



ALSC and LEGO Systems Present Junior Maker Librarian Toolkit

For Building Future Makers, One Library at a Time

Hello Fellow Children Librarians!

This toolkit is designed to help you develop Junior Maker programs for young children 4-7 years of age at your local library. It is the product of a partnership between the Association for Library Service to Children (ALSC) and LEGO Systems, Inc. and is chock full of ideas to get you started on a Making journey.

What is Making? Making is the simple act of doing. It is both a physical experience—being hands on—and awareness that the world is constantly being built and rebuilt. Making is not an end result or finished project; rather it's what is learned through the process. A Makerspace is a designated area with age-appropriate tools to make. If you're new to Making, we invite you to watch this brief inspirational [Making Video](http://www.LEGO.com/Juniors) found at www.LEGO.com/Juniors.

As a librarian, you are an instrumental part of the Making process by providing stimulating environments that promote curiosity; are you considering how you can expand opportunities for children to tinker, experiment, play, explore and Make?

THE IMPORTANCE OF MAKING AND PUBLIC LIBRARIES

Creativity is innate in children across all cultures and backgrounds. Let them loose in any environment and they will figure out a way to turn paper rolls into telescopes, tissue paper into beautiful butterflies and LEGO® bricks into rocket ships. As librarians, you know that there's so much more going on than mere alleviation of boredom. In fact, play and Making are essential for early learning. It's the WAY young children learn about the world.

Sustaining creativity can be challenging for parents, teachers and institutions. In order to develop as creative thinkers, children — and adults — need opportunities to make things. They also need stimulating environments to do this in, and engaging tools and materials to do this with. Since Making is about a process, it doesn't really matter what you are making; you might be building a sand castle, writing a poem, cooking a new recipe, or programming an interactive robot.

On June 18, 2014 President Obama hosted the first-ever White House Maker Faire and declared it a National Day of Making. As a part of the activities, LEGO Systems announced it would donate Junior Maker toolkits to over 750+ libraries (15 per state capital) to encourage Junior Maker sessions in children's reading areas across the nation. Each toolkit includes over 10 thousand LEGO bricks, an inspirational poster, activity guide and salient academic insights from the Cultures of Creativity report. "Children's librarians are always spearheading programs and activities that foster young children's development and as enthusiasm swells for libraries as community maker spaces, it is important that our community consider appropriate hands-on experiences for young children," said Starr LaTronica, immediate past president of the Association for Library Service for Children.

At the LEGO Group we feel we have a special responsibility to respect and nurture the way children play, learn, develop their creativity and thrive. The LEGO Foundation shares the mission of the LEGO Group: to inspire and develop the builders of tomorrow. The Foundation is dedicated to build a future where learning through play empowers children to become creative, engaged, lifelong learners. Its work is about re-defining play and re-imagining learning. In collaboration with thought leaders, influencers, educators and parents the LEGO Foundation aims to equip, inspire and activate champions for play. Visit at www.LEGOFoundation.com.

LEGO Foundation Materials

- ***Cultures of Creativity***: A recent research report explores how cultures are shaped by the things that we Make and share. Our hopes and ideals are embodied in meaningful words, images, objects, and tools that we create. These things build, challenge, and develop a culture, and are essential ingredients in the human ability to learn, adapt, and innovate. The report explores the 'lifelong kindergarten'—offering the possibility of a space where everyone can tinker, experiment, and play. Whilst doing so, they learn about collaboration, and the creative process. The comprehensive report can be downloaded at <http://www.legofoundation.com/en-us/research-and-learning/foundation-research/cultures-of-creativity/>.
- ***The Future of Learning***: Learning is not a specialized realm of human functioning, but rather involves the entire individual; thinking, feeling, perceiving and behaving. This report studies the Future of Learning in partnership with academic experts. The reporter describes creative reflective learners, who are intrinsically motivated around questions or problems linked to their own interests, and who use this interest to experiment with solutions, then implementing these solutions in new situations. The comprehensive report can be downloaded at <http://www.legofoundation.com/en-us/research-and-learning/foundation-research/the-future-of-learning/>.
- ***The Future of Play***: Defining the role and value of play in the 21st century: Play is at the heart of emotional wellbeing and mental health outlined in this report. Free play in particular is critical to the balanced development of children. The comprehensive report can be downloaded at <http://www.legofoundation.com/en-us/research-and-learning/foundation-research/the-future-of-play/>.

