Concordia University Chicago College of Education **Lesson Plan Design Template COE 11/13/2019**

Teacher Candidate: Kevin Cassidy	**Date:** 02/27/26 **Course for which the Lesson is developed**: EDUC-6290 Teaching Exceptional Children
Subject: Science **Central Focus:** Science: From Molecules to Organisms: Structures and Processes **Grade Level(s):** 5th grade	**Classroom Teacher:** Kevin Cassidy **Time allotted: Unit:** From Molecules to Organisms: Day 1: 1 hour

Standard(s)/Benchmark(s) to be met in the Lesson: (ILS, Common Core, or Professional Learning Standards)	**Learning Objective(s):**	**Assessment Tool(s) and Procedures:**
ILS.5.LS1.1. Support an argument that plants get the materials they need for growth chiefly from air and water.	• I can define the vocabulary words "soil," "sunlight," "air," "water," "photosynthesis," "oxygen," "temperature," and "space" in my notebook. • I can analyze why plants can grow primarily from air and water. I can work in a group, with a partner, or independently and complete the assignment in the classroom or library. I can research the task using the textbook with its text or audio features, books, an audiobook, YouTube videos, interviews with staff, interactive games, or the provided websites. I can enact role-playing, write an essay, compose a poem, illustrate a picture book, present a speech, record audio, or create a song to finish the assignment.	• I will assess the accuracy of the vocabulary terms' definitions in the students' notebooks. I will monitor the children and provide assistance to ensure that they are able to complete the assessment. I will document that the activity is finished by marking a checkmark in my grade book. This activity will be graded based on effort. • I will assess the creativity and accuracy of the students' work products. Next class, I will ensure that the activity is completed by recording a grade in my grade book. This assignment will be graded based on creativity and accuracy.

Pacing (minute markers)	Instructional Sequence: (Label the following elements in your Instructional Sequence: questioning, scaffolding, formative assessment, student interaction, academic language, differentiation)
	A. Engage Students: (Diagnostic/Pre-Assessment may be included here.)
2 min.	**Questioning:** For those of you that have gardens, what types of plants do you grow at home?
2 min.	**Questioning:** What do plants need to grow?
2 min.	**Teacher:** "For this lesson, you will define the vocabulary words 'soil,' 'sunlight,' 'air,' 'water,' 'photosynthesis,' 'oxygen,' 'temperature,' and 'space' in your notebooks." (I write "I can define the vocabulary words 'soil,' 'sunlight,' 'air,' 'water,' 'photosynthesis,' 'oxygen,' 'temperature' and 'space.'")
8 min.	**Academic Language/Scaffolding:** I will walk around and ensure that the students define the words correctly in their notebooks and explain why they play a role in developing plants.
	B. Communicate the Purpose of the Lesson to Students (Objectives and Assessment):
2 min.	**Teacher/Differentiation:** "I'm going to turn on a video about gardening. Then, I will show you a couple of plants and review the importance of soil, sunlight, air, water, photosynthesis, oxygen, temperature, and space in developing them. Finally, I'm going to let you work with your partner, your group, or independently to do the next assignment. For this next assignment, I want you to be able to explain why plants can grow primarily from air and water. You should research using the textbook with its text or audio features, books, an audiobook, YouTube videos, interviews with staff, interactive games, or the provided websites. You may enact role-playing, write an essay, compose a poem, illustrate a picture book, present a speech, record audio, or create a song. You may complete the assignment in the classroom or library." (I write "I can explain why plants can grow primarily from air and water" on the whiteboard.)
	C. Instructional Sequence
8 min.	I will turn on the *How Plants Grow for Kids* YouTube video on the Smartboard.
12 min.	I will present a couple of plants to the class and pass them around. I will explain how often I water the plants and model photosynthesis with visual cues. I will lecture on the importance of soil, sunlight, air, water, photosynthesis, oxygen, temperature, and space to grow these plants.
2 min.	**Questioning:** Do you know what "photosynthesis" means now?
2 min.	**Questioning:** How does oxygen play a role in developing plants?
2 min.	I will allow time for the students to put away their notebooks and pencils, select their partners and groups with my assistance, and get organized.

14 min.	**Guided Practice/Independent Practice:** The students will plan their assignments for the remainder of the class period. They will decide what they're doing for the project, how they're going to research, and where they're going to work. **Closure: Purpose of the Lesson is clearly restated by students and/or teacher (Objectives and Assessment)**
2 min.	**Teacher:** "Class, today you have defined the vocabulary words 'soil,' 'sunlight,' 'air,' 'water,' 'photosynthesis,' 'oxygen,' 'temperature,' and 'space' in your notebooks. We have watched a short video on how to grow plants. I have explained the importance of soil, sunlight, air, water, photosynthesis, oxygen, temperature, and space in developing these plants. Next class, you will work with your partner, group, or independently just as you did this period. You will begin researching using the textbook with its text or audio features, books, an audiobook, YouTube videos, interviews with staff, interactive games, or the provided websites. As a reminder, you will enact role-playing, write an essay, compose a poem, illustrate a picture book, present a speech, record audio, or create a song to explain why plants grow primarily from air and water. You may complete the assignment in the classroom or library."
2 min.	The students will put away their belongings and prepare for the next class period.

