

The phenomenon of a candle burning involves all the laws that govern the universe Christmas lectures given by Michael Faraday classic work spark interest in the world of science. introductory-level compilation of this classic lecture seminar Using a single candle as its subject, various questions are presented, such as: • How does liquid wax burn? • Where does the burnt wax go? These questions are then answered through experiments. With the help of a wealth of illustrations, it is an engrossing read In addition, the book includes eight science experiments that can be carried out using everyday items. / Lesson Planner / LearningCorner.co

Objective
By the end of this lesson, the student will understand the science behind how a candle burns, including the chemical processes involved, the transformation of wax, and the principles of combustion. The student will also gain hands-on experience through experiments that illustrate these concepts.

Materials and Prep

- One candle (any size)
- Plate or shallow dish to catch wax
- Matches or a lighter
- Glass jar or cup
- Water
- Paper and pencil for notes
- Access to a safe outdoor or well-ventilated area for experiments

Before starting the lesson, ensure that the student understands basic safety precautions when handling fire. Discuss the importance of adult supervision during the experiments.

Activities

• Activity 1: Observing the Candle

Light the candle and observe the flame. Ask the student to note the color of the flame, the shape, and the heat it produces. Discuss what they see and how it relates to combustion.

• Activity 2: Wax Transformation

Place the candle on a plate and let it burn for a few minutes. Afterward, observe the melted wax. Ask the student to predict what happens to the wax and where it goes as it burns.

• Activity 3: Water Displacement Experiment

Fill a glass jar with water and place it upside down over the candle flame. Observe what happens as the candle burns and how the water level changes. Discuss the science behind this phenomenon.

• Activity 4: Reflection and Discussion

After completing the experiments, have the student write a short reflection on what they learned. Discuss the questions posed at the beginning of the lesson and how the experiments helped answer them.

Talking Points

- "What do you think happens to the wax when the candle burns?"
- "Can you describe the process of combustion in your own words?"
- "Why do you think the flame has different colors?"
- "What is the role of oxygen in the burning process?"
- "How does the heat from the flame affect the surrounding air?"
- "What do you think would happen if we covered the candle completely?"
- "Can you explain why the melted wax is liquid and not gas?"
- "How does this experiment relate to the laws of conservation of mass?"

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- "Why is it important to conduct experiments safely?"
- "What other everyday items could we use to explore similar scientific principles?"
- "How do you think this knowledge of burning candles applies to real-world scenarios?"
- "What was the most surprising thing you learned today?"
- "How can you relate this experiment to other forms of energy?"
- "What questions do you still have about the science of burning?"