Refer to SW5, SP4.</p>	<p>Materials include robust and comprehensive strategies for supporting learners with diverse needs.</p>	<p>Materials include some robust strategies for supporting learners with diverse needs.</p>	<p>Materials include few robust strategies for supporting learners with diverse needs.</p>
<p>TS5. Support to Monitor Student Progress. Materials provide support for teachers to:</p> <ul style="list-style-type: none"> • monitor student learning and progress over time; • make decisions about instruction and provide feedback to students. <p>Refer to SW3, SW4, SP1, SP2, SP3.</p>	<p>Materials provide robust support for interpreting and using data generated from assessments.</p>	<p>Materials provide some support for interpreting and using data generated from assessments.</p>	<p>Materials provide little support for interpreting and using data generated from assessments.</p>

Designed for NGSS: Teacher Support Rubric

Analyze Evidence

Directions:

1. Review the Designed for NGSS: Foundations Rubric.
2. Reflect on the evidence (or lack of evidence) that you and your team gathered and represented.
3. Record strengths and limitations for each criterion based on your evidence. Cite specific examples.

Strengths

TS1. Phenomenon/Problem Driven Three-Dimensional Learning.

The Module materials are High Quality 5 in regards to TS1.

They provide clear guidance to teachers on how students develop, use, and integrate the three dimensions to make sense of phenomena or design solutions to problems.

Evidence

- In DQ1, students use an interactive to explore different habitats. They apply the concept of patterns (CCC-1) as they consider how living things vary from habitat to habitat. They plan and carry out an investigation to explore the phenomenon of biodiversity and humans (LS4.D).
- In DQ2, students explore the phenomenon of interdependent relationships in ecosystems (LS2.A) as they start to design their garden habitats. They apply the concept of cause and effect (CCC-2) as they investigate if plants need water and light to grow.
- In DQ3, students further explore interdependent relationships in ecosystems (LS2.A), applying the concept of structure and function (CCC-6) in order to build physical pollinator models that demonstrate their understanding of pollination.
- In DQ4, students build on their previous learning, turning to the phenomenon of developing possible solutions (ETS1.B) which they explore in the context of biodiversity (LS4.D) and interdependent relationships in ecosystems (LS2.A). Students apply the concept of structure and function (CCC-6) to build physical dioramas of the pollinator gardens they began in DQ2.

TS2. Coherence.

The Module materials are High Quality 5 in regards to TS2.

They provide teachers with a clear conceptual framework in a logical sequence, strategies for linking student experiences across lessons, and connections to other science domains, CNS (NoS), CETAS (ETS), math, and ELA.

Evidence

- The instructional materials have been designed to support the teacher to guide students on a scaffolded learning journey to solve the Module Phenomenon: How do living things in an environment depend on one another and what do they need to grow? They tackle the problem one DQ at a time, applying the three dimensions with increasing sophistication, building the skills and knowledge they need through a series of investigations.
- A digital guide to SEPs and CCCs provides a clear explanation for each practice and concept with guidance on what these skills should look like in a 2nd grade classroom, with specific reference for how students ask questions and develop investigations in Grade 2 Module 4.
- Additional module-specific support is frequently given at point of use in the instructional materials for all dimensions, Connections to the Nature of Science (CNS) and Connecting to Engineering, Technology, and Applications of Science (CETAS), often in the Connect. For example, in **TE DQ1 L2 Connect p. 23**, support is given on connecting the learning activity to CCC-3.
- Opportunities to articulate, question, and revise students' conceptual framework are woven into the instructional resources with teachers supported with continuous assessment for learning strategies and with support for how to tailor instruction accordingly.

Connect Today's Learning to the Driving Question

Ask students to think about how the desert they looked at today is different from the habitat they created in the previous lesson.

- *Do you think we would find the same types of living things in a desert and in a garden?*

Introduce the Driving Question: How can we compare different habitats? Write it on the board.

The class will investigate more habitats in future lessons. Ask them to continue to think about the ways in which different habitats are the same and different.

Note: This lesson has no Reflect to give students more time to explore the interactive.

DQ1 L2 Connect p. 23

TS3. Effective Teaching.

The Module materials are High Quality 5 in regards to TS3.

They provide strong guidance to support students in learning through authentic and meaningful phenomena/problems, support student learning across the three dimensions, and develop students' metacognitive abilities.