Instructional Materials:
Smartboard, whiteboard, MacMillan-McGraw Hill's *Science* by Lucy Daniel (textbook with text and audio features) (Daniel, 2026), notebooks, pencils, pens, colored pencils, computers, *How Plants Grow for Kids* (*How Plants Grow for Kids | Learn about photosynthesis and what plants need to grow strong* 2022), *Knowledge Encyclopedia Plants and Fungi!: Our Growing World as You've Never Seen It* by Lynne Boddy et al. (Boddy et al., 2023), *How Do Seeds Grow Into Gardens?* by Clayton Grider (Grider, 2025), *Plants (21st Century Skills Library: Real World Science)* by Elizabeth Silverthorne (Silverthorne, 2014), *Book About Plant and Gardening* by Lucia Viglioni (Viglioni, 2024), *Book About Plants and Planting* by Lucia Viglioni (Vol. 1) (Viglioni, 2024b), *Book About Plants and Planting* (Vol. 2) (Viglioni, 2024c). *Studying Soil* by Sally M. Walker (audiobook) (Walker, 2013), https://sciencetrek.org/topics/botany (interactive website) (Science Trek, 2026), http://sciencetrek.org/topics/botany/games (interactive games) (Science Trek, 2026), https://kidsgardening.org/ (Kids Gardening, 2026).

Selection and Use of Technology and/or Resources: The class will use their school computers. They will use an audiobook from the library. The student with autism, who will be mentored by the special ed teacher and paraprofessional, will use noise-cancelling headphones (*Effective Classroom Strategies for Teaching Students with Autism* 2024). The child with a visual impairment, who will be coached by the special ed teacher and paraprofessional, will use an audiobook, a closed circuit television (CCTV), computer accessibility features, and screen magnification software (such as ZoomText) (Friend & Bursuck, 2006; Ayala, 2021).

Safety in the Physical Environment: I will monitor the students so they don't run, throw objects, or do other hazardous things. Sharp objects will remain put away in both the back of the room and in the teacher's desk. The students who have been sick will wear masks and wash their hands. The desks will be split apart and the aisle space will be extended to make room for the child in a wheelchair (Friend & Bursuck, 2006).

Academic Language Demands – the Oral and Written Language used for Academic Purposes in Content Disciplines			
Vocabulary **Activity:** The students will define the vocabulary words in their notebooks. **Tier 1:** soil, sunlight, air, water, space **Tier 2:** temperature **Tier 3:** photosynthesis, oxygen	**Function: purpose for which language is used – an active verb (select one)** The students will define the vocabulary words. I will monitor the children and provide assistance to ensure that they are able to complete the assessment.	**Syntax (ways to organize words) AND/OR Discourse (talk, write, participate in knowledge construction):** The students will use note-taking, role-playing, essay writing, poem writing, picture book illustrations, presentations, audio recordings, and songwriting.	**Explain how the Academic Language is scaffolded in the Lesson using Sensory, Graphic and/or Interactive supports.** **Tier 3:** The vocabulary words “photosynthesis,” and “oxygen” will appear in the gardening video with an explanation of how they relate to plants. They will be written on the board as an "I can" statement. I will provide explicit instruction in the form of a lecture to ensure the students understand the words. **Language Function:** I will write the vocabulary terms “temperature,” “photosynthesis,” and “oxygen” as an "I can" statement on the whiteboard. While the class is defining the words in their notebooks, I will walk around the room and explain them. I will model how to use the words “temperature,” “photosynthesis,” and “oxygen” with explicit instruction. **Syntax/Discourse:** I will lecture for 15 minutes on why water and air are crucial for plants. I will share my plants with the class and explain how often I water the plants and model photosynthesis. The students will be split into pairs or groups, or work independently.

Assessment

*(Identify the **type(s) of assessment** used in this lesson. Explain **how it provides evidence** that students will meet the objective(s). At least one type of assessment is required in a lesson plan.)*

Diagnostic (Pre-): *(Formal or Informal).*

Informal. The students will be able to define the words "soil," "sunlight," "air," "water," "photosynthesis," "oxygen," "temperature," and "space" in their notebooks. I will assess the accuracy of the definitions. I will monitor the students and provide assistance to ensure that they are able to complete the assessment. I will document that the activity is finished by marking a checkmark in my grade book. This activity will be graded based on effort.

Formative: *(Formal or Informal).*

Formal. The students will be able to analyze why plants can grow primarily from air and water. They can work in groups, with partners, or independently and complete the assignment in the classroom or library. The children can research the task using the textbook with its text or audio features, books, an audiobook, YouTube videos, interviews with staff, interactive games, or the provided websites. They can enact role-playing, write an essay, compose a poem, illustrate a picture book, present a speech, record audio, or create a song to finish the assignment. After the next class, I will assess the students' work products. I will ensure that the activity is completed by recording a grade in my grade book. This assignment will be graded based on creativity and accuracy.

