Explaining Biological Relationships in a *[type context here]* Ecosystem

In this activity, you will describe relationships between some biotic (living) and abiotic (nonliving) factors. The following 10 biotic and abiotic factors can be found in many *[insert type of ecosystem]* ecosystems, like the one pictured:

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

* *[Insert biotic and abiotic factors in alphabetical order.]*
* *[Insert 2nd factor.]*
* *[Insert 3rd factor.]*
* *[Insert 4th factor.]*
* *[Insert 5th factor.]*
* *[Insert 6th factor.]*
* *[Insert 7th factor.]*
* *[Insert 8th factor.]*
* *[Insert 9th factor.]*
* *[Insert 10th factor.]*

Think of how one factor affects another factor in this ecosystem. The relationship might be something one factor does *to* the other factor. Or, the relationship might be something one factor does *for* the other factor.

On the following pages, you will see 18 boxes like the one below. To write your response,

* Pick two factors from the 10 factors listed above and write them in the small boxes.
* In the larger box, write a complete sentence that describes a relationship between the two factors.

Here is how you should fill in your answers:

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| --- | --- |
| Pick two factors and write them here. | Write a complete sentence that describes a relationship between the two factors here. |
| Factor | Relationship between these two factors |
| Factor |

* Use **each** of the 10 factors in the list **at least once**.
* You can use factors more than once, but you must write a **different relationship** each time.
* You should complete as many relationships as you can, up to 18.

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| Factor | Relationship between these two factors |
| Factor |

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| --- | --- |
| Factor | Relationship between these two factors |
| Factor |

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| Factor | Relationship between these two factors |
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| Factor | Relationship between these two factors |
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| Factor | Relationship between these two factors |
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| Factor | Relationship between these two factors |
| Factor |

***Did you use each of the 10 factors at least once? Check now before you finish your work.***

Scoring Plan

**Number of Relationships**

|  |  |
| --- | --- |
| Student earns one point for each of the 18 relationships that   * relates two of the listed factors and * states an accurate action or effect of one factor on the other, and * is not a restatement of a previously written relationship between the same two factors.   Examples:   * *[Insert an appropriate example of relationships using pairs of the 10 biotic and abiotic factors you selected.]* * *[Insert a second example.]* * *[Insert a third example.]*   **Note 1:** A relationship between a biotic factor and another factor may only be accurate for a subset of those types of organisms. In these cases, award credit if the description written in the box is accurate for at least some of those types of organisms.  For example, some fish eat aquatic plants, whereas others do not. If a student describes the relationship “fish eat aquatic plants,” that relationship should be awarded credit.  **Note 2:** The instructions to students indicate that each relationship should be written as a complete sentence. This is done to promote the articulation of each response, but the completeness of the sentence is not to be scored. | 18 pts. max |

**Number of Factors**

|  |  |
| --- | --- |
| A valid relationship is given (i.e., one meeting the above criteria) for *[insert 1st factor]*. | 1 pt. |
| A valid relationship is given for *[insert 2nd factor]*. | 1 pt. |
| A valid relationship is given for *[insert 3rd factor]*. | 1 pt. |
| A valid relationship is given for *[insert 4th factor]*. | 1 pt. |
| A valid relationship is given for *[insert 5th factor]*. | 1 pt. |
| A valid relationship is given for *[insert 6th factor]*. | 1 pt. |
| A valid relationship is given for *[insert 7th factor]*. | 1 pt. |
| A valid relationship is given for *[insert 8th factor]*. | 1 pt. |
| A valid relationship is given for *[insert 9th factor]*. | 1 pt. |
| A valid relationship is given for *[insert 10th factor]*. | 1 pt. |