

LIBRARIES SUPPORT MAKERS & DIYers

Pierce County Library System

About Us

Pierce County Library System serves all of unincorporated Pierce County and the annexed cities and towns of:

- ▣ Bonney Lake
- ▣ Buckley
- ▣ DuPont
- ▣ Eatonville
- ▣ Edgewood
- ▣ Fife
- ▣ Gig Harbor
- ▣ Lakewood

► Population of service area: 579,970

► Size: 1,773 square miles

- ▣ Joint Base Lewis-McChord

2015 System Statistics:

- ▣ Checkouts – 6,722,843
- ▣ Online/downloads – 777,403
- ▣ Books, movies and other materials in the system – 1,552,409
- ▣ Physical materials – 1,071,458
- ▣ Library visits – 2,325,785
- ▣ Card holders – 313,949
- ▣ Open hours/week – 1,024.5
- ▣ Public computers – 455
- ▣ Employees (FTE) – 255



Movements & Popular Culture

The rise of DIY Lifestyle and the Maker Movement.



Do You DIY?



...DIY champions the average individual seeking such knowledge and expertise. Central to the ethic is the empowerment of individuals and communities....wikipedia



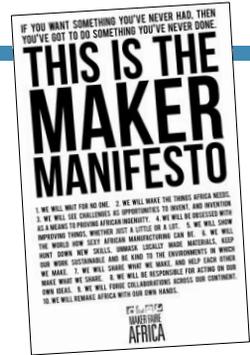
Who are Makers?



"It doesn't matter what you make, and it doesn't matter why. The importance is that you are making something."

—Adam Savage

Roots



Makerspaces

- Also known as Hackerspaces
- Community & Collaboration
- Member Fees & Cost-Sharing
- Classes & Equipment
- In Schools & Libraries



Makerspace Equipment

Tacoma Fablab

PROTOTYPING

- 3D PRINTERS
- LASER CUTTER / ENGRAVER
- CAD / GRAPHICS WORKSTATIONS
- CNC ROUTER 48"X96"
- CNC PLASMA TABLE

ELECTRONICS

- SOLDER STATION
- OSCILLOSCOPE

WOODWORKING

- CNC ROUTER 48"X96"
- WOOD LATHE
- TABLE SAW
- BAND SAW
- PLUNGE SAW
- TABLE ROUTER

METALWORKING

- CNC PLASMA TABLE
- MIG WELDER
- PLASMA CUTTER, HYPER THERM
- DRILL PRESSES
- SMALL MILL
- SMALL LATHE
- METAL BRAKE / SHEAR / ROLLER
- SANDBLASTER
- GRINDERS / CUT-OFF SAWS

WORK STATIONS / COLLABORATIVE SPACE

- LARGE DISPLAY MONITOR FOR MEETINGS
- 27" CAD WORKSTATIONS
- ADOBE SUITE
- OPEN SOURCE DESIGN SOFTWARE



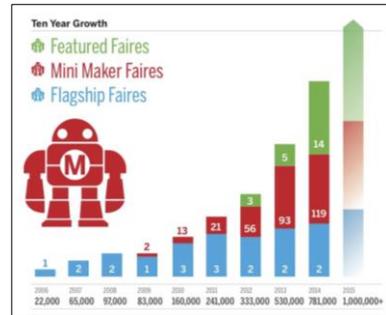
Maker Media

- Make Magazine
- Makezine.com
- Maker Faire
- Maker Shed
- Makerspace
- Maker Ed
- Maker Camp

Make:



Maker Faire



Maker Faire

Seattle Mini Maker Faire

DATES
September 17-18, 2016

LOCATION
EMP Museum
Seattle, WA



Demographics

Maker Faire Bay Area 2015
145,000+ Attendees

Survey sample of 568:

- 100% attended/graduated college or better; 84% graduated college and 41% have postgraduate degrees.
- Affluent: Median household income is \$124,500.
- Two-thirds 68% of attendees are white, 17% are Asian.



