📋 Lesson Summary

This classroom-ready lesson was built (in ~2 minutes) by Insta~Lesson. It works as a sub plan, makeup work, or support for individualized/self-paced learning.

Lesson Summary: How Plants Make Food

Learning Objective: I can describe how plants use sunlight to make food in a process called photosynthesis.

Why This Matters: By learning about photosynthesis, you'll discover how plants are like tiny solar-powered food factories, turning sunlight into the energy that keeps them (and us!) alive.

Estimated Time: ~45 minutes. Students should complete this lesson at their own paces.

Teachers Should:	**Learners Should:**
☐ Edit and share the Student Lesson (print or digital) with all students. ☐ Print all Mastery Checks, but save them until students are ready. ☐ Spend class time answering questions, providing small-group instruction, and assessing mastery.	☐ Watch the video (**ilesson.co , code = vp0a**) and take notes. ☐ Complete the Practice Questions with classmates. ☐ Demonstrate their understanding with a Mastery Check as soon as they are ready.

This lesson also includes:

★ A whole-class Warm Up, to share with students at the start of class.
★ Additional Practice and Mastery Checks for students who need more support.
★ An Extension Activity for students who want to go deeper.

You can support students by reviewing this Lesson Slide Deck during class.

Lesson Notes

The first draft of this lesson was built using Insta~Lesson. It was designed to support self-paced, mastery-based instruction, and has been edited by the teacher to meet their learner's needs.

⬇️ See more lesson guidance below! ⬇️

Tips for Teachers: How Plants Make Food

---

1) Plan for Anticipated Challenges. Here are a few ways students may struggle, and how you can respond:

- Abstract Concepts: If students struggle to understand the invisible gases involved (carbon dioxide and oxygen) and their roles, then consider using visual aids like diagrams showing gas exchange or simple demonstrations like baking soda and vinegar to represent CO_2 production.
- Vocabulary: If students are intimidated by the term "photosynthesis" and other scientific vocabulary (chlorophyll, stomata), then consider breaking down the words into smaller parts (photo = light, synthesis = putting together) and using simpler synonyms (food-making, tiny holes).
- Connecting the Elements: If students have difficulty connecting sunlight, water, carbon dioxide, and chlorophyll in the process, then consider using a hands-on activity where they build a model of a leaf and act out the roles of each element in photosynthesis.

---

2) Modify for Multilingual Learners. To make this lesson more accessible:

➔ Pre-teach Key Vocabulary with Visuals and Simplified Definitions: Before the lesson, introduce key terms like "photosynthesis," "stomata," "chloroplasts," "carbon dioxide," and "oxygen" using pictures, diagrams, and very simple definitions. This provides a foundation for understanding the lesson and reduces cognitive load during instruction.

➔ Use Visual Aids and Graphic Organizers During the Video: Pause the video frequently to point out and explain key processes using visual aids like diagrams of a plant cell, the water cycle, and the exchange of gases. This helps students connect the spoken words to concrete images, making the information easier to understand and remember.

➔ Provide Sentence Frames and Simplified Explanations for Practice Questions: Offer sentence starters for answering the practice questions, such as "Plants need sunlight, water, and..." or "Photosynthesis is when plants...". This supports students in expressing their understanding even if they struggle with sentence construction and vocabulary recall.

---

3) Add Creative Activities. In addition to the practice contained in this lesson, here are a few things you can do to spark students' engagement and creativity. Where possible, students should complete these activities in small groups, with teacher support:

★ Photosynthesis Role-Play: Students work in groups to act out the roles of sunlight, water, carbon dioxide, chlorophyll, sugar, and oxygen to demonstrate the process of photosynthesis.

★ Photosynthesis Diagram Creation: Groups collaborate to create a large, labeled diagram of a plant, illustrating and explaining the process of photosynthesis with drawings and short descriptions.

★ "Plant Food Factory" Model: Students work together to build a model of a plant cell, highlighting the chloroplasts and explaining how they act as a "food factory" using the necessary ingredients.

✒️ Student Lesson

Name: _____ Date: _____

How Plants Make Food

Learning Objective: I can describe how plants use sunlight to make food in a process called photosynthesis.

STEP 1: WATCH & TAKE NOTES

📽️ Visit **ilesson.co** and enter the code: **vp0a**. Take good notes in the space below! ⬇️

⭐ Key Points ⭐

1. Plants make their own food using sunlight, water, and _____. This process is called _____.

2. Plants breathe in carbon dioxide through tiny holes in their leaves called _____, and they release _____.

3. Inside the leaves are tiny parts called _____, which contain a green pigment called _____.

STEP 2: PRACTICE

Partner(s): _____

With classmates (if possible), answer the questions below. Use a separate sheet of paper if needed.

Q1. What three things do plants need to make their own food?

Q2. What is the name of the tiny openings in the leaves of plants that help them take in carbon dioxide?

Q3. What is the name of the green pigment inside plant leaves that helps them take in sunlight?

Q4. Explain, in your own words, what photosynthesis is.

Q5. What two things does photosynthesis produce?

Q6. Imagine a plant is kept in a dark room with water and carbon dioxide. Will it be able to make food? Why or why not?

Q7. Plants are sometimes called the "lungs of the world." Explain why this is a good name for them, based on what you know about photosynthesis.

STEP 3: DEMONSTRATE UNDERSTANDING

I can describe how plants use sunlight to make food in a process called photosynthesis.

- ☐ **Not yet.** (Review the video, notes, and practice, then ask a classmate or teacher for help.)
- ☐ **Yes, and I'm ready to prove it!** (Ask your teacher for a Mastery Check.)

🏆 Mastery Checks

Name: _____ Date: _____

Mastery Check A: How Plants Make Food

Learning Objective: I can describe how plants use sunlight to make food in a process called photosynthesis.

