Community Library Network
Activities and Events

Athol

Robot Day (K-3rd) 10 participants (1 hour program)

After talking about and showing pictures of different robots that exist in the world, the children thought of what they would like their robots to look like and what they would want their robots to do. For this activity, we used the BrickLab. The children built some interesting robots, and one child actually drew up some blueprints to help her build the robot she envisioned in her mind. I really wanted to have this program so the children could use their imagination, express their creativity, and use the scientific part of their brain all at the same time.

For this group, I asked them if they would want to use the BrickLab again. They all wanted to do another type of building day in the future. To evaluate, I had the children verbally answer my questions with yes or no, since it was such a small group. The confidence of the children noticeably increased throughout the hour. The children went from being unsure and looking around at what their peers were doing to focusing on their own creations and mapping out (either in their minds or on paper) what they wanted their robot to look like. One of the children did not want to participate, but when we had a “Build it” day two weeks later, she used the blocks, gears, and legos to build a number of creations.

Hayden

Atlas After-School Academy

Four weeks of one hour programs were offered at an after-school program that gathered many community partners who offered classes and workshops. The topics included tallest towers, building for strength, slingshots, and LEGO Robots.

February 26, March 5, March 12, March 19, 3:30-4:30, 4-5 grade

Atlas Elementary

Formal Program
56 Participants (14 Participants each week for four weeks)

Monday Fun-Tallest Tower

We split into teams at our weekly program and tried to build the tallest tower out of the brick lab
March 11, 4-5pm, 3-5 grade
Community Library Network at Hayden
Formal Program
7 Participants

**Tuesday Works-Build a Trebuchet**

We built fischertechnik trebuchets and modified them
March 19, 4-5pm, 6-8 grade
Community Library Network at Hayden
Formal Program
6 Participants

**Make Saturday**

Drop-in time for freebuilding with Fischertechnik
March 30, 2-5pm, 1-8 grade
Community Library Network at Hayden
Formal Program
5 Participants

**Lakes Magnet Middle School Outreach**

For our twice a month outreach we grabbed the Discover E! kits and made trebuchets
April 10, 3-4pm, 6-8 grade
Lakes Magnet Middle School
Formal Program
4 participants

**Holy Family Catholic School Outreach**

Went to our monthly outreach with the brick lab and had participants build a tall tower
April 26, 9-11:30am, 3-5 grade
Holy Family Catholic School
Formal Program
70 Participants

**Expanding Your Horizons**

Built a carnival ride and mixed bread dough as a workshop for middle school girls during a day dedicated to math and science
May 4, 10-11am, 6-8 grade
North Idaho College
Formal Program
15 Participants

**Stealth Programs**

Patrons can create two different crafts at their leisure in the teen space: Book Hedgehogs or 3D Hand Art
Ongoing
Community Library Network at Hayden
Informal Program
Undetermined-20 patrons estimated

**Post Falls**

**Life Size Angry Birds**

Patrons used boxes, Styrofoam, and other materials to build structures that would maintain stability while under the duress of a plush Angry Bird assault.
April 3, 4:00-5:00pm
Community Library Network at Post Falls
Formal Program
62 Participants

**Build It!**

Children and adults free build with materials provided by the library. LEGOs, Magna Tiles, KEVA Planks, Robotix, Hero Factory and more. A group from Boys & Girls Club also joined in.
April 4, 4:00-5:00pm
Community Library Network at Post Falls
Formal Program
80 Participants

**Stealth:**

I put out building materials – Straws & Connectors, KEVA Planks, and Magna-Tiles – in the children’s library for an informal stealth program. I assisted in building a tower with Straws & Connectors.
April 25 4:30-5:30pm
Community Library Network at Post Falls
20 Participants

**Spirit Lake**

Robot Day (K-3rd) 12 participants (1 hour program)

This program was open to the K-3rd graders of the Spirit Lake Community. As with the program at Athol Library, we talked about different types of robots and what amazing things they can do. The BrickLab was set out for the children to use to create a robot that they would like to have. An open and free-building program is so essential to this group in particular because they really struggle with thinking on their own and being creative. Whether it is an art project or an activity, this group of children is intimidated by expressing their creativity, not having exact instructions, and working on things independently. I really wanted to have this program to show them that it is okay to create, have fun, and to make mistakes. There is not just one way to build a robot, but 1000’s of ways. After some grumbling, the children began to create a wide variety of robots that did awesome things such as flying, cleaning their rooms, and doing the dishes.

For this group, I evaluated them verbally. I asked them if they knew how to build with bricks (before we started), if they wanted to do another activity using the BrickLab someday, and how they felt about building their robots at the end of the hour. All of the children said that they felt confident about building with the BrickLab. Eight of the children said they would want to use BrickLab again someday, and 7 of the children liked what they built. I also observed the children and wrote down any comments I heard. The children did not speak a whole lot during building time, but I did hear a few of them say that the bricks were “hard to put together”. It was great to see other children jumping in to help those that were having a hard time. I did hear one child ask for more 2 x 2s (yay for nomenclature!) and another child said “That is so cool!” Overall, it was a great program.