Demographics

New York Maker Faire 2015 90,000 Attendees



Survey sample of 974:

- ▣ Primarily male 62%
- ▣ Half 49% attended Maker Faire with children
- ▣ Virtually all 96% attended/graduated college or better; 86% graduated college and 42% have postgraduate degrees
- ▣ The vast majority of attendees are white 67% Asian and Hispanic/Latino's represent the next largest groups.

Privilege of Making

"...we must acknowledge the fact that the idea of "making" is a privileged idea"

-W. Atwood-Charles

"I'd like to see makerspaces reach new audiences — it's not just a 'guy thing' or a 'geek thing'. We need more women and people of diverse cultural and ethnic backgrounds to participate. We should not just be open and welcoming to new people but we should also export what goes on in a makerspace into other locations in the community such as libraries, schools and museums. We are all makers of spaces, and these spaces are makers of makers."

-Dougherty, Makers of Spaces, Makers of Makers, 2013

Initiatives



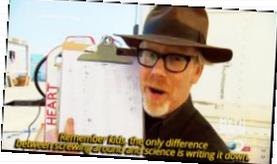
Why Should Libraries Care about DIY and Making?

- ▣ Relevancy
- ▣ Job Skills & Small Businesses
- ▣ Education
- ▣ Outreach
- ▣ Diverse Communities



Play, Make, and STEAM

Programing priorities for youth & families.



Science To Go & Block Play

Backpacks

Available at all Palm Beach County Library locations



Backpacks are available for free age groups: pre-kindergarten (ages 3-5) and ages 6-12. Each backpack is made of durable materials and can be found and put on hold through the library website.

Each backpack includes:

- Events related to a specific STEAM topic
- A location activity sheet for you to keep

1. A field notebook to record and share your insights

2. A feedback card. Complete and return inside the backpack





Project BLOCKS

Research shows that using building blocks in an early childhood setting can help children develop their language, math, and science skills. These blocks are made of wood and are safe for children to play with. They can be used to build a variety of structures, including towers, bridges, and houses. This activity is perfect for young children who are just starting to explore the world of building.

Check out the new Science and STEAM Project Block Backpacks available at all library locations.



Back Play in the Name of Palm Beach County Library: 561.888.4627, 2016.03.03.0001

Minecraft (& STEAM)

Mine, Craft, Build and Play!

Take a break on a laptop and play Minecraft at the library. Minecraft is a free-to-play computer game in which players explore a procedurally generated 3D blocky world. The game is available on PC, Mac, Xbox, and PlayStation 4. It is a great way to learn about computers, programming, and problem-solving.

Open 12:00pm - 3:00pm, 5:00pm - 8:00pm (closed on Wednesdays)

Handing: Dec. 29 - Jan. 7 - Feb. 4 - March 3 - April 7 - May 5

!Constructive & Queas!

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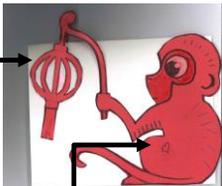
Lakeview Palm Beach County Library
2016.03.03.0001






Paper Circuits

Outside



The lantern is positioned over the LED

This mark show the best spot to press to close the circuit and make the lantern light up

Inside



Note that the battery is not covered with tape

Coder Dojo



CoderDojo The global network of free computer programming clubs for young people.

Independent, volunteer-led programming clubs.

Collaborative, youth-centric & fun learning!

Developing coding skills and more...

Free, open and inclusive, always!

Camp Code

FREE

Q: What does Monopoly have to do with Minecraft?
A: Lots!

GAME LAB!

Camp Code
Pierce County Library System

Come to Camp Code and learn how old-fashioned games and video games are made of the same basic stuff. By the end of the day, you'll have programmed your own video game to play online! Ages 10-16.

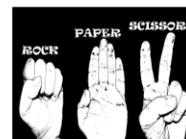
Thursday, April 7, 9 a.m. - 4 p.m.
Pierce County Library System
14000 1st St., Everett WA 98201

Family Edition
Play and build games as a family. For kids ages 7-11 and their parents or caregivers.

Saturday, April 23
9 a.m. - 4 p.m.
University Place Pierce County Library
14000 1st St., Everett WA 98201

Saturday, April 30
9 a.m. - 4 p.m.
Sumner Pierce County Library
10000 1st St., Sumner WA 98290

Learn provided by the library. Registration required at www.piercecountylibrary.org



Hour of Code

Hour of Code

The Hour of Code is coming.

