TABLE 1

Example of interdisciplinary science unit with disciplinary literacy strategies for kindergarten (K-LS1-1).

Science Practices	Science Explorations	Reading*	Speaking and Listening	Writing
Asking questions	Show students a plant that is alive and one that is dead. Teacher asks, "What is the difference between these two plants (living and nonliving)?" (Engage) Students make observations of these two plants and notice the differences (Explore)	Read: *Plants are alive!* By Molly Aloian (Further Explore)	Students discuss the similarities/differences between the living/nonliving plants. (Explain) Students listen to others' ideas and theories about what helps plants live or die.	As a class, students generate and the teacher records a list of questions they have about the plants.
Developing and using models	Teacher asks, "What do plants need to grow? What parts help them to get these things?" (Engage) In small groups, student observe different types of plants that have been removed from the soil. (Explore)	Read: *How do plants grow?* By Julie Lundgren (Further Explore)	Students share orally what they learned from the book, then practice saying the parts of plants and what each part does. (Explain) Students listen to others' ideas about what plants need to grow.	Students draw a picture of a plant and label parts of plant. (Evaluate)
Planning and carrying out investigations	Teacher asks, "What is soil?" (Engage) In small groups using magnifiers, student observe soil samples and notice the different things that they find in soil. (Explore)	Read: *Soil** by Chris Bowman (Further Explore) *Use the experiment at the end as a close read for how to set up an experiment and how experiments are written in sequential order.	Students discuss what they learned from the reading about soil. (Explain) Teacher asks, "Could a plant live without soil?" Students discuss their ideas in small groups. Students then share their ideas as a whole class with the teacher facilitating the discussion. (Elaborate) Students listen to others' ideas about if a plant could live without soil.	With the teacher facilitating, students create a plan to investigate how they might grow a plant without soil. Using shared writing, the teacher records the students' plan and they set up the class experiment where they plant one bean seed in a cup of soil and the other in a cup of moist paper towels.
Using mathematics and computational thinking	Teacher asks, "Where do new plants come from?" (Engage) In small groups, students dissect bean seeds that have been soaked in water to see the parts of a seed. (Explore)	Read: *Plant Life Cycles* by Julie Lundgren (Further Explore)	Students share ideas about plant life cycle. (Explain) Students predict how tall their plants will get. (Elaborate) Students watch a video of a scientist discussing types of plants and plant growth. (Elaborate) *https://www.youtube.com/watch?v=5hSC1-dcFhQ&t=67s*	Students observe their plants for a few weeks. Students keep a tally of the number of days the plant has grown. Students take turns measuring each plant (control and experimental) each morning and then each student records the number in their notebook.
Analyzing and interpreting data	Teacher asks, "Where do plants live?" (Engage) In small groups, student observe flashcards of plants in different habitats (forests, deserts, water, etc.) noticing the places they can grow. (Explore)	Read: *How do plants survive?* By Kelly MacAuley, pp. 4–15 (Further Explore)	Students discuss the different habitats in which plants can grow. (Explain) Students also discuss the progress of their plants and possible ideas about the differences (in any) in the growth of their plants. (Elaborate) Students listen to and agree/disagree with ideas/theories based on data.	Each week, students draw pictures of the two plants and write a summary sentence about which is taller, has more leaves, etc.

Construct explanations for science	Teacher asks, "Why do most plants need soil?" (Engage)	Read: *Why do most plants need soil?* By Ellen Lawrence (Explore)	Students discuss as a small group about why most plants need soil. Students then share ideas as a whole class with the teacher facilitating the discussion. (Explain) Students listen to the ideas and explanations of others groups.	Through shared writing, the teacher records possible explanations for why most plants need soil. (Evaluate)
Engage in argument from evidence	Teacher asks, "Why did our bean plants grow differently?" (Engage)	Read: *How do plants survive?* By Kelly MacAuley, pp. 16–23 (Explore)	Students discuss more habitats where plants can grow. Students discuss their ideas and share evidence to support their arguments with their small group. (Explain) Students listen for and correct confusing portions of their scientific argument. Students watch "Needs of Plants" video. Listen for evidence to support why their beans grew differently. (Elaborate) *https://www.youtube.com/watch?v=gIRR-VdIP1M*	Through shared writing, students compose a scientific explanation about the growth of their experimental plant with evidence to support explanation. (Evaluate)
Obtaining, evaluating, and communicating information		Read: *Plants!* By Tracy Nelson Maurer. Specifically pointing out the text features of informational texts (including bolded words, pictures and labels)	In small groups, students read this book again on the iPad. Students locate and discuss these text features and discuss how these might be used in their own text. Students listen to the ideas of others.	Students draw a picture of a plant and with the help of the teacher write about what a plant needs to stay alive. (Evaluate)

**All informational texts are available through GetEpic.com.