Jitterbug STEM Kit

Teacher Curriculum Links & Learning Outcomes

Science2Life's Science iT! Series

This hands-on activity combines physics, engineering, and creative design. Children construct a simple electric circuit using a motor and off-centre cam to transform a pot into a buzzing, vibrating Jitterbug - or even a drawing robot (Drawbot)! Perfect for developing STEM skills in an exciting, achievable way.

Republic of Ireland - Primary Science (SESE)

Strand: Energy & Forces | Strand Unit: Electricity
- Construct and investigate simple circuits
- Explore the effects of electricity (movement, sound, etc.)
- Design and make: e.g., simple moving toys
- Develop observation, prediction, and communication skills. Suitable for: 3rd-6th Class

Northern Ireland - The World Around Us (KS1-KS3)

KS2:
- Understand and construct simple electrical circuits
- Explore how electricity powers devices like motors
- Use cause and effect to understand systems
- Encourage creative problem-solving and teamwork. Suitable for: KS2 (P5-P7)

KS3:
- Investigate the behaviour of electrical circuits
- Explore voltage, current, resistance
- Examine energy transfer in systems

England & Wales - Science Curriculum (KS2 & KS3)

KS2 - Year 4 (Electricity):
- Construct a simple circuit using batteries, motors, switches
- Explore effects of electricity: movement, sound, energy transfer
- Identify insulators and conductors

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KS3 - Physics:
- Electric current and circuits
- Voltage and resistance
- Energy transfers in systems
- Use and function of components (motors, switches)

Cross-Curricular Connections

Design & Technology: Designing bug bodies and Drawbot arms
Art: Decorating bugs, creating patterns
Maths: Measuring movement, timing vibration
Literacy: Writing instructions or stories about the bugs

Learning Outcomes

- Understand how to build and test an electric circuit
- Discover how cam position affects movement
- Recognise how energy can create motion and sound
- Apply creative thinking to improve a design
- Work collaboratively to test and iterate ideas

🎨 Why We Include Art in STEM

At Science2Life, we believe that integrating Art into STEM transforms science learning into a more imaginative, inclusive, and memorable experience. Creative expression captures children's curiosity and allows them to engage emotionally and visually with scientific concepts. This imaginative engagement not only enhances enjoyment but also significantly improves understanding and retention. When learners are encouraged to design, decorate, and personalise their creations — like the Jitterbug or Drawbot — they form deeper, more meaningful connections with the underlying science. By adding Art, we ignite creativity, promote problem-solving, and help children see themselves as inventors, makers, and thinkers.

✨ ***Sparks of imagination are at the heart of creativity!***

– Scientific Sue