Formative Assessment Worksheet  
Specification #4

Teacher ID:   
School ID:

|  |  |  |
| --- | --- | --- |
| **Target competency:**  special arrow.wmf Student can observe and describe a local ecosystem.  Student can determine potential limiting factors for specified populations in a local ecosystem.  NOTE: **Specification #4 combines two competencies. You should treat these two as one for the purpose of formative assessment; there is no need to complete separate worksheets.** | | |
| Anticipated student misconceptions relevant to this target competency: | | |
|  | **Learning Progression Leading to the Target Competency** (List Building Blocks in Reverse Chronological Order) | **Type of Knowledge** |
| 5. |  |  |
| 4. |  |  |
| 3. |  |  |
| 2. |  |  |
| 1. |  |  |

Copy/paste **Building Block 1** into this box:

In two to four sentences, describe what you will do with your students to help them achieve this building block.

→

State how you will assess this building block. In other words, what will you ask your students to do to establish whether they have achieved this building block? Identify the assessment format you will use.

→

Copy/paste **Building Block 2** into this box:

In two to four sentences, describe what you will do with your students to help them achieve this building block.

→

State how you will assess this building block. In other words, what will you ask your students to do to establish whether they have achieved this building block? Identify the assessment format you will use.

→

Copy/paste **Building Block 3** into this box:

In two to four sentences, describe what you will do with your students to help them achieve this building block.

→

State how you will assess this building block. In other words, what will you ask your students to do to establish whether they have achieved this building block? Identify the assessment format you will use.

→

Copy/paste **Building Block 4** into this box:

In two to four sentences, describe what you will do with your students to help them achieve this building block.

→

State how you will assess this building block. In other words, what will you ask your students to do to establish whether they have achieved this building block? Identify the assessment format you will use.

→

Copy/paste **Building Block 5** into this box:

In two to four sentences, describe what you will do with your students to help them achieve this building block.

→

State how you will assess this building block. In other words, what will you ask your students to do to establish whether they have achieved this building block? Identify the assessment format you will use.

→

**Target Competency:**

Student can observe and describe a local ecosystem.

Student can determine potential limiting factors for specified populations in a local ecosystem.

In two to four sentences, describe what you will do with your students to help them achieve this target competency, assuming they have achieved the above building blocks.

→

NOTE: **Do not state how you will assess this target competency in this box.** The design of the assessment is established by the specification. Use the following pages of the worksheet to describe what you will do to assess this target competency. Refer to the guidelines in the “**Procedure for Creating Parallel Tasks**” section in Specification #4 when developing this formative assessment.

**Student Instructions**

The following photographs were taken *[insert the location in which photographs were taken]*. They provide two views of a *[insert the type of ecosystem represented by the photos]* ecosystem. You will be writing about components of this ecosystem.

*[Insert 1st photograph representing the ecosystem.* ***Note****: You may include*

*more than two photographs of the ecosystem.]*

Photograph 1. *[Insert caption describing the location in which this photograph was taken.]*

*[Insert 2nd photograph representing the ecosystem.]*

Photograph 2. *[Insert caption describing the location in which this photograph was taken.]*

**Student Answer Sheet Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Part 1**

**1st Organism:**

Name one living organism in at least one of the photographs: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Describe **how** one physical characteristic of this organism is adapted for its reproduction or survival in this ecosystem:

Describe this organism’s **niche** or **role** within this ecosystem:

**2nd Organism:**

Name a second living organism in at least one of the photographs: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Describe **how** one physical characteristic of this organism is adapted for its reproduction or survival in this ecosystem:

Describe this organism’s **niche** or **role** within this ecosystem:

**3rd Organism:**

Name a third living organism in at least one of the photographs: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Describe **how** one physical characteristic of this organism is adapted for its reproduction or survival in this ecosystem:

Describe this organism’s **niche** or **role** within this ecosystem:

**Part 2**

**1st Abiotic Factor:**

Name an abiotic (nonliving) factor in at least one of the photographs: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Describe its role or how it affects organisms within this ecosystem:

**2nd Abiotic Factor:**

Name a second abiotic (nonliving) factor in at least one of the photographs: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Describe its role or how it affects organisms within this ecosystem:

**Part 3**

Identify **limiting factors** that might limit the size of a population of organisms in this ecosystem. The organism **must be visible** in at least one of the photographs, but the limiting factors may or may not be visible.

**Choose only one living organism** in the photographs and **write its name** in the space below:   
\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Now, list five limiting factors and explain how or why each factor might affect this organism’s population.

|  |  |
| --- | --- |
| 1st limiting factor: | How might this limiting factor affect this organism’s population? |
| 2nd limiting factor: | How might this limiting factor affect this organism’s population? |
| 3rd limiting factor: | How might this limiting factor affect this organism’s population? |
| 4th limiting factor: | How might this limiting factor affect this organism’s population? |
| 5th limiting factor: | How might this limiting factor affect this organism’s population? |

Student Formative Assessment Checklist

This checklist can be used by students for self-assessment or by you to provide feedback. The checklist is based on the specification and reworded to suit seventh-grade reading level. Please feel free to reword for your students.

**Directions:** Use this checklist to evaluate your work. Read each section below and put a check in the box (🗹) next to each statement that accurately describes your work.

**Biotic Factors**

|  |  |
| --- | --- |
| For the **first** biotic factor, I explained how one of its physical characteristics is adapted for its reproduction or survival in the ecosystem.   * The organism I chose is visible in the photograph. * It is okay if the physical characteristic I mentioned cannot be seen as long as the organism can be seen. * I explained how the physical characteristic is adapted for this organism. | 🞎 |
| For the **first** biotic factor, I described the organism’s niche or role within this ecosystem. | 🞎 |
| For the **second** biotic factor, I explained how one of its physical characteristics is adapted for its reproduction or survival in the ecosystem. | 🞎 |
| For the **second** biotic factor, I described the organism’s niche or role within this ecosystem. | 🞎 |
| For the **third** biotic factor, I explained how one of its physical characteristics is adapted for its reproduction or survival in the ecosystem. | 🞎 |
| For the **third** biotic factor, I described the organism’s niche or role within this ecosystem. | 🞎 |

**Abiotic Factors**

|  |  |
| --- | --- |
| For the **first** abiotic factor, I described its role or how it affects organisms in the ecosystem. For instance, I might have said that the abiotic factor provides shelter, water, or camouflage.   * The abiotic factor I mentioned must be visible in at least one photograph or highly likely to be present in the ecosystem. | 🞎 |
| For the **second** abiotic factor, I described its role or how it affects organisms in the ecosystem. | 🞎 |

**Limiting Factors**

|  |  |
| --- | --- |
| I explained how a factor is reasonably limiting for the population of the organism I chose.   * I specifically mentioned which organism I explained limiting factors for. * I mentioned limiting factors for that organism and no others. * I may or may not be able to see limiting factors in the photographs. It is okay if I cannot see them as long as it makes sense for the limiting factor to be present in this ecosystem. | 🞎 |
| I explained how a **second** factor is reasonably limiting for the population of the organism I chose. | 🞎 |
| I explained how a **third** factor is reasonably limiting for the population of the organism I chose. | 🞎 |
| I explained how a **fourth** factor is reasonably limiting for the population of the organism I chose. | 🞎 |
| I explained how a **fifth** factor is reasonably limiting for the population of the organism I chose. | 🞎 |