Describe the three things a plant needs to perform photosynthesis.

FOR TEACHER USE ONLY: Does the response demonstrate real understanding of the learning objective?

- ☐ **Not yet.** Help the student revise, and give another chance (Version B or similar) when ready.
- ☐ **Yes!** Congratulate the student, and tell them what to do next.

Name: _____ Date: _____

Mastery Check B: How Plants Make Food

Learning Objective: I can describe how plants use sunlight to make food in a process called photosynthesis.

Describe what a plant produces during photosynthesis.

FOR TEACHER USE ONLY: Does the response demonstrate real understanding of the learning objective?

- ☐ **Not yet.** Help the student revise, and give another chance (using Version A or similar) when ready.
- ☐ **Yes!** Congratulate the student, and tell them what to do next.

👋 Warm Up

Name: _____ Date: _____

Warm Up: How Plants Make Food

Plants are green.

Why are plants green?
What do you think the green parts of the plant do?

What are your goals for today's class?

Name: _____ Date: _____

Warm Up: How Plants Make Food

Plants are green.

Why are plants green?
What do you think the green parts of the plant do?

What are your goals for today's class?

💪 Additional Practice

Name: _____ Date: _____

Skill Builder: How Plants Make Food

Learning Objective: I can describe how plants use sunlight to make food in a process called photosynthesis.

To prepare for your next Mastery Check, you can:

- ☐ **Rewatch the video lesson** (ilesson.co/watch , code = vp0a), looking for points that don't make sense. When you reach one of those points, pause and find a classmate whom you can ask for help.
- ☐ **Revisit your notes** from the first time you watched, and add any additional information that helps you understand this topic. You may want to take more notes on a separate sheet of paper.
- ☐ **Complete the additional practice questions below.** Whenever you have questions, ask your teacher or classmates for support!

Q1. Where do plants get the water they need for photosynthesis?

Q2. Explain what happens to carbon dioxide, water, and sunlight inside the chloroplasts of a plant's leaves.

Q3. Besides sugar (food), what other important substance is produced during photosynthesis? Why is this substance important?

Q4. Imagine you are a tiny water molecule entering a plant through its roots. Describe your journey and what happens to you as the plant makes food through photosynthesis.

Q5. If all the plants on Earth disappeared, what would happen to the amount of carbon dioxide and oxygen in the air? Explain your answer based on what you know about photosynthesis.

When you're ready to prove your understanding, see your teacher for another Mastery Check!

✅ Additional Mastery Checks

Name: _____ Date: _____

Mastery Check C: How Plants Make Food

Learning Objective: I can describe how plants use sunlight to make food in a process called photosynthesis.

Explain how sunlight helps a plant make its own food during photosynthesis.

FOR TEACHER USE ONLY: Does the response demonstrate real understanding of the learning objective?

- ☐ **Not yet.** Help the student revise, and give another chance (using Version D or similar) when ready.
- ☐ **Yes!** Congratulate the student, and tell them what to do next.

Name: _____ Date: _____

Mastery Check D: How Plants Make Food

Learning Objective: I can describe how plants use sunlight to make food in a process called photosynthesis.

Imagine a plant isn't getting enough sunlight. How would this affect the plant's ability to make food through photosynthesis?

FOR TEACHER USE ONLY: Does the response demonstrate real understanding of the learning objective?

- ☐ **Not yet.** Help the student revise, and give another chance (using Version C or similar) when ready.
- ☐ **Yes!** Congratulate the student, and tell them what to do next.

🔎 Extension Activity

Name(s): _____ Date: _____

Plant Power Inventions

Plants are amazing! They use sunlight to make their own food through a process called photosynthesis. But what if we could use photosynthesis in other ways?

Your challenge is to invent something that uses the power of photosynthesis to solve a problem or make life better. Think about how plants use sunlight, water, and air to create energy. Can you design a product that mimics this process or uses plants in a new and innovative way?

Draw a picture or build a small model of your invention. Then, write a short explanation of how it works and what problem it solves. Be creative and think outside the box! What are the benefits of your invention? How does it use photosynthesis? What materials would you need to build it?

After you're finished, think about what you learned about photosynthesis while working on this project. What was the most interesting thing you discovered? What challenges did you face, and how did you overcome them?

🤓 Answer Key

Answer Key: How Plants Make Food

Note: While Insta~Lesson checks all answers for accuracy before sending them to you, please note that answers generated (and checked) by AI may not always be correct. If you or your students encounter a mistake, please let us know so that we can improve our verification process.

Key Points (Fill In the Blanks)

1. carbon dioxide, photosynthesis
2. stomata, oxygen
3. chloroplasts, chlorophyll

Lesson Practice

Q1. Sunlight, water, and carbon dioxide.
Q2. The tiny openings are called stomata.
Q3. Chlorophyll
Q4. Photosynthesis is how plants use light, water, and CO_2 to make food and release O_2.
Q5. Photosynthesis produces sugar and oxygen.
Q6. No, because photosynthesis requires sunlight, which is absent in a dark room.
Q7. Plants take in carbon dioxide and give out oxygen, which humans breathe.

Additional Practice

Q1. Plants absorb water through their roots.
Q2. They are turned into sugar and oxygen.
Q3. Oxygen is also produced. It is important because humans breathe it.
Q4. I travel from the roots to the leaves and am used with CO_2 and sunlight to make sugar and O_2.
Q5. Carbon dioxide would increase, and oxygen would decrease.

Mastery Checks:

Version A. Sunlight, water, and carbon dioxide.
Version B. Plants produce sugar and oxygen during photosynthesis.
Version C. Sunlight provides the energy for plants to convert water and carbon dioxide into sugar (food).
Version D. The plant would produce less food because photosynthesis needs sunlight.