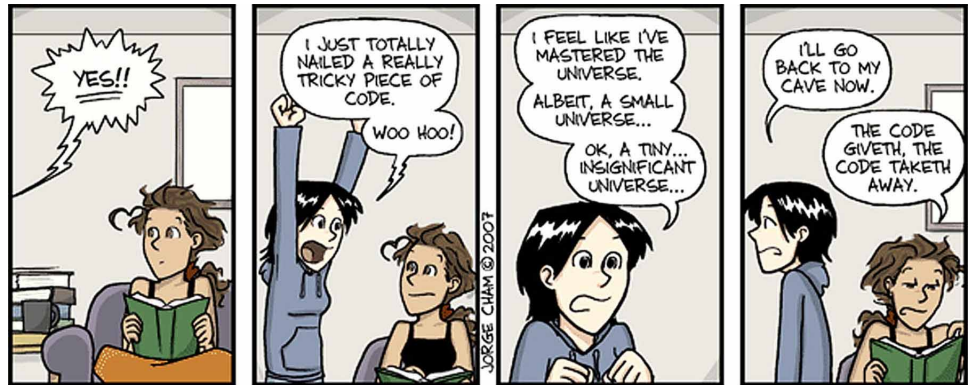# Tech News

Scratch challenges

There will be a lot of time over break without school, so this is a good time to try out different things in scratch. Here are some suggested activities:

- Download and install scratch v1.2.1 (if you haven't already).
- Go through all the scratch blocks and figure out what each one does.
- Try the simple animation exercises on the scratch cards: http://scratch.mit.edu/cards
- Try using "broadcast and wait" and "when I receive" blocks to communicate between sprites, synchronizing their actions.
- Try to make some simple sprite scripts that you can use in several projects, like a bouncing ball, a walking person, changing "levels" when touching a particular color or sprite, and so forth. Changing levels in a game usually means setting a variable "level" that sprites can use to figure out what to do, and having the stage change backgrounds. Broadcasting a message to let all the sprites know about the level change is usually a good idea.
- Look at how some of the games on the scratch web site are written, to get ideas for things you could do.
- Write a short script for a story and animate it.
- Create a sprite using a digital picture of yourself. Even better, get several pictures of yourself in different poses to make multiple costumes, so that you can use yourself in animations.
- Animate the letters of your name.
- Use the "play note" and "play drum" commands to make music. The notes may continue to sound after the number of beats specified for them—the timing is until the script moves on to the next block, not until there is silence.
- Write a dance animation that moves one or more sprites synchronized to the note and drum sounds.
- Try using the pen commands to make a simple drawing program.
- Try using the pen commands to do more complicated drawings (like polygons or stars) using program control of the sprite.
- Make animated e-cards for friends and relatives (see the previous Tech News for information about how to get the cards to them).
- Teach your parents (or your siblings) how to do things in scratch. Otherwise, you may have trouble sharing your excitement with them:

More Holiday gift suggestions

Parents at this time of year are often looking for holiday gift suggestions. Last week I suggested looking at the web page http://www.hoagiesgifted.org/shopping_guide.htm and listed some software we'd had success with in the past. This week, I'd like to recommend some hardware:

1) I still have 3 plier/cutter tool sets for $8 each.

2) We'll be building some electronics stuff after break, so you could get a kit to assemble then. A soldering iron would also be useful.

The site http://www.ramseyelectronics.com/ has some good selections under "mini kits". For non-soldering electronics fun, the *PL130: Super-Fun 130 In 1 Electronics Lab* (under "Learning Kits") is a good buy.

Other sources for interesting kits include http://www.solarbotics.com/ and http://robotikitsdirect.com/products/beginner.html (I have not dealt with either of these companies.)

3) A subscription to *Make* magazine might be fun for the whole family.