Computer Science
—Invent the Future—
Today… YOU

• Learn a bit about Computer Science
• Give it a try!
• Examine how your interests & skills connect to CS
• Explore paths to careers
• Consider next steps
code.org
The computer is incredibly fast, accurate, and stupid. Man is unbelievably slow, inaccurate, and brilliant.
The marriage of the two is a force beyond calculation.

-Leo Cherne
“Everybody in the country should learn how to program a computer... Because it teaches you how to think.”

-Steve Jobs
What is Computer Science?

CS is **posing a problem** in such a way that a **computer** can help us **solve** it.

- Communicate
- Solve problems
- Design and imagine
- Share, store, retrieve or manipulate information
What is Computer Science?

CS is designing computing devices and programming them.
Spinning Galaxy

```javascript
// The radius of the circle
var maxRadius = 244;

var draw = function() {
    background(250, 40, 117);

    for (var i = 0; i < N; i++) {
        var radius = maxRadius * sqrt(i / N);
        var theta = angleChange * i;

        var x = 200 + radius * cos(theta);
        var y = 200 + radius * sin(theta);
        ellipse(x, y, 15, 15);
    }

    angleChange += 0.01;
};
```
This is a comment! You can type anything you want here as long as you keep those two slashes in the front :D :D :D

The line below is an instruction to the computer! Try commenting it out to see what it does...

noStroke();

Change these numbers to see what each one is for...

fill(255, 255, 0);
ellipse(202, 208, 300, 300);

See if you can figure out what each line does!
fill(46, 46, 41);
ellipse(157, 151, 40, 40);
ellipse(304, 142, 40, 40);

TRY any
http://goo.gl/JRySP

TRY spinning galaxy
http://goo.gl/tVCwa
Unlock Your Future with Computer Science
Computing Connects

Only 50% of tech jobs are at technology companies.
For instance: Are you interested in health fields? You might want to study…

…robotics and invent digital prostheses

…computer engineering and build the next generation of laser surgical tools

…bioinformatics and design a life-saving drug
Computer Science is information systems

Are you someone who:

• Understands relationships?

• Likes to do things efficiently?

• Is interested in business and connecting people?
Computer Science is engineering new products

Do you want to:

Create devices that can do the work for you?

Google Glass
Computer Science is visualizing and creating imagery

Do you like:

Art?
Science?
Game Design?
Theater?
Movies?
Computer Science is *Infrastructure and Networks*

Do you want to help:

Keep computer systems up and running?

Invent new ways for technologies to connect?
Computer Science is Computer Forensics and Cyber Security

Do you want to help:

Solve crime?

Keep us safe?

Secure information?
Computer Science is **Design**

Do you want to:

- Make models?
- Design cars, houses, fashion, anything?
Paths to Careers

How people get started in Computer Science
Paths to Careers

What skills does CS require?

Computer Science might be right for you if you have...

• Curiosity and imagination
• Flexible, creative thinking
• Work ethic – make an effort in math and science
• Communication skills in order to tackle challenges with others
Paths to Careers: *How do people get started?*

Keep taking Science and Math

Learn Computer Science

A first high school CS course might have you studying…

- Human Computer Interactions
- Problem Solving
- Web Design
- Introduction to Programming
- Robotics
- Computing Applications
Paths to Careers: *How do people get started?*  
**Learn Computer Science**

You might study on your own or with buddies…

Take an online class…
Sample First Year College Courses

Purdue University, Indiana
- Problem-solving and object-oriented programming
- Programming in C
- Computer Architecture

University of California, Berkeley
- Beauty and Joy of Computing
- Introduction to CS Theory
- Operating Systems and System Programming

University of Illinois
- Little Bits to Big Ideas
- Theory of Computation
- Introduction to Programming
Other Courses

Computers and Society
Software Project Management
CSI Computer Programming
Network Security and Hacking Prevention
PC Forensics
The Meaning of Information Technology
Fundamentals of Digital Design
Theory of Computing
Computer Architecture

Artificial Intelligence
Design and Analysis of Probabilistic Systems
Linear Algebra
Software Design
Programming Languages
Critical Thinking in Technology
Networks & Data
Communications
E-business/Web Development
Adv. Programming
Computing Careers

Among the **fastest growing, stable and flexible** offering **good salaries**

- Examine Pathway Cards. Pair up and read. What do you notice?
- Examine careers that connect with your interests at [http://goo.gl/MInCU](http://goo.gl/MInCU) (type the web address carefully)
- Report back
Learn More!

Takeaway Tech information on...

- Programming, Robotics and other Computing Activities
- Camps, Clubs, Competitions
- Computing Careers
- Opportunities for Self-Study

Go to: www.ncwit.org/takeaway