Evidence

- The teacher is supported in the instructional material to connect their learning experiences back to the Module Phenomenon at strategic points with frequent class discussions where students share their ideas and evidence. For example, in **DQ1L10 TE p. 85**, the teacher invites students to describe their garden plans, encouraging them to connect their learning to the habitats they've investigated and, more broadly, the Module Phenomenon.
- The instructional materials are designed to elicit student understanding of biodiversity and the interdependence of species at the start of the module and then develop their understanding over time, through hands-on, reading, digital, and video investigations.

Connect Today's Learning to the Module Phenomenon

Review the Module Phenomenon: How do living things in an environment depend on one another and what do they need to grow?

Show students the Garden Plan poster you created before the lesson. Remind them that in this module they are going to plan their own garden habitat.

Add the first section to the poster to show the existing school habitats. Write:

- We found different habitats at our school.

Ask a few students to describe the habitats they investigated. Add the photos you took during the previous lesson. Work with the class to write a description of each one.

Note: Make sure you leave room on the poster to add several more sections later in the module.

Add the second section. Write:

- We want to design a good habitat for:

Have students brainstorm different ideas about what living things should be in the class garden, and write the names (or draw pictures) of the plants and animals students suggest.

If students struggle to think of examples of organisms, display the **Garden Plants and Animals** visual to give them ideas.

Note: If you have prepared images of habitats and pollinators in your area use these as inspiration instead of the visual.

- *How could we change or improve one of the habitats here to make it more suitable for the plants and animals we want in our garden?*

We need to find out what the plants and animals need and make sure we put it in the garden.

Let students know that they will continue to learn about and explore plant and animal needs in order to make a great garden plan.

Congratulate the class on all their work in this Driving Question.

Assess Student Work

Evaluate students' work from Lessons 9 and 10 using the **School Habitat Investigation Rubric**.



DQ1L10 TE p. 85

- Support is given at point of use for how to develop students' metacognitive abilities. The Connect of the lesson often guides the teacher to draw students' attention to their growing use of the SEPs and CCCs, understanding of the DQ, or increasing ability to answer the Module Phenomenon (for example, connecting to SEP-4 in **DQ1L5 TE p. 46**, and CCC-2 in **DQ2L2 TE p. 104**).
- Teachers can use the Pre-Explorations digitally or in print. Answers are tagged to specific dimensions and, if administered digitally, teachers will be able to track student growth in level of attainment of the dimensions over time and tailor instruction accordingly. Teachers can also provide students with feedback digitally. Teachers can opt to add the scores manually for all non-digital assessment tasks.

Discuss the Pollinator Game

Gather students for a class discussion of the game.



- What happened when a bee visited a flower?
- The bee got nectar.
- It got felt pieces/pollen stuck to it.
- What did the felt pieces/pollen look and feel like? What about the wristbands?
- The felt pieces are soft/fluffy/fuzzy.
- The wristbands are fuzzy/rough/sticky.
- What did the felt pieces represent? What happened to them? Why?
- They represented pollen. It got stuck to the bees' wristbands when they went to the flowers.
- It got moved around and mixed up.

DQ1L5 TE p. 46

Connect Today's Learning to CCC-2—Cause and Effect

Discuss cause and effect. Emphasize that the purpose of this investigation is to find out the effects of different conditions on the plants. Those conditions—sunlight/no sunlight, water/no water—are the causes. The effects are whether or not the plants grow.

Encourage students to connect this concept to other examples of cause and effect they have seen.

- What other investigations have we done this year that involve cause and effect?
- In Module 1 we found out that when you put ice in the sunlight, it melts.
- In Module 3 we found out that waves can move the sand on a beach.

Explain that simple tests, such as this investigation, can be designed to gather evidence (data) that points to causes.

DQ2L2 TE p. 104

The Module materials are High Quality 5 in regards to TS4.

They provide a strong array of strategies to support student access to the targeted learning goals and help teachers differentiate instruction.

Evidence

- Integrated EL sidebars offer teachers guidance to support students' engagement with the material (DQ1L1 TE p. 11, DQ2L2 TE p. 102, **DQ3L7 TE p. 180**, DQ4L3 TE p. 237).

