

Class Scoring Tracker for Flower Power

Instructions: Use the [Question-Specific Rubrics](#) on pp. 3–5 to score students’ assessment tasks and record in the table below. Then add the question-specific scores for both the group and individual sections and use the totals to identify corresponding [Performance Levels](#) for each (on pp. 6–7). Based on your students’ performance, use the [Guidance for Next Steps in Instruction](#) to support them in progressing toward the goals of this PE bundle.

Student Name		Question 1 Score (__ / 4)	Question 3 Score (__ / 4)	Total Group Work Score (__ / 8) & Performance Level	Question 4 Score (__ / 4)	Total Individual Work Score (__ / 4) & Performance Level
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

Student Name		Question 1 Score (__ / 4)	Question 3 Score (__ / 4)	Total Group Work Score (__ /8) & Performance Level	Question 4 Score (__ / 4)	Total Individual Work Score (__ /4) & Performance Level
11						
12						
3						
14						
15						
16						
17						
18						
19						
20						

Question-Specific Rubrics – Group Section

This rubric measures the following **performance outcome** for PE [3-LS3-2](#).

- **Describe a cause and effect relationship between environment (e.g., soil pH) and traits an organism develops (e.g., flower color).**
- **Describe observations about the traits an organism develops (e.g., flower color) in different environments (e.g., soil pH) as evidence to support an explanation.**

Question 1

Sample Advanced Student Response:

a. *The lower the pH, the less red the hydrangeas. The higher the pH, the redder it gets.*

b. One thing I noticed is *Mr. Jones's are blue because the pH is low and gets less red.* Another thing I noticed is *Mr. Yamamoto's are pink because the pH is higher and gets more red.*

Description of Performance	Points
1 point: Describes a specific cause and effect relationship (e.g., <i>The lower the pH, the less red the hydrangeas. The higher the pH, the redder it gets.</i>)	1
1 point: Relationship described includes a relevant environmental factor (e.g., <i>pH</i>) 1 point: Relationship described includes a relevant trait (e.g., <i>hydrangeas...less red/redder</i>)	2
1 point: Uses relevant evidence from the data table to support their explanation (e.g., <i>One thing I noticed is Mr. Jones's are blue because the pH is low and gets less red.</i> OR <i>Another thing I noticed is Mr. Yamamoto's are pink because the pH is higher and gets more red.</i>)	1
	4

This rubric measures the following **performance outcome** for PE [3-5-ETS1-3](#):

- **Plan an investigation collaboratively to produce data that serves as evidence for evaluating how a design (e.g., changing the environment in the garden) meets criteria and/or constraints (e.g. desired flower color).**

Question 3

Sample Advanced Student Response:

Goal of this Investigation: What color(s) do you want the hydrangea flowers to be in your garden design?	<i>lavender and pink hydrangeas</i>	
Your Garden Design: What would you change in your garden to try to get these color flowers? Check box(s) to the right.	Variables: ☐ Amount of sunlight ☐ Amount of soil	☒ Soil pH ☐ Amount of water
What would you control (keep the same) in your garden design? Check box(s) to the right.	Variables: ☒ Amount of sunlight ☒ Amount of soil	☐ Soil pH ☒ Amount of water
Describe your experiment. What would you do to test whether your garden design works? Use details when you describe each step.	<i>We use two seeds. One we will make sure to plant in the soil pH 5 and the other in soil pH 7. Then we will water and put in sun like normal and see what grows.</i>	
How would you know if what you changed in your garden design worked?	<i>If soil pH is just right, then pink and lavender hydrangeas will grow.</i>	

Description of Performance	Points
Plans an investigation (2 pts) by: • 1 point: accurately describing a variable to change (e.g. soil pH), and • 1 point: accurately describing variables to control (e.g., amount of sunlight, amount of soil, amount of water) 1 point: Describes an investigation relevant to the variables they describe (e.g., description of experiment - <i>We use two seeds. One we will make sure to plant in the soil pH 5 and the other in soil pH 7. Then we will water and put in sun like normal and see what grows.</i>)	3
1 point: Describes a relevant design to be tested (e.g., changing the soil pH) 1 point: Describes data that could be used to know if criteria (desired flower color) is met (e.g., <i>If the soil pH is just right, then pink and lavender hydrangeas will grow.</i>)	2
	5

Question-Specific Rubrics – Individual Section

This rubric measures the following **performance outcome** for PE [3-LS3-2](#):

- **Use evidence to describe cause and effect relationships between environment (e.g., soil pH) and traits an organism develops (e.g., flower color).**

Question 4

Sample Advanced Student Response:

What color(s) do you want the hydrangea flowers to be in the garden?	<i>I want pink and lavender.</i>
Why do you want hydrangea flowers to be this color(s)?	<i>I picked pink and lavender because pink means love and lavender respect.</i>
What would you need to do in your garden to grow these color hydrangea flowers? Explain exactly what you would do and why.	To grow these flowers, I would need to <i>make the soil pH 7 and 5</i> because <i>pink needs 7 and lavender needs 5</i> .
How did you know what to do? Support your explanation with data from page 2 about flower color and soil pH in other people's gardens	I knew what to do in my garden because the data on Page 2 showed that <i>Mr. Yamamoto's has pink and 7 and Mr. Lee's garden has lavender and 5</i> .

Description of Performance	Points
1 point: Describes accurate cause (i.e. soil pH) to lead to desired effect (i.e., choice in flower color) (e.g., <i>I would need to change the soil pH.</i>)	1
1 point: Accurately describes relationship between soil pH (environment) and flower color they want (trait) (e.g., across the table, student shows that they understand soil pH is related to color)	1
1 point: Cites evidence from the data table to support their explanation (e.g., <i>Mr. Yamamoto's has pink and 7 and Mr. Lee's garden has lavender and 5</i>) 1 point: Evidence is accurate to the relationship between a specific flower color and a specific pH (e.g., <i>because pink needs 7 and lavender needs 5</i>).	2
	4

Performance Levels

Instructions: Review your [Class Scoring Tracker](#) (Page 1) to identify how many students are at each level and record in the group and individual tables below.

