

# USE GOOGLE'S SCIENCE JOURNAL APP IN THE CLASSROOM

## K-12 Project Ideas and NGSS-aligned Lesson Plans

Google's free Science Journal app enables real-time data collection and visualization and helps students make concrete connections between doing and understanding.

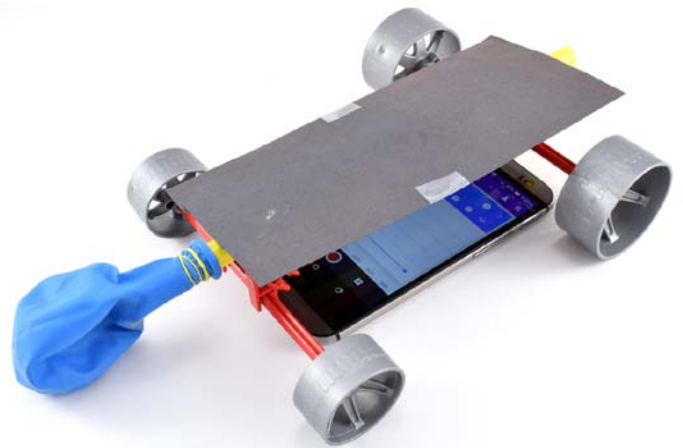
Get started with Lesson Plans and Project Ideas that work with the app.

[www.sciencebuddies.org/Science-Journal-app](http://www.sciencebuddies.org/Science-Journal-app)



## Lesson Plans

- 💡 Black in the Spotlight
- 💡 Get Energized with Cellular Respiration!
- 💡 Ocean Circulation: What Keeps the Ocean in Motion?
- 💡 Reaction Rates: Speed It Up with Temperature!
- ▶▶ 🔊💡 Send That Signal
  - 🔊 Analog vs. Digital Signals
  - 🔊 Block That Noise!
- ▶▶ Build an Earthquake-Resistant House
- ▶▶ Push Harder—Newton's Second Law



## Record, measure, and explore the world!

Do experiments with these sensors and more with the Science Journal app!

- ▶ Accelerometer    🔊 Sound sensor    💡 Light sensor

## Student Project Ideas

### Elementary School

- ▶▶ Building the Tallest Tower
- ▶▶ Keeping Up
- ▶▶ Motion Mania: Applying Physics to Hula-Hooping
- ▶▶ Skipping Science: An Experiment in Jump Rope Lengths
- ▶▶ Swing Low: Investigate the Motion of a Pendulum
- 💡 Balloon-Powered Car Challenge
- 🔊 Can You Hear Sounds in Outer Space?
- 🔊 Plop, Plop, Fizz Fast: The Effect of Temperature on Reaction Time

### Middle School

- 💡 Effects of Exercise: Changes in Carbon Dioxide Output
- 💡 How Does Light Intensity Change with Distance?
- 💡 Take a Candle Carousel for a Spin
- 🔊 Extreme Sounds: Lessons in a Noisy World
- 🔊 How Does Heart Rate Change with Exercise?
- 🔊 How Loud Can Paper Speakers Get?

### High School

- ▶▶ Simple Harmonic Motion in a Spring-Mass System
- ▶▶ 🔊💡 Hacking the Air Gap: Stealing Data from a Computer that isn't Connected to the Internet
- 💡 A Chemical Reaction that Changes, then Changes Back!
- 💡 Kinetics of the Amazing Iodine Clock Reaction
- 💡 Measuring the Amount of Acid in Vinegar by Titration with an Indicator Solution
- 🔊 How to Make a Piano Sing