**Tower-Building Competition (4th-6th) 12 participants (1 hour program)**

Using the BrickLab, the 4th-6th graders were asked to get into pairs or groups and build the tallest freestanding tower. Many of the tweens found it much more difficult than they had anticipated. It was great seeing the teams work together and try to figure out how to make a better and stronger tower. They were trying a variety of strategies, and teams were determined to win the competition. Even when the towers crashed, they would regroup and start over again, always resulting in a stronger team. The tweens were all very excited about building and were very encouraging within their teams.
For evaluations, I asked the tweens how they felt about building the towers (before and after), and if they would like to do another BrickLab program in the future. All of the tweens felt very confident about building both before and after, and 10 out of the 12 did not want to use BrickLab again, even though they were all having a fun time building. They are more interested in using fischertechniks the next time we have a building day.

I also observed the tweens to see what kind of behavior was going on during the program. Some of the comments I heard were “We’re going to win!”, “I need a robot to build this for me.”, “Someone needs to stabilize it!”, and “Keep building! Keep building!” (when it was getting closer to the end of their time). I heard the tweens using vocabulary such as 3-way and 2-way instead of 3x2 and 2x2, but they were not just saying “that piece”, so that was great. They all cleaned up their bricks after the towers were built, but some of them did not want to take their towers apart, so they buried them at the bottom of the BrickLab box (for me to find later and take apart). The tweens exercised trial and error and had many scientific strategies about how their tower should look.

Fischertechniks- Discover E! Kits (6th-12th) 11 participants (was going to be a 2-hour program, but it turned into a 3-hour program because they were enjoying it so much)

Teens from one of our local homeschool groups came to the library to build amazing creations using the Discover E! kits. I started off the event by explaining some of the nomenclature of the pieces and how they fit together. I then gave each table (group of 2-3) the instructions, and they were given the choice of what they wanted to build. The teens really enjoyed building their structures, and once they completed the ones with instructions, they either modified their creations or built their own using their creativity. One group made a car that ran on a battery and kept testing it to make it go faster. They were so proud of it, that they had to drive through the doors of the library to show all of the patrons and staff. I particularly liked the group that videotaped their creation and then sent it to one of their friends who couldn’t be there that day. We not only had trebuchets and cruisers, but we had monsters with spikes and tree houses with elevators.

For evaluation, I had the teens fill out the short surveys (with levels of 1 to 5) both before and after the program. Their overall understanding of fischertechniks before the program varied from 1s to 4s and after the program, there were three 4s with the rest being 5s. With confidence with the tools/software, the range was between 1 and 5. After the program, the confidence level was all 5s with two 4s. For the ability to build and create, there was one 1, one 4, and the rest 5s. By the end, all of the answers were 5, except for one 4. For interest in STEAM topics, there were two of each number on the scale. By the end, the numbers were between 2 and 5. For the question of how likely the teen would come to another program like.
this, there were mostly 3s, with two 4s, one 2, and one 5. By the end, almost all of the teens wanted to do this again.

I also went around the room during the three hours and observed the interaction between team members and teens with the fischertechniks. Here are some of my observations:

**Nomenclature (From Denise)**

Some of the teens were actually using the size numbers when speaking to their team members. I even heard some of the teens referring to the clip axles by their size! One teen asked another teen “Do we have a 45 angle? No, but we can make one!”

**Teams (From Denise)**

One team was very vocal, but most of the teams worked quietly, concentrating on what they were trying to do. I heard the comment “Teamwork!” more than once. The teams were showing each other pieces when they discovered something cool, new, or different, and they were really great at helping each other, especially the teen that came to the program late. One team was drawing in more teams to see what they were doing with different gears at their table.

**Comments (From Denise)**

“This is actually pretty cool.”, “Look what we made!”,”We can fix this.”, “We can do this! All we have to do is think!”, “This will trump all of them.”, “I’m so excited this motor finally works!”, “It’s sad we can’t keep these and we have to take them apart.”

The teams all had different strategies: Some teens pulled out the pieces they needed first while others did not. Some teens used a piece of paper and a pencil to “visualize” so they could start creating their own structures from leftover pieces. The team that made the trebuchet tested different weights, teams were adjusting pieces to be smaller and bigger, and I even heard the term “reverse polarity”.

For inventory, we decided to keep the Discover E! kits in their separate boxes because it was easier to put down 1 box at a table for a team and tell them it would make two builds. We would like to put the carnival kit and robotics kits in the storage drawers that were given to us.

In the future, Athol and Spirit Lake Libraries would like to try the carnival kit and robotics. I would like to do a stealth program in the library with the BrickLab. In the fall, we will be doing the Cardboard Challenge, a family fischertechnik event, putting out crocheting and knitting materials, and possibly try to make Deconstruction Art.