Help introduce 100m students to computer science. What 90% of schools don't teach.

Computers are everywhere, but most schools teach computers to more than 10 years ago. Good news is, it takes an hour to get started writing your first computer program.

One hour can change the world if you've heard about the Hour of Code before, you might know it made history. More than 100 million students have tried an hour of Code. Even President Obama wrote the first line of code as part of the campaign.

The Hour of Code is a global movement reaching tens of millions of students in 180+ countries. Anyone, anywhere can organize an Hour of Code event. One-hour tutorials are available in over 40 languages. No experience needed. **Ages 4 to 104.**

198,474 Hour of Code events around the world

Get started at <http://hourofcode.com/us>

Each available for all ages
Public or private
Create an interactive project
Go beyond, and make something with code

Lego Mindstorms



ROBOTS!
LEGO MINDSTORMS

Build and program a robotic vehicle using the Lego Mindstorms kit, plus other projects.

DEPOT PIERCE COUNTY LIBRARY
14000 1st St., Everett WA 98201
Tuesday, Apr. 20, 24 & 27
Ages 10-16, registration required

FIVE PIERCE COUNTY LIBRARY
1400 1st St., Everett WA 98201
Monday, Feb. 8, Mar. 7, April 11 at 4-6 p.m.
Ages 8-16, registration required

SUMNER PIERCE COUNTY LIBRARY
10000 1st St., Sumner WA 98290
Thursday, Mar. 24 & Tuesday, May 19 at 3:30-5:30 p.m.
Ages 8-16, registration required

SOUTH HILL PIERCE COUNTY LIBRARY
1400 1st St., Everett WA 98201
Tuesday, Feb. 16, Mar. 15, Apr. 19, May 17 at 4-5:30 p.m.
Ages 8-16, registration required

SUNNYSIDE PIERCE COUNTY LIBRARY
10000 1st St., Sumner WA 98290
Wednesday, Feb. 10, Mar. 9, April 13 at 4-6 p.m.
Ages 8-16, registration required

UNIVERSITY PLACE PIERCE COUNTY LIBRARY
14000 1st St., Everett WA 98201
Wednesday, Feb. 3, Mar. 2, April 6 at 3-5 p.m.
Ages 8-16, registration required

FREE

Pierce County Library System
www.piercecountylibrary.org
Everett | Edmonds | Longview

Lakewood MakerFest

"Making it up as we go along..."



Community Collaboration

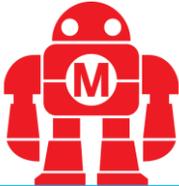
- [Pierce College Science Dome at Fort Steilacoom Campus](#)
- [Lakewood Computer Clubhouse](#)
- [Lakewood's Promise](#)
- [City of Lakewood](#)
- [Brown Paper Tickets](#)



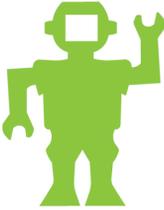

Commercial or Indie?

Licensed Maker Faire

Independent Maker Event



Maker Faire



2013



Maker Fest

Saturday, August 24th
11:00AM—3:00PM

Pierce College—Fort Steilacoom
Rivier Building
2601 Pioneer St SW
Lakewood, WA 98403

Calling all Makers!
Lakewood is hosting it's first ever Maker Festival.
For more information and to register as an exhibitor
go to lakewoodpioneer.us/makerfest

The Lakewood Maker Fest seeks to engage, inspire,
and enable young people to become Makers.

Community Network & Sponsors:
Lakewood's Promise, Pierce College, Lakewood Pierce County Library

2014




2nd ANNUAL LAKEWOOD MakerFest

Celebrating all things made by you!

Register as a maker to showcase your DIY projects! or come to be inspired.

- Fun for all ages
- Kids activities
- Maker presentations
- Visit the college's science dome

Pierce College Rainier Building
9401 Furthest Drive S.W. - Lakewood 98406

Saturday, Aug. 9 1-5 p.m. • FREE

Bringing something? Register as a maker www.lakewoodmakerfest.org

Sponsored by Pierce County Library System, City of Lakewood, Liberman Computer Outreach and Pierce College.

