

**Assessment of
Argumentative Writing in
Biology: Version A**

Name: _____
ID #: _____
Teacher: _____ Period: _____

Introduction: A hundred gram sample of different plant parts were placed in seven different sealed containers of equal volume and size. The amount of CO₂ present in each of the containers at the beginning of the experiment was **350 ppm**. After 60 minutes, it was at the level shown in the following table.

Container	Plant	Temp (°C)	Plant Part	CO ₂ (ppm)
1	Tulip	23	Flower	400
2	Tulip	23	Leaf	250
3	Tulip	27	Leaf	200
4	Tulip	23	Stem	350
5	Oak	23	Root	450
6	Oak	23	Leaf	300
7	Oak	23	Stem (trunk)	475

Assume that the test conditions that are not listed are identical in all seven containers and that the test was repeated five times with virtually identical results.

A scientist thinks that photosynthesis occurs throughout a plant. This is his/her argument:

Photosynthesis occurs in all parts of the plant because there is a change in carbon dioxide in each container after two days. Photosynthetic activity is indicated by a change in the amount of carbon dioxide.

Directions: Examine the data table above and think about what you know about photosynthesis. Then, write an essay to convince the scientist that photosynthesis occurs in the leaves of the plant. As you write your essay, remember to:

- Discuss the scientist's argument and then provide evidence and/or other reasons to demonstrate why the claim is inaccurate;
- Clearly state your claim and then provide adequate evidence and a sufficient rationale to support it;
- Present your ideas in a clear and logical order, including an introduction, body, and conclusion;
- Use a variety of words and well-constructed sentences to create tone and voice; and,
- Use proper punctuation, capitalization, sentence formation and spelling.

You will have one class period (but no more than 60 minutes if your class is longer) to plan and write your essay.

**Assessment of
Argumentative Writing in
Biology: Version B**

Name: _____

ID #: _____

Teacher: _____ Period: _____

Introduction: A one hundred gram sample of different plant parts were placed in eight different sealed containers of equal volume and size. The amount of CO₂ present in each of the containers at the beginning of the experiment was **350 ppm**. After sixty minutes, it was at the level shown in the following table.

Container	Plant	Plant Part	Light Color	Temp	CO ₂ (ppm)
1	Tulip	Leaf	Blue	23	250
2	Tulip	Leaf	White	23	200
3	Tulip	Leaf	Green	27	340
4	Tulip	Leaf	Red	27	250
5	Tulip	Flower	Blue	27	400
6	Tulip	Flower	White	27	400
7	Tulip	Flower	Green	23	400
8	Tulip	Flower	Red	23	400

Assume that the testing conditions that are not listed are identical in all eight containers and that the test was repeated five times with virtually identical results.

A scientist thinks that the amount of photosynthesis that occurs in a plant is not related to the color of light. This is his/her argument:

Photosynthesis is not related to the color of light because each container showed a change in the amount of carbon dioxide present after two days despite exposure to differing colors of light. Photosynthetic activity is indicated by a change in the amount of carbon dioxide.

Directions: Examine the data table above and think about what you know about photosynthesis. Then, write an essay to convince the scientist that photosynthesis occurs in the plant is related to the color of light. As you write your essay, remember to:

- Discuss the scientist's argument and then provide evidence and/or other reasons to demonstrate why the claim is inaccurate;
- Clearly state your claim and then provide adequate evidence and a sufficient rationale to support it;
- Present your ideas in a clear and logical order, including an introduction, body, and conclusion;
- Use a variety of words and well-constructed sentences to create tone and voice; and,
- Use proper punctuation, capitalization, sentence formation and spelling.

You will have one class period (but no more than 60 minutes if your class is longer) to plan and write your essay.

**Assessment of
Argumentative Writing in
Biology: Version C**

Name: _____

ID #: _____

Teacher: _____ Period: _____

Introduction: A one hundred gram sample of different plant parts were placed in eight different sealed containers of equal volume and size. The amount of CO₂ present in each of the containers at the beginning of the experiment was **350 ppm**. After 60 minutes, it was at the level shown in the following table.

Container	Plant	Plant Part	Temp	CO ₂ (ppm)
1	Tulip	Flower	15	360
2	Tulip	Leaf	15	250
3	Tulip	Leaf	27	200
4	Tulip	Flower	27	0
5	Oak	Stem (trunk)	15	450
6	Oak	Leaf	15	250
7	Oak	Stem (trunk)	27	475
8	Oak	Leaf	27	200

Assume that the testing conditions that are not listed are identical in all eight containers and that the test was repeated five times with virtually identical results.

A scientist thinks that temperature does not affect the amount of photosynthesis that occurs in a plant. This is his/her argument:

Photosynthesis is not affected by temperature because each container showed a change in the amount of carbon dioxide present after two days despite exposure to differing temperatures. Photosynthetic activity is indicated by a change in the amount of carbon dioxide.

Directions: Examine the data table above and think about what you know about photosynthesis. Then, write an essay to convince the scientist that photosynthesis occurs in the leaves of the plant. As you write your essay, remember to:

- Discuss the scientist's argument and then provide evidence and/or other reasons to demonstrate why the claim is inaccurate;
- Clearly state your claim and then provide adequate evidence and a sufficient rationale to support it;
- Present your ideas in a clear and logical order, including an introduction, body, and conclusion;
- Use a variety of words and well-constructed sentences to create tone and voice; and,
- Use proper punctuation, capitalization, sentence formation and spelling.

You will have one class period (but no more than 60 minutes if your class is longer) to plan and write your essay.

Step 1: Pre-write.

Plan for what you will include in your essay and how you will organize the content of your essay in the space below. You can use an outline, a concept map, or a graphic organizer such as a Venn diagram.