English Learners

Scaffold for ELs by writing a list of the requirements for their models, accompanied by quick sketches.

- Include pollinator, plant, and pollen
- Show how pollen is moved
- Pollinator and plant are a good match
- Materials that show shape, color, texture
- Build at least one body part
- Show petals

DQ3L7 TE p. 180

- Integrated Cultural Connection sidebars offer teachers guidance to engage students of all backgrounds (DQ1L2 TE p. 23, DQ2L2 TE p. 104, **DQ3L2 TE p. 150**, DQ3L8 TE p. 188).

Cultural Connection

For Spanish-speaking ELs, draw their attention to your use of cognates in this section. Cognates are words that look and mean the same as the Spanish words they already know.

texture = textura

structure = estructura

function = función, funcionar

150

DQ3L2 TE p. 150

- Integrated Special Needs sidebars offer teachers guidance to support students of all abilities as they participate in class activities and grasp key concepts (DQ1L2 TE p. 19, DQ2L3 TE p. 108, DQ3L3 TE p. 154, DQ4L2 TE p. 237).

Special Needs

Executive Functioning

Students who struggle with impulsiveness, become distracted, or lose focus may have difficulty using the interactive appropriately. Pair them with students who will stay on task and encourage their partners to do the same.

Fine Motor Skills

For any student with fine motor skill challenges that may affect their computer use, ask your IT Department for an adaptive mouse or alternative keyboard.

DQ1L2 TE p. 19

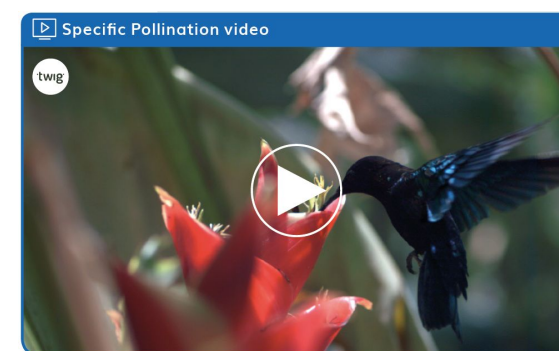
- Integrated Challenges interspersed throughout the TB support GATE students who have met the learning goals (DQ1L3 TE p. 28, TB p. 9, DQ2L1 TE p. 95, TB p. 32, DQ3L5 TE p. 167, TB p. 66, DQ4L3 TE p. 136, TB p. 92).

Challenge

Have students return to the article to make a chart of all the pollinators listed. They should write the name of each pollinator, which body part it uses to take nectar from the plant, and which body part it uses to spread the pollen.

DQ3L5 TE p. 167

- Videos like Rain Forest (DQ1L6), **Specific Pollination** (DQ3L3), and Artificial Pollination (DQ3L10) bring phenomena and concepts to life for all students.



Specific Pollination video

- Assessments of the three dimensions are multimodal and include multiple choice, writing, drawing, physical models, and oral discussions, allowing all students to access a range of assessment types to suit their learning style and/or reading level. **(DQ1L1 TB p. 5)**

Pre-Exploration

Put a check mark next to the correct answers.

Statement	True	False	Not Sure
1 All habitats are the same.			
2 Different types of living things live in different habitats.			
3 A nest is the habitat of a bird.			
4 Any animal can live in any habitat.			
5 A habitat provides an animal with everything it needs.			
6 Some habitats have more types of plants and animals than other habitats.			

DQ1L1 TB p. 5

- The digital TB and digital assessment items (rubrics) have a text to speech function allowing students of all reading levels to access the assessments.

- The rubrics for the Performance Tasks (**DQ1L10 School Habitat Investigation Rubric**, DQ2L5, DQ3L9, DQ4L4) have four levels (emerging, developing, proficient, advanced) allowing all students to demonstrate their current level of attainment.

DQ1L10 School Habitat Investigation Rubric

- Writing, reading, listening and speaking domain tasks dedicated to monitor English language development are integrated into the core instructional resources (DQ3L5 TE p. 170, DQ4L2 TE p. 231) and the On-Level reader lessons (**TE Chapter 3 Second Read, p. 263**).

Monitoring English Language Proficiency

During your leveled reader instruction, engage students in the following tasks to monitor their growing English Language Development. These tasks are best administered individually.

Writing Domain

Have students look at the photos on pages 6–7 and write a brief description of what is happening.