2014






2015





3rd ANNUAL LAKEWOOD MakerFest

Celebrating all things made by YOU!

Gather to explore the processes and products of maker culture

Activities and inspiration for all ages

Saturday, May 2 11 a.m.-5 p.m.

FREE

lakewoodmakerfest.org

Sponsored by Pierce County Library System, City of Lakewood, Liberman Computer Outreach and Pierce College.

2015







2016



**PIERCE COUNTY
MakerFest**
Presented by Pierce County Library

Saturday, May 21st, 2016
12pm-5pm - FREE

Pierce College - Fort Steilacoom
Rainier Building & Science Dome
9401 Farwest Drive SVV
Lakewood, WA 98498

Cost



- Venue
- Marketing/Printing
- Staff time
 - ▣ System committee of 5 librarians
 - ▣ Day of staff
- Honorariums
- Misc.
 - Snacks for Makers
 - Activity supplies

Returns

Attendance:

2015: 425
2014: 287
2013: 144

Exhibitors:

2015: 42
2014: 38
2013: 45

Why invest in MakerFest?

- ▣ Promotes collection and programming.
- ▣ Community Outreach
- ▣ STE(A)M focus goals
- ▣ Involved and support maker movement without having to build/invest in a library makerspace.

DIY and the New Digital Literacy

Programing priorities for Adult Learners.

Tech Resources for Makers & Doers

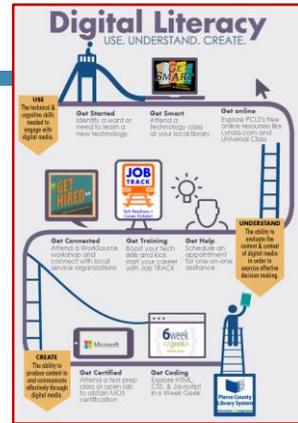
- Skill learning moving online
 - YouTube
 - Pinterest
- Library Learning Resources/Databases
 - Lynda.com
 - Universal Class
 - Microsoft IT Academy

All helping people use tools & create.

Designed by

Kendall
Brookhart,

Digital
Literacy
Coordinator,
PCLS



DIGITAL LITERACY for Makers/DIY'ers

- **USE** – Basics, Word, Excel, Apps, iPad, Blogging, Social Media
- **UNDERSTAND** – Collectibles, Genealogy, Travel Planning, Cloud Storage, Small Business Resources, Job Track classes
- **CREATE** – 3D Printing, Web Design, HTML/CSS, Knitting the Net, Advanced Word & Excel, 6 Week Geek

How to Know What People Want?

- Community Connects marketing segments
- Census data
- Program feedback forms
- Circulation stats
- Branch experience
- Intuition!

Marketing Methods

- In-house flyers
- Home page ads & calendar
- Social Media: Facebook, Twitter
- Local Newspapers
- DIY/gardening/crafting networks
- Guerilla marketing

Gardening/Food Security Projects

Supporting local community building

Neighborhood Partnerships

- Churches
- University
- Food banks
- WSU Ext Snap-Ed programs
- Local public schools
- Girl Scout troop




County-Wide Partnerships

- Partners in **Harvest Pierce County**
 - City – City of Tacoma, Metro Parks
 - WSU Extension – Master Gardeners
 - Pierce County – Conservation District, Public Works, Health Dept
 - Catholic Community Services
- Projects
 - Community Gardening
 - Gleaning – Farm & backyard
 - Veggie Co-op



Garden Series

Community Partnership Workshops



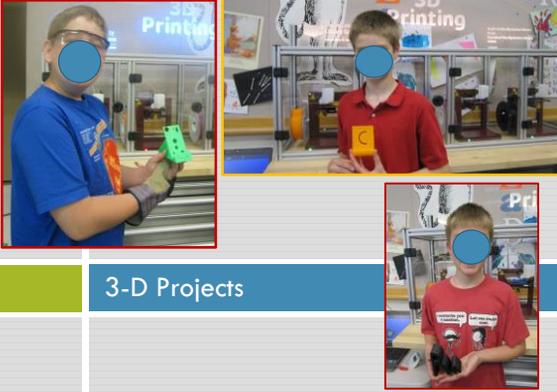
The flyer for the 2016 Workshop Series 'Edible Gardens' lists various classes such as 'Introduction to Edible Gardening', 'Herb Gardening', and 'Vegetable Gardening'. It includes details on dates, times, and locations across Pierce County. The website piercecountywa.org/edible is mentioned at the bottom.

