

COURSE: MIDDLE SCHOOL

UNIT: ELECTRICITY

EXERCISE: CREATE YOUR OWN
GREETING CARD

TIME FRAME: 1-2 Hours



PREPARATION: *Summary of “to do’s” that the teacher should understand and prepare before bringing this lesson to the classroom.*

Teachers will need to ensure that the proper supplies are available for students to build their solutions.

You will need these items:

Materials:

- Paper or cardstock
- Copper conductive tape
- LED's
- 3V coin battery

Tools:

- Colored pencils or markers
- Scissors



SAFETY: *Summary of safety strategies in the lesson.*

S1

DESIRED RESULTS:

ESTABLISHED GOALS:

*Problem Solving Techniques and
Applications Standards:*

TRANSFER:

Students will be able to independently use their learning to ...

- Better understand electricity and circuits

MEANING:

UNDERSTANDINGS

Students will understand that...

- A circuit needs to be closed for current to flow and a LED to light up
- How electricity flows

ESSENTIAL QUESTIONS

Students will keep considering...

- How electricity is used and functions in everyday settings

ACQUISITION OF KNOWLEDGE AND SKILL:

Students will know...

- The difference between series and parallel circuits
- What is an open circuit and closed circuit
- How current flows
- What a LED is and how it works

Students will be skilled at...

- Designing a circuit
- Creating a circuit
- Testing a circuit
- Troubleshooting a circuit

S2

EVIDENCE:

EVALUATIVE CRITERIA:

ASSESSMENT EVIDENCE:

Performance Task(s):

Task Placeholder

The circuit the student designs will be assessed based on the set up and proper function. The card aesthetics should also be graded.

Other Evidence:

- End of unit quiz



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S3 LEARNING PLAN: *Summary of Key Learning Events and Instruction*

1. Introduce Activity

- a. Design and create a greeting card that will light up when you open it or push a button

2. Brainstorm

- a. Students research and develop a few design ideas for a greeting card. Could be a birthday card, get well soon card, etc...

3. Construct

- a. Using paper, create a card based on one of the designs. Layout and build the circuit on the paper card

4. Test

- a. Test the circuit for proper operation.

5. Communicate Results

- a. Share the working card with classmates

Progress Monitoring:

Teacher should observe students and provide on-going feedback during the activity. While introducing the unit, the teacher will pause and ask for questions to make sure everyone understands.

Students will complete self-assessment and brainstorm how they could improve their skills in the future. At the end of the unit, there will be a quiz to measure their overall understanding.

DIFFERENTIATION: *Summary of Key Differentiation Techniques*

The ASCD Study Guide for Integrating Differentiated Instruction and Understanding by Design: Connecting Content and Kids.
by Carol Ann Tomlinson, Jay McTighe

Integrating Differentiated Instruction and Understanding by Design: Connecting Content and Kids.
by Carol Ann Tomlinson, Jay McTighe
ISBN-13: 978-1416602842
ISBN-10: 1416602844

Differentiating Reading Instruction
by Laura Robb.
ISBN13: 9780545022989

A Teacher's Guide to Differentiating Instruction
The Center for Comprehensive School Reform and Improvement

CAREER CONNECTIONS: *Summary of Career Opportunities Associated with this Lesson*

Good sources for career connections:

Occupational Outlook Handbook
<http://www.bls.gov/ooh>

The National Career Clusters® Framework
<http://www.careertech.org/career-clusters>

KEYWORDS: *Please Insert Keywords from this Lesson with their Definitions*

Use resources like dictionary.com to find definitions to your keywords