Reflective: *(Formal or Informal)*.

Informal. The students will be able to define the words "soil," "sunlight," "air," "water," "photosynthesis," "oxygen," "temperature," and "space" in their notebooks. I will document that the activity is finished by marking a checkmark in my grade book. This lesson objective is clear and measurable.

Formal. The students will be able to analyze why plants grow primarily from air and water. After the next class, I will ensure that the activity is completed by recording a grade in my grade book. This assignment will be graded based on creativity and accuracy. This lesson objective is clear and measurable.

Summative: *(Formal or Informal).*

Adapted from Layzell, D., (2013). *Lesson Plan Model*. Illinois State University; Leland Stanford Junior University (2012) *ed-Teacher Performance Assessment*; Tomlinson, C. (2004) *How to differentiate in mixed ability classrooms;* Worldclass Instructional Design and Assessment (2012) *WIDA 2012 Amplified ELD Standards*.

Differentiating Instruction
Identify the Element(s) of the Lesson that is Differentiated: Content X Process X Product X *Explain how it is Differentiated for the* ***whole class, groups of students with similar needs, individual students AND/OR students who are ELLs or students with IEPs or 504 plans.***

All students can complete the assignment in the classroom or library. They can research the task using the textbook with its text or audio features, books, an audiobook, YouTube videos, interviews with staff, interactive games, or the provided websites. They can enact role-playing, write an essay, compose a poem, illustrate a picture book, present a speech, record audio, or create a song to finish the assignment.

The student with autism will be assisted by the paraprofessional who will ensure that he works on this assignment at the same time each day and she will break down the task into smaller parts. He is able to use noise-canceling headphones and fidget toys (*Effective Classroom Strategies for Teaching Students with Autism* 2024).

The student with a visual impairment can use large print books, an audiobook, closed circuit television (CCTV), and computer accessibility features or screen magnification software (such as ZoomText) to finish the assignment (Friend & Bursuck, 2006; Ayala, 2021). She will be provided with the large print books and an audiobook by the teacher/librarian. The special ed teacher will ensure that she has a CCTV and that screen magnification software is enabled on her computer. The child will be mentored by the paraprofessional.

Individual students who need help will be formed into a group and coached by the teacher for extra assistance. This includes a review of the lesson, and choosing their method of working, work location, research materials, and presentation methods. They will be provided with additional mentoring by the teacher throughout the assignment's duration.

Students with IEPs or 504 plans will have visual schedules, tasks broken down into steps, extended time, and other necessary accommodations or modifications. They may be exempt from doing certain parts of the assignment or need additional help (Friend & Bursuck, 2006).

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Identify the Student Characteristic that you will use to Differentiate: Student Readiness X Student Interest Student Learning Profile X
Explain how it is used to Differentiate for the ***whole class, groups of students with similar needs, individual students AND/OR students who are ELLs or students with IEPs or 504 plans.***

All students can work in groups, with partners, or independently with teacher input. They can touch the plants when they are passed around the classroom.

The student with autism will be able to complete his work independently or in a group (Friend & Bursuck, 2006).

The two students who are gifted and talented are strong in science and math, but they lack the writing abilities to compose an essay or write a poem. As a result, they will be encouraged to create written works. They will be provided with materials that are one year above their grade level. This uses the INCLUDE strategy (Friend & Bursuck, 2006).

Students who are ELLs are able to use the working methods, research materials, and presentation procedures that they would like.

Theoretical Principles and/or Research–Based Best Practices in this Lesson
Why are the learning tasks for this lesson appropriate for your students? Cite a specific theorist and a brief explanation of the theory.

Howard Gardner stated that there are multiple intelligences that individuals possess that causes them to acquire knowledge, and they analyze and resolve issues in distinct ways (Cherry, 2026). He discovered eight types of intelligences, including linguistic, logical-mathematical, musical, spatial, interpersonal, intrapersonal, bodily-kinesthetic, and naturalistic. He imagined that there may be more yet to be explored. This learning task uses linguistic, musical, interpersonal, intrapersonal, bodily-kinesthetic, and naturalistic intelligences. Therefore, many of the multiple intelligences are represented in this assignment.

Common Errors, Developmental Approximations, Misconceptions, Partial Understandings, or Misunderstandings for this Lesson
What are common errors or misunderstandings of students related to the central focus of this lesson?
How will you address them for this group of students?

Some students had trouble with researching and finding the information they needed. As a result, I will dedicate a class period to reviewing with students how to use sources, tables of contents, and indexes.

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Analyzing Teaching (Reflection):
To be completed after the lesson is taught

A. Give evidence that the lesson was successful for students meeting the learning objective/s. (at least one example)		
B. If you could teach this lesson to the same group of students again, what are **two or three things you would do differently** to improve the learning of these students based on their varied developmental and academic needs and characteristics? *Consider missed opportunities and other aspects of planning, instruction, and/or assessment.*		
Clearly state *each change* you would make.	**Explain *why and how* you would change it.**	**Explain the *difference it would make in student learning.* Give evidence from your experience in teaching the lesson and from theory/research**

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