DIY Branch Programming

What's happening within PCLS?

3-D Printing

- Classes began in 2014 – one branch only
- 4 printers acquired
- Intro to 3-D program/class
- Weekly events currently
 - Quick Start 3-D class (8/class)
 - Book-a-Printer 4 hr sessions (2)
 - Always full
- Printer on branch floor for use



Three photographs showing children engaged in 3-D printing. One child is holding a green printed object, another is holding a yellow one, and a third is holding a black one. The background shows a 3-D printing station with various machines and signs.

3-D Projects

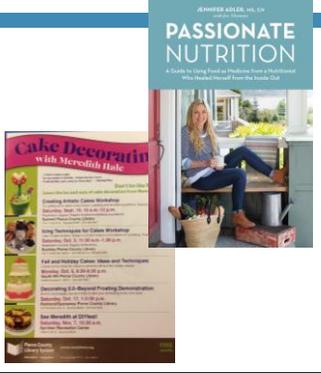
Arts & Crafts

- Some examples:
 - Book Arts
 - Upcycle/Recycle Arts
 - Rag Rugs
 - Photography
 - Zentangle
 - Knitting



Food Preparation/Preserving

- Fermentation
- Cake Decorating
- Canning
- Pantry planning & budgeting
- Nutrition authors



Other DIY Topics

- Beekeeping
- Backyard animals:
 - Chickens
 - Goats
- Home Solar
- Gardening
- Legal issues
 - Wills
 - Retirement
 - Power of Attorney



DIYfest

Homegrown success.



DIYfest - 2014

- Complement to Makerspace event
- 1st Year
 - Authors 4
 - Kitchen demos 6
 - Exhibitors 18
 - Attendance 500
 - Craft corner – taught Rag Rugs
 - Square Dancing

Author Presentations



Kitchen Demos



Exhibitors/Craft Corner



DIYfest - 2015

Larger space

- Author/presenters 4
- Kitchen Demos 5
- Exhibitors 32
- Attendance 1000
- Partnerships:
 - County agency – new location, larger facility
 - Barter Faire group
 - Asian Pacific Cultural Center

Larger County Facility



Increased Outreach Efforts

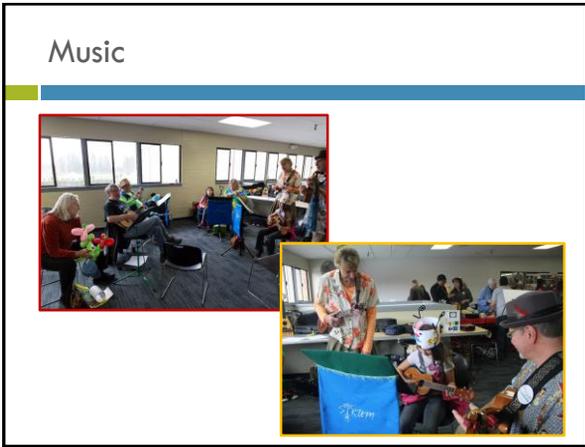
- New facility – more diverse, accessible area; widely used
- Sought out non-traditional exhibitors & kitchen demos
- Advertised at wide cross-section of events in community
- Selected ethnic food trucks for food service



New Exhibitors & Features

- **Exhibitors** – Ex: Tool library, Ham radio, Bike repair coop, Sewing machine repair, Berry Ink, Goodwill upcycling, Rabbits, Mushrooms
- **More programs for children** – Science to Go, Balloon figures guy, Presenter
- **Barter Faire** – County group explained & then had their monthly barter at the event
- **Music** – Ukelele club performing & teaching





Barter Faire



Conclusions & Next Steps

What will we make in the future?