



# Tuesday's Tip

information provided by Adriance Memorial Library to make your life a little bit easier . . . .

Science Buddies Website

January 21, 2014

Need inspiration for a science project? Or just some help? [Science Buddies](http://ScienceBuddies.org) is a website that has ideas for great projects and even a way to ask an expert some questions. Handy illustrations and a step-by-step instruction page make this site a real winner.

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## Science Fair Project Ideas, Answers, & Tools

Find a Project Idea Get Project Help View More Resources

### Find a Project Idea

Looking for inspiration for a science fair project? In need of fun, at-home science experiments? Science Buddies has over 1,000 Project Ideas in all areas of science.

[Browse the Project Ideas Index](#)

Browse over 1,000 science fair **Project Ideas** in more than 30 different areas of science

[Browse Ideas!](#)

### Help Me Find a Project

The **Topic Selection Wizard** tool:

- Gives you a brief survey
- Recommends projects that are best for you

[Take Survey!](#)

Science Project Kits Science Buddies in Action Project Display Board

# Science Fair Project Ideas

Here is the ideas page. It is arranged into various subject areas.

- Browse All Projects
- Search for a Project
- Help Me Find a Project
- Buy

## Browse the Project Ideas Index

Listed below are all of the different areas of science where we offer Project Ideas. Click on any area to see a full list of related Project Ideas.

### Physical Science

- [Aerodynamics & Hydrodynamics](#)
- [Astronomy](#)
- [Chemistry](#)
- [Cooking & Food Science](#)
- [Music](#)
- [Photography, Digital Photography, & Video](#)
- [Physics](#)
- [Sports Science](#)

### Life Science

- [Biotechnology Techniques](#)
- [Genetics & Genomics](#)
- [Human Biology & Health](#)
- [Mammalian Biology](#)
- [Medical Biotechnology](#)
- [Microbiology](#)
- [Plant Biology](#)
- [Zoology](#)

### Engineering

- [Civil Engineering](#)
- [Electricity & Electronics](#)
- [Energy & Power](#)
- [Environmental Engineering](#)
- [Materials Science](#)
- [Mechanical Engineering](#)
- [Robotics](#)

### Earth & Environmental Science

- [Environmental Science](#)
- [Geology](#)
- [Ocean Sciences](#)
- [Weather & Atmosphere](#)

### Behavioral & Social Science

- [Human Behavior](#)

### Math & Computer Science

- [Computer Science](#)
- [Pure Mathematics](#)
- [Video & Computer Games](#)

# Roaming Robots: Build Your Own Underwater Robot

Summary

Background

Materials

Procedure

Make

Here is an example...  
The difficulty level is noted. Different tabs located just above tell you more about the project.

Difficulty

Beginner  HARD

Time Required

Average (6-10 days)

Prerequisites

None

Material Availability

To build an underwater robot you will need a motor and a model boat propeller. See the Materials and Equipment list for details.

Cost

Low (\$20 - \$50)

Safety

You will need glue and epoxy to waterproof the motor for the robot. Follow the instructions that come with the glue and epoxy and always work in a well-ventilated area. If you have a latex allergy, you will have to exercise great caution with the balloon and ask a volunteer to help you. Keep fingers away from the spinning propeller to prevent injury. Do not test the robot in saltwater.

## Abstract

The world's oceans are home to the most strange and amazing creatures. What do scientists know about these deep-sea animals and how can they study them easily? One way to learn about these animals in their homes is to use underwater robots. Underwater robots can record data that would be difficult for humans to gather. But what are robots and how are they made? In this robotics engineering project, you will discover what makes up a simple robot and build and test your own underwater robot.

An explanation of the different levels of difficulty...

# Understanding Project "Difficulty"

Science Buddies ranks each project within one of three categories of difficulty:



For each category, there are three additional ranges of difficulty:

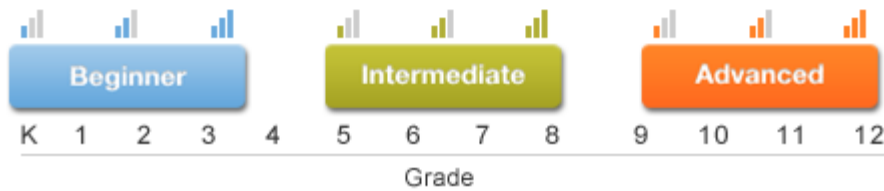


## What Number Is Right for You?

The correct level of difficulty depends on a number of things:

- Your grade in school
- How many science and math classes you have taken
- How well you do in science and math
- How much help you can get from teachers, parents, and friends

For an average student, the following table is a good guideline:



Another interesting project...

[Return](#)

## Measuring Sugar Content of a Liquid with a Laser Pointer

Summary

Background

Materials

Procedure

Make It Your Own

Help

Learn More



### Introduction

You may have seen an odd "bending" effect when you put a straw (or pencil) in a glass of water: the straw appears to bend at the boundary between the air and the water. Compare the two images in Figure 1 and see if you notice anything different between them.



Figure 1. These two images illustrate refraction by liquids. One glass contains plain water, and the other contains sugar-water. Which glass has which liquid?



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The "Ask an Expert" page. You'll need to set an account up, it's free though...



Project Ideas

Project Guide

Ask An Expert

Blog

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### Ask an Expert

The Ask an Expert Forum is intended to be a place where students can go to find answers to science questions that they have been unable to find using other resources. If you have specific questions about your science fair project or science fair, our team of volunteer scientists can help. Our Experts won't do the work for you, but they will make suggestions, offer guidance, and help you troubleshoot. If you are new to Ask an Expert, please review the [AAE Guidelines](#).

#### ASK ...

Post a specific question about your science fair project!

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