Reading Domain

Refer to the comic on page 8.

Write:

- Bees fly from flower to flower. Bees spread the pollen. Pollen helps plants make seeds. Seeds grow into plants. Farmers grow crops for us to eat.

Have students read each word, then match it to the correct photo or part of the photo.

Listening Domain

Describe the photos on pages 28–29. Add key details included in the photos, but not in the text (e.g., the special clothing beekeepers wear).

Ask:

- What are these people doing?
- Why?
- Where are these beehives?
- How is this helping to save bees?

Speaking Domain

As students answer the four questions in the Listening Domain task, record their use of academic vocabulary and ability to summarize key details.

TE Chapter 3 Second Read, p. 263

TS5. Support to Monitor Student Progress.

The Module materials are High Quality 5 in regards to TS5.

They provide strong support for teachers to monitor student learning and progress over time, and make decisions about instruction and provide feedback.

Evidence

- There are three diagnostic pre-assessments called Pre-Explorations at strategic points in the module that assess prior knowledge and misconceptions (for example, **DQ1L1 TE p. 15**, TB p. 5). Notes in the TE and Progress Trackers support teachers to monitor students as they clear up their misconceptions and master the three dimensions, giving suggestions for how to tailor instruction accordingly.

Pre-Exploration

Ask students to complete the Habitats Pre-Exploration on page 5 in their Twig Books. Read aloud the statements.

Use the Pre-Exploration

Review students' answers and use the Habitats Progress Tracker to note any misconceptions. If a student checks "not sure," it does not necessarily indicate that they have a misconception. However, you may still want to check in with these students in future lessons to ensure that they are developing correct ideas.

As you go through this Driving Question, look for students who clear up misconceptions, and mark the Habitats Progress Tracker accordingly (you can put a red check mark over your original mark or color in the box). The goal is for students to clear up all their misconceptions by the end of the Driving Question.

Statement	True	False	Not Sure
1 All habitats are the same.	✓		
2 Different types of living things live in different habitats.	✓		
3 A nest is the habitat of a bird.	✓		
4 Any animal can live in any habitat.		✓	
5 A habitat provides an animal with everything it needs.	✓		
6 Some habitats have more types of plants and animals than other habitats.	✓		

Misconception	What to Look For	Where Addressed
All habitats are the same.	Students who mark Statement 1 as true.	Lessons 2, 3, 4, and 8.
An animal's home/shelter is its habitat.	Students who mark Statement 3 as true.	Lessons 7 and 9.
An animal can live in any habitat.	Students who mark Statement 4 as true.	Lessons 2, 3, 4, and 5.
All habitats have the same amount of diversity.	Students who mark Statement 6 as false.	Lessons 6, 8, and 9.

DQ1L1 TE p. 15

- Downloadable Progress Trackers support teachers to track students' mastery of their misconceptions as assessed in the Pre-Explorations as well as the results of Formative Assessments of the three dimensions across the DQs (for example, the Habitats Progress Tracker used in DQ1). Guidance for teachers on how to adjust instructions for students needing more support to clear up their misconceptions is provided at point of use in the instructions. See, for example, DQ1L6 TE Report p. 54, **DQ2L4 TE Investigate p. 116**, and DQ4L3 TE Investigate p. 155.

Misconceptions from the Pre-Exploration

Make note on the **Plant Needs Progress Tracker** of students who have cleared up the following misconceptions.

Misconception	What to Do
Plants can grow without water or light.	Revisit students' drawings from the Pre-Exploration in Driving Question 1, Lesson 10, and interpret what their drawings means. Then ask students to interpret the results of their investigations and describe the differences between their earlier ideas and what they learned from the results. Check in again during or after the Report, once students have seen the class results.
Plants need things other than sunlight and water (and a place to grow).	Revisit students' drawings from the Pre-Exploration in Driving Question 1, Lesson 10, and explain what they included in the drawing (e.g., plant pots, a gardener). Show students a few pictures of plants growing in nature. Ask them if they notice any of those things in the pictures. Point out that plants all around can grow without these things. Then ask students whether the plants can get the things they are testing in class (water and sunlight) in nature. Have them recognize a few ways plants might get water in nature (e.g., rain, rivers).

DQ2L4 TE Investigate p. 116