

Part Three: Scientific Text Analysis

Instructions:

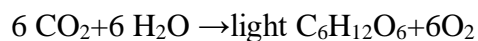
1. Read the following scientific text carefully.
 2. Answer the questions that follow, based on the grammar topics we've studied: **verbs, nouns, adjectives, adverbs, and types of sentences** (simple, compound, complex).
-

Scientific Text: The Discovery of Photosynthesis

In 1771, the British scientist **Joseph Priestley** conducted an important experiment. He placed a **green plant** inside a jar along with a **burning candle**. After a few minutes, the candle **went out**, and Priestley concluded that the air inside the jar was somehow "injured." However, after leaving the plant inside the jar for several days, he found that the air had been "restored" because the candle could burn again. Priestley had discovered that **plants** can purify the air.

Later, in 1779, the Dutch scientist **Jan Ingenhousz** conducted further experiments. He found that plants only purify the air when exposed to sunlight, and this process mainly occurs in the **green parts** of the plant. He also discovered that plants release oxygen as part of this process. This phenomenon is now known as **photosynthesis**.

Photosynthesis is the process by which plants convert **carbon dioxide** and **water** into **glucose** and **oxygen**, using energy from sunlight. The reaction takes place in **chloroplasts**, which contain a green pigment called **chlorophyll**. The overall chemical reaction can be written as:



Questions:

Part 1: Parts of Speech

1. **Verbs:** a. Identify **five action verbs** in the text.
b. Write the past tense of the following verbs:
 - i. **go**
 - ii. **conduct**
 - iii. **find**
 - iv. **release**
 - v. **burn**
2. **Nouns:** a. Identify five **common nouns** and five **proper nouns** from the text.
b. Write the **plural form** of the following nouns:
 - i. **plant**
 - ii. **process**
 - iii. **oxygen**
 - iv. **reaction**
3. **Adjectives:** a. Underline three **adjectives** in the text and state which nouns they describe.
4. **Adverbs:** a. Identify two **adverbs** in the text and the verbs they modify.
b. Rewrite the following sentence, placing the adverb correctly:
 - *Plants purify (only) the air when exposed to sunlight.*

Part 2: Types of Sentences

5. **Sentence Types:** a. Find and write down one **simple sentence** from the text.
b. Identify one **compound sentence** and underline the coordinating conjunction used.
c. Identify one **complex sentence** and state the subordinating conjunction used.

Part 3: Application

6. **Rewrite the following sentence in two different ways:**
 - *Priestley discovered that plants purify the air.*
 - a. Change it to a **compound sentence**.
 - b. Change it to a **complex sentence** using a relative pronoun.

Answer Key:

Part 1: Parts of Speech

1. Verbs:

a. Action verbs in the text: *placed, went, found, purify, release*

b. Past tense: i. *go* → *went*

ii. *conduct* → *conducted*

iii. *find* → *found*

iv. *release* → *released*

v. *burn* → *burned*

2. Nouns:

a. Common nouns: *plant, jar, air, process, sunlight*

Proper nouns: *Joseph Priestley, Jan Ingenhousz, British, Dutch, photosynthesis*

b. Plural forms: i. *plant* → *plants*

ii. *process* → *processes*

iii. *oxygen* → (*uncountable, no plural form*)

iv. *reaction* → *reactions*

3. Adjectives:

○ *green* (describes *plant*)

○ *burning* (describes *candle*)

○ *important* (describes *experiment*)

4. Adverbs:

a. *only* (modifies *purify*), *somehow* (modifies *injured*)

b. Correct placement: *Plants only purify the air when exposed to sunlight.*

Part 2: Types of Sentences

5. **Sentence Types:** a. **Simple sentence:** *Priestley had discovered that plants can purify the air.*

b. **Compound sentence:** *He placed a green plant inside a jar, and the candle went out.*

- Coordinating conjunction: *and*
- c. **Complex sentence:** *After leaving the plant inside the jar for several days, he found that the air had been "restored."*
- Subordinating conjunction: *After*

Part 3: Application

6. **Rewrite:**
- a. **Compound sentence:** *Priestley discovered that plants purify the air, and he shared his findings with other scientists.*
 - b. **Complex sentence with a relative pronoun:** *Priestley discovered that plants, which absorb carbon dioxide, purify the air.*

Prof. Fouzi Guellai