BLUETOOTH SPEAKER
CAT# 80-50-LC07

The DIY Bluetooth Speaker kit offers an exciting way to promote STEM education in the classroom while exploring the world of sound, music, and technology through hands-on activities. This kit allows students to discover how speakers work by building their own Bluetooth speaker. It provides an opportunity for students to learn about sound waves, amplification, circuits, and technology in a fun and engaging way.

PRIMARY DIVISION: GRADES 1-3

Overall Expectation
Explore structures and mechanisms, including the roles of materials in supporting structures and making devices work.

Specific Expectation
Identify and describe the purpose of simple machines such as levers and pulleys.

Activity
Students assemble the speaker kit and learn about basic circuitry. They discuss how the speaker components work together to produce sound.

JUNIOR DIVISION: GRADES 4-6

Overall Expectation: Matter and Energy Focus
Investigate the principles of forces, energy, and control in simple machines and structures.

Specific Expectation
Explore the relationships between the components of simple machines and the forces acting on them.

Activity
Students explore the technology behind speakers, learning about electromagnetism and how electrical signals are converted into sound waves. They discuss the role of magnets and coils in speaker operation.

INTERMEDIATE DIVISION: GRADES 7-8

Overall Expectation: Matter and Energy Focus
Investigate how technological problem-solving meets human needs and leads to innovation.

Specific Expectation
Analyze the impact of friction and lubrication on the efficiency of mechanisms.

Activity
Students delve deeper into the circuitry of the Bluetooth speaker, analyzing the amplifier board and its components. They experiment with different configurations to understand how sound quality can be affected.

SECONDARY DIVISION: GRADES 9-12

Overall Expectation: Matter and Energy Focus

Apply principles of physics to understand waves, electricity, and magnetism.

Specific Expectation

Analyze mechanical advantage and efficiency in simple and compound machines.

Activity

Students explore the physics of sound waves, impedance matching, and frequency response in speakers. They discuss the role of Bluetooth technology in wireless communication.

CROSS-CURRICULAR CONNECTIONS

Mathematics

Students can calculate electrical resistance and power consumption in the circuit.

Technology

They learn about Bluetooth technology and its applications in modern devices.

Language Arts

Students can write reports or presentations on the history of speakers, sound technology, or the impact of sound on society.

Summary

The DIY Bluetooth Speaker kit not only teaches STEM concepts but also encourages creativity, problem-solving, and critical thinking, all while allowing students to enjoy the process of building and exploring technology.