Group Performance Levels	
PE Bundle (performances sample elements of each PE but may not cover entire PEs):	
3-LS3-2: Use evidence to support the explanation that traits can be influenced by the environment. 3-5-ETS1-3: Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.	Number or Percentage of Students at Each Level
Performance Level: Advanced (8 – 9 points)	
Responses show that student is describing an accurate cause and effect relationship between environment (e.g., soil pH) and traits an organism develops (e.g., flower color) and uses relevant evidence to support their explanation. Students plan a relevant investigation to test a design with most to all accurate components and describes how the data evaluates how a design (e.g., changing the environment in the garden) meets criteria and/or constraints (e.g. desired flower color).	
Performance Level: Proficient (5 – 7 points)	
Responses show that student is describing an accurate cause and effect relationship between environment (e.g., soil pH) and traits an organism develops (e.g., flower color) and uses relevant evidence to support their explanation. Students plan a relevant investigation to test a design with some accurate components and/or describes how the data evaluates how a design (e.g., changing the environment in the garden) meets criteria and/or constraints (e.g. desired flower color).	
Performance Level: Developing (3 – 4 points)	
Responses show that student is describing an accurate cause and effect relationship between environment (e.g., soil pH) and traits an organism develops (e.g., flower color) without sufficient evidence OR uses evidence to support an irrelevant relationship. Students plan an investigation to test a design with some accurate components and/or describes how the data evaluates how a design (e.g., changing the environment in the garden) meets criteria and/or constraints (e.g. desired flower color).	
Performance Level: Emerging (1 – 2 points)	
Responses show that student is attempting to describe a cause and effect relationship between environment (e.g., soil pH) and traits an organism develops (e.g., flower color) but it is not accurate based on the evidence provided . Students attempt to plan an investigation to test a design but there are little to no accurate components and the description of how the data evaluates how a design (e.g., changing the environment in the garden) meets criteria and/or constraints (e.g. desired flower color) is inaccurate or missing .	
Performance Level: No Evidence (0 points)	
Use this data to plan targeted next step(s) in instruction to best support students in progressing towards the goals of this PE bundle. Use the Guidance for Next Steps in Instruction for suggestions.	

Individual Performance Levels	
PE Bundle (performances sample elements of each PE but may not cover entire PEs):	
3-LS3-2: Use evidence to support the explanation that traits can be influenced by the environment.	Number or Percentage of Students at Each Level
Performance Level: Advanced (4 points)	
Responses show that student is using cause and effect reasoning to identify an accurate environmental change (e.g., soil pH) that impacts an organism's traits. Student describes a specific relationship between environment and the traits an organism develops (e.g., flower color) and explicitly supports their explanation with evidence that is accurate to the relationship.	
Performance Level: Proficient (3 points)	
Responses show that student is using cause and effect reasoning to identify an accurate environmental change (e.g., soil pH) that impacts an organism's traits. Student describes a specific relationship between environment and the traits an organism develops (e.g., flower color) and explicitly supports their explanation with evidence for the relationship with minor inaccuracies .	
Performance Level: Developing (2 points)	
Responses show that student is using cause and effect reasoning to identify an accurate environmental change (e.g., soil pH) that impacts an organism's traits. Student describes a specific relationship between environment and the traits an organism develops (e.g., flower color) but does not explicitly support their explanation with evidence for the relationship.	
Performance Level: Emerging (1 points)	
Responses show that student is using cause and effect reasoning to attempt to identify an environmental change that impacts an organism's traits, but the relationship between environment and the traits an organism develops is inaccurate or missing . Student describes evidence that is irrelevant to the phenomenon or too vague to support their explanation.	
Performance Level: No Evidence (0 points)	
Use this data to plan targeted next step(s) in instruction to best support students in progressing towards the goals of this PE bundle. Use the Guidance for Next Steps in Instruction for suggestions.	

Guidance for Next Steps in Instruction

Instructions: The table below can be used to help you plan next step(s) in instruction either immediately after the assessment or in future lessons to advance students' 3D learning. It is not an exhaustive list, but represents trends commonly seen in student data and possible next steps in instruction.

	If students need support with:	...then try this next step in instruction
1	using specific evidence to support an explanation	Find the next lesson that asks students to use evidence to support an explanation. Before students write, use a think-pair-share to have students discuss why citing evidence is important (e.g., helps prove their points, makes arguments stronger for others to believe them, etc.). As students write, provide them with sentence stems to help them cite evidence (e.g., <i>According to X...</i> , <i>As shown by Y...</i> , <i>I know this because...</i>). After students write, you might also consider using a Stronger and Clearer protocol to help students strengthen their explanations with evidence.
2	planning an experiment (e.g., variables to change vs. control, describing experiment procedure, etc.)	Find the next lesson that asks students to plan an experiment. Begin by showing examples of other simple investigation plans, such as the one provided in the Teacher Guide for this task. Have students do a think-pair-share reflecting on what they notice and co-construct a <i>Must-Haves</i> checklist for good investigation plans on a poster. During this class discussion, encourage students to think about why changing only one variable and controlling all other variables is necessary for a good experiment. When students draft their investigation plans in groups, consider providing similar graphic organizers and sentence stems as were provided in this task. You may also want to provide sequencing language stems for their experiment descriptions (e.g., <i>First...</i> , <i>Second...</i> , <i>Next...</i> , <i>Then...</i>).