Formative Assessment Worksheet  
Specification #7

Teacher ID:   
School ID:

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| **Target competency:**  special arrow.wmf Student can create a diagram (i.e., food web) that illustrates the flow of energy among producers, consumers, and decompos­ers within an ecosystem. | | |
| 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:

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| 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:

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| 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:

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| 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:

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| 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:

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| 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:**

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| Student can create a diagram (i.e., food web) that illustrates the flow of energy among producers, consumers, and decompos­ers within an ecosystem. |

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| 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 #7 when developing this formative assessment. |

**Student Instructions**

Below is a picture of a *[insert type of ecosystem]* ecosystem. A biologist visited this ecosystem and made observations about many of its living organisms. The biologist wrote these observations in the form of field notes.

Read the field notes on the next page, and use the information to construct a food web diagram of the living things in the *[insert type of ecosystem]* ecosystem.

*[Insert photograph of ecosystem to provide context for students.]*

**Field Notes**

|  |  |  |
| --- | --- | --- |
| **Picture** | **Organism** | **Observations and Notes** |
| *[Insert picture of 1st organism.]* | *[Insert name of 1st organism.]* | 1. *[Insert various pieces of information about this organism; refer to the “Procedure for Creating Parallel Tasks” section of the Specification for Assessment #7 for more information.]* |
| *[Insert picture of 2nd organism.]* | *[Insert name of 2nd organism.]* | 1. *[Insert various pieces of information about this organism.]* |
| *[Insert picture of 3rd organism.]* | *[Insert name of 3rd organism.]* | 1. *[Insert various pieces of information about this organism.]* |
| *[Insert picture of 4th organism.]* | *[Insert name of 4th organism.]* | 1. *[Insert various pieces of information about this organism.]* |
| *[Insert picture of 5th organism.]* | *[Insert name of 5th organism.]* | 1. *[Insert various pieces of information about this organism.]* |
| *[Insert picture of 6th organism.]* | *[Insert name of 6th organism.]* | 1. *[Insert various pieces of information about this organism.]* |
| *[Insert picture of 7th organism.]* | *[Insert name of 7th organism.]* | 1. *[Insert various pieces of information about this organism.]* |

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

Draw your food web diagram on this page. When drawing your food web, be sure to do each of the following:

* Base your food web **only** on the information included in the field notes.
* Only use the seven plants and animals **pictured in the field notes** in your food web.
* Include the sun in your food web.
* For each statement in the field notes that describes a flow of energy, **draw an arrow** to represent the direction of the flow of energy in your food web. Then, **label the arrow** with the corresponding number from the field notes. **Arrows that are not labeled with a number from the field notes will not be scored.**
* Do not use the same number from the field notes more than once.

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.

Note: Because the checklist depends heavily on which organisms are included in the field notes, you will have to add additional rows to the “Depiction of Energy Flow” section of the checklist to capture all of the energy transfer relationships.

**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.

**Depiction of Energy Flow**

|  |  |  |
| --- | --- | --- |
| Sun to producers | I drew an arrow from the sun that points to *[insert organism from field notes that receives energy from the sun]*. (*[Insert appropriate number from the field notes.]*) | 🞎 |
| Producers to consumers | I drew an arrow from *[insert a producer that gives energy to a consumer]* that points to *[insert organism from field notes that receives energy from that producer]*. (*[Insert appropriate number from the field notes.]*) | 🞎 |
| Consumers to consumers | I drew an arrow from *[insert a first consumer that gives energy to a second consumer]* that points to *[insert a second consumer from field notes that receives energy from the first consumer].* (*[Insert appropriate number from the field notes.]*) | 🞎 |

**Lack of Errors**

|  |  |
| --- | --- |
| My food web contains four or fewer incorrect arrows.   * An arrow is incorrect if   + it does not represent a transfer of energy that is mentioned in the field notes.   + it is not labeled with the correct number from the field notes.   + the arrow is drawn in the wrong direction – the arrow must point in the direction that energy is transferred. | 🞎 |
| My food web contains two or fewer incorrect arrows.   * I earn even more points for having even fewer errors. | 🞎 |
| My food web contains exactly 12 correct arrows and no incorrect arrows.   * I earn even more points for having no errors. | 🞎 |