

# Supercharged Science

*Focusing on wonder, discovery, and exploration.*

## 2009/2010 Syllabus & Schedule for the eScience Learning Program



The e-Science Program is broken down into Units that are each about 3-4 weeks long. Each Unit covers a different area we're going to study together (for example - *Unit 1: Mechanics*) which is chunked down into several bite-sized lessons (e.g.: *Lesson 1: Force*, *Lesson 2: Gravity*, etc...).

Each lesson contains textbook downloads, written instructions, how-to videos, lots of activities and experiments, workbook exercises, quizzes, and more. We'll help get you started by hosting a live teleclass (phone call) that will outline what's going on, what to expect, and how to get the most out of it.

### Science Program Syllabus



The dates listed below indicate the days we will have our teleclass. Most teleclasses occur on Mondays so we can start our unit out together! Remember, you don't need to be on the call, because we'll be posting the recording immediately following the call.

**Note - Units may be completed in any order.** You do not need to start with *Unit 1* (although you certainly can if you wish.) We'll also be sprinkling in teleclasses just for parents to help keep you on track and get the most out of teaching your kids.

**Teleclasses are held at 9am Pacific Time (12 noon Eastern, 11am Central, 10am Mountain, 8am Alaska)** unless indicated otherwise in the listing below:

- **Mechanics:** Force, Friction, & Gravity (Unit 1)
- **Mechanics:** Velocity, Acceleration (Unit 2)
- **Matter:** Density & Solids (Unit 3)
- **Energy:** *Part 1* Levers & Pulleys (Unit 4)
- **Energy:** *Part 2* Kinetic & Potential (Unit 5)
- **Sound:** Vibration, & Resonance (Unit 6)
- **Astrophysics:** Particle Physics, Nuclear Reactions, & Astronomy (Unit 7)
- Jan. 11, 2010: **Chemistry:** Atoms, Molecules, Elements, Chemical Kinetics, Acids, Bases (Unit 8)
- Feb. 9, 2010: **Light & Lasers:** Light Waves, Electromagnetic Spectrum, and Lasers (Unit 9)
- March 8, 2010: **Electricity:** Static, Circuits, Components, Electrochemistry, Robotics (Unit 10)
- April 6, 2010: **Magnetism:** Magnetic Fields, Electromagnetics (Unit 11)
- May 3, 2010: **Alternative Energy:** Solar Energy, Solar Battery, Wind Energy, Geothermal, Hydro-Power, Advanced Robotics (BEAM Robots are battery-free), Fuel Cells, and more! (Unit 12)

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**What about the units *without* dates next to them?** You probably noticed that not all the units have teleclass dates scheduled. That's because we've already had our teleclass and have posted the recording online for you to download.

## "Help! I can't answer my kid's science questions!"



**At Supercharged Science, we don't believe it's your job as a parent to have all the answers.** The next time your child runs to you with questions, you can honestly say, "Gosh - I'm not sure. Let's take a look together..." **Your job as a parent is to be the biggest cheerleader for your student**, meaning that you show them total confidence in their abilities to figure things out. You don't need to have all the answers... in fact, you're not supposed to.

**Part of being a quality scientist involves taking responsibility for your own learning.** This means that although you might want your project to happen a certain way (for example, your paper airplane to fly), but after working at it you find your results are not as you expected (after folding the airplane, it consistently nose-dives).

**Most people stop here and give up, but this is where the greatest opportunity for learning starts.** Stop to take a closer look and really start to ask quality questions about why the laws of physics gave you something different than you were expecting, that's when you really learn how to fly. Does it matter what type of paper we use? Does the plane have to be symmetrical? Does it matter if we add a paper clip to the nose? How do real airplanes keep from nose-diving?

**This eScience program includes Unlimited Support for as long as you need it** because we are committed to your long-term success and not here to sell you a one-time solution. **This means you're now off the hot-seat with having to come up with all the answers.** We encourage kids to contact us as a part of taking charge of their own education. What this really means is that your child is now finding their answers to their questions, freeing up your mind for more important things.



**There are two ways kids can get their questions answered.** The first is to post the question on the eScience program, so other kids that have the same question can see the response we provide. Just type in your question in the comment box and *presto!* you'll see an answer in less than a day. The second way is to have your child contact us directly either by phone or email. We're happy to answer any questions about science – in fact, that's why we do what we do!

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## **NEW!** Live Science Calls Every Wednesday!

**Every Wednesday at 12 noon Pacific (3pm Eastern)**, we'll be on the phone answering any questions you have about any part of this program and providing mini-intro's to the unit you're working on. Whether you're working on the most advanced robotic project or just starting out with for the first time, we can help point you in the right direction. Simply call into the regular teleclass phone number (below) and we'll meet you there. We stay on the phone as long as there are questions to answer.

## **Parent Resources**

- *"How Do I Motivate My Child to Learn on their Own?"* (Bonus teleclass just for parents)
- *"6 Keys to Successful Education" with Special Guest* (Bonus teleclass just for parents)

## **What's coming up for 2010 Summer?**



**Summer is the time we boost the super-cool experiments and lighten up on the academics.** This summer, we'll show you how to transform your house into a hands-on science museum and run a science camp right in your own backyard, complete with summer night star gazing and lessons on how to roast marshmallows with light beams while you watch colored campfires. We'll also have an in-depth look at how to operate a compound microscope, build advanced electronic circuits and home-brew robotic sensors, shake up more chemical reactions, and learn the real science behind popular magic tricks.

## **About the live teleclass part of the program:**



At the start of each Unit, we will have a 15-minute phone call at the beginning of the week (exact dates given above). We're also recording this call and posting the recording to the website so you can access it anytime, as many times as you want. You can even download it to your MP3 player.

Here's what you need to know to participate in the call - when the right time rolls around (see syllabus above for exact dates), simply pick up the phone and dial:

**Tel: (218) 486-1616**

You will be prompted for an access code. Here's what you type in: **Access Code: 9334094**

And that's it! You'll be instantly connected to the call. After the call, we'll be posting the recording so you can download it to your computer.