ALL for Science™
Authentic Literacy and Language for Science

Baylor College of Medicine CENTER FOR EDUCATIONAL OUTREACH

PACING CHART
G5 Matter and Energy in Ecosystems

Day	Mini-Lesson	Inquiry Circles	Science Investigation	Standards
1	Teacher introduces the "Inquiry Toolbox: and "Team Roles" anchor charts.	Teams explore and rank their interest in four food-disposal methods to be investigated throughout the unit.	The phenomenon of decomposition is introduced with videos of decomposing fruits, vegetables, and leaf litter.	**ELA and Reading** **TEKS:** 5.13(A) **CCSS:** SL.5(1)(b) **NGSS:** 5-LS2.A, LS2.B **TEKS:** 5.1(A)(D)(E), 5.5(F), 5.12(A)(B)
2	Teacher introduces the "Generating Questions" anchor chart and models the strategy.	Teams are introduced to the Inquiry Charts they will use in their investigation of a food-disposal method.	Each team is provided a modified Winogradsky column for daily observation.	**ELA and Reading** **TEKS:** 5.13(A) **CCSS:** W.5.7 **NGSS:** 5-LS1-1, LS2.B **TEKS:** 5.1(A)(E), 5.5(A)
3	Teacher introduces the "Evaluating Claims and Evidence in Online Media" anchor chart and models the strategy.	Teams work on answering their Inquiry Chart questions about their food-disposal method.	Teams examine a soil sample to separate and identify its components.	**ELA and Reading** **TEKS:** 5.9(E)(i)(ii) **CCSS:** RI.5.8 **NGSS:** 5-LS2-1 **TEKS:** 5.1(A)(D)(E), 5.3(B), 5.5(D)(F)
4	Teacher introduces the "Intratextual Synthesis" anchor chart and models the strategy.	Teams work on answering their Inquiry Chart questions about their food-disposal method.	Teams play the Soil Dwellers game as an introduction to the organisms that make up a soil ecosystem.	**ELA and Reading** **TEKS:** 5.9(D)(ii) **CCSS:** RI.5.3 **NGSS:** 5-LS2-1, LS2.A **TEKS:** 5.1(A)(D)(E), 5.3(B), 5.5(D)(E)(G), 5.12(A)(B), 5.13(A)

5	Teacher introduces the features of a diagram and how to interpret the information a diagram contains.	Teams work on answering their Inquiry Chart questions about their food-disposal method.	Learners use their Tracking Log Soil Dwellers game cards to explore how matter is transferred in soil ecosystems.	**ELA and Reading** **TEKS:** 5.10(C) **CCSS:** W.5.7 **NGSS:** 5-LS2-1, LS2.A, LS2.B **TEKS:** 5.1(A)(D)(E), 5.3(B), 5.5(D)(E)(F), 5.12(A)(B)
6	Today, learners should have an additional 15 minutes to work in their inquiry circles. Teacher might also use this time to reteach a mini-lesson for learners who have been absent.	Teams work on answering their Inquiry Chart questions about their food-disposal method.	Teams observe what happens when yeast cells are given a source of food (sugar).	**ELA and Reading** **TEKS:** 5.13(C) **CCSS:** RI.5.7 **NGSS:** 5-LS2.B **TEKS:** 5.1(A)(D)(E), 5.3(B), 5.5(B)(E),(G), 5.6(D) 5.12(A)
7	Teacher introduces the genre of scientific reports and why scientists write them.	Teams work on answering their Inquiry Chart questions about their food-disposal method.	Teams compare and contrast their modified Winogradsky columns.	**ELA and Reading** **TEKS:** 5.9 **CCSS:** W.5.7 **NGSS:** 5-LS2-1, LS1.C, LS2.A, LS2.B **TEKS:** 5.1(A)(D)(E), 5.3(B), 5.5(E)(F)(G), 5.12(A)(B)
8	Teacher introduces how scientists create diagrams to represent a complex process or system they are investigating.	Teams use key information from the mini-lesson to plan and create a diagram about their food-disposal method.	Teams synthesize what they know about the cycling of matter and transfer of energy then apply it to the process of decomposition.	**ELA and Reading** **TEKS:** 5.10(C) **CCSS: W**.5.7 **NGSS:** 5-LS2-1 **TEKS:** 5.1(A)(D)(E), 5.3(B), 5.5(D)(E),(F) 5.12(A)(B), 5.13(A)
9	Learners use the Kiddle search engine to find answers to their inquiry questions.	Teams find additional information to complete their diagrams.	Teams consider the differences between two methods of garbage disposal: landfills and composting.	**ELA and Reading** **TEKS:** 5.13(C) **CCSS:** RI.5.7 **NGSS:** 5-LS2-1 **TEKS:** 5.1(A)(D)(E), 5.3(B), 5.5(B)(E)(F)(G), 5.11, 5.12(A)(B)(C)

10	Teacher introduces the "Synthesizing" anchor chart and models how to write synthesis statements.	Teams write synthesis statements for each question on their Inquiry Charts.	Teams are introduced to the process of vermicomposting and compare it to other methods for managing waste.	**ELA and Reading** **TEKS:** 5.13(E) **CCSS:** RI.5.9 **NGSS:** 5-LS2-1 **TEKS:** 5.1(A)(D)(E), 5.3(B), 5.5(E)(G), 5.11, 5.12(A)(B)(C)
11	Teacher introduces the "Organizing a Reference List" anchor chart and the Reference List Graphic Organizer.	Teams work to complete a Reference List Graphic Organizer.	Teams use information from newsclips to compare incineration to other methods of waste disposal.	**ELA and Reading** **TEKS:** 5.13(G) **CCSS:** W.5.8 **NGSS:** 5-LS2.B **TEKS:** 5.1(A)(D)(E), 5.3(B), 5.5(E)(G), 5.11, 5.12((A)(B)(C)
12	Teacher introduces the two-part culminating project for the unit: the scientific report and the letter of recommendation to a school official.		Teams analyze waste decomposition and disposal methods in preparation for the culminating activity.	**ELA and Reading** **TEKS:** 5.11(A) **CCSS:** W.5.2(A)(D) **NGSS:** LS2.B **TEKS:** 5.1(A)(D)(E), 5.3(B), 5.5(E)(G), 5.11, 5.12(A)(B)(C)
13	Teams continue to make connections between their text-based inquiry and science investigations to complete work on their reports and diagrams.			**ELA and Reading** **TEKS:** 5.11(B)(i) **CCSS:** W.5.2(A)(D) **NGSS:** 5-LS2-1, 5-PS3-1 **TEKS:** 5.3(A)(B)(C)
14	In Part 1 of the culminating project, teams present their reports (including their diagrams) to the rest of the class.			**ELA and Reading** **TEKS:** 5.13(H) **CCSS:** RI.5.9 **NGSS:** 5-LS2-1, 5-PS3-1 **TEKS:** 5.3(A)(B)(C)
15	In Part 2 of the culminating project, teams combine their knowledge about existing solutions to food waste to draft a letter to a school official, recommending a plan to reduce food waste in their school.			**ELA and Reading** **TEKS:** 5.13(E) **CCSS:** RI.5.9 **NGSS:** 5-LS2-1, 5-PS3-1 **TEKS:** 5.3(A)(B)(C)