FIVE TIPS FOR STARTING A JUNIOR MAKER PROGRAM @ YOUR LIBRARY

1. **Designate a space.** Whether it is a corner of your children's reading area, a table or a cart you roll in for the session, designate space to help children easily access, explore and manipulate materials. By keeping materials in accessible bins or storage containers children can easily access the materials and start Making.
2. **Gather age-appropriate materials.** LEGO® bricks are a simple way to start young Makers on their journey as a few clicks and they have created something unique to them. Other materials might include pipe cleaners, stickers, masking tape, scissors, cardboard boxes, paper towel rolls, tape, construction paper and more supplies for a variety of projects. And, you may already have left over materials from other programs that you can use for Making projects; it's not necessary to spend money for new materials. Consider posting signs asking for community members to donate materials to supplement your Making space.
3. **Pick a project:** Making is a creative expression and typically requires minimal instruction. Consider offering children a simple pile of LEGO bricks and encouraging them to build and re-build anything they can imagine. Or, Make something around a specific theme. For example during the summer months you can ask the children to Make something that reminds them of their time off—ice cream cones, swimming pools or sunshine!
4. **Spur storytelling.** Making is very personal. To encourage a child's self-expression consider asking him to tell a story of what he built by asking open-ended questions such as, "What are you building" or "Tell me about your car?"
5. **Capture and share the creative process.** Sharing is a very important part of the Making process as it involves connection and collaboration. Once the child has created her masterpiece we suggest putting it on display in the library and/or taking a picture to share on your library's website, Facebook page, with family and friends, etc. #LEGOJuniorMakers

JUNIOR MAKER ACTIVITIES FOR CHILDREN AGE FOUR TO SIX

Adding Making interactions to your children's programming is a fun way to build early literacy skills. Invite your youngest visitors and their parents or caregivers to share in hands-on, minds-on fun.

JUNIOR MAKER @ Your Library Experience Facilitation Guide

Overview

- Junior Maker @ Your Library is an experience that combines Making with LEGO® bricks and reading.
- Junior Maker @ Your Library Program is meant to be approximately 45 minutes in length. Designed for children 4-7 years of age (accompanied by their parents) the fun, hands-on program will spark children's creativity, independence, develop fine motor skills and feed their natural curiosity for learning.
 - Please note the appendix includes suggested activities for older children.
- The program is designed for 25 children or less and is broken up into two distinct sections:
 - a) reading and Making and b) free time, Making and sharing.

Materials

- Assorted LEGO bricks and elements
- Additional making tools (pipe cleaners, construction paper, scissors, tape, etc)
- An open space or tables for children to spread out and Make
- One-two books on Making, exploring, tinkering. Here are a few of our favorites:
 - Beaty, Andrea. *Rosie Revere, Engineer*. Abrams, Harry N., Inc. 2013.
 - Beaty, Andrea. *Iggy Peck, Architect*. Abrams, Harry N., Inc. 2007.
 - Becker, Aaron. *Journey*. Candlewick Press, 2013.
 - Floca, Brian. *Locomotive*. Atheneum/Richard Jackson Books, 2013.
 - Hale, Christy. *Dreaming Up: A Celebration of Building*. Lee & Low Books, Inc. 2012.
 - Howard, Arthur. *When I was Five*. Houghton Mifflin Harcourt, 1999.
 - Laden, Nina. *Roberto: The Insect Architect*. Chronicle Books, 2000.
 - Prince, April. *Twenty-one Elephants and Still Standing*. Houghton Mifflin Harcourt, 2005.
 - Van Dunsen, Chris. *If I Built a Car*. Penguin Group (USA) Incorporated, 2007.

Program Structure and Script Prompts

Part 1: Welcome; Approximate Length of Time: 5 minutes

- Good morning/Good afternoon Junior Makers. We're excited to get MAKING. Today we are going to use our hands to explore how fun it is to create and MAKE something.
 - Did you know that President Obama just hosted a Maker Faire at the White House?
- For the next 45 minutes we are going to have fun, dig our hands in and Make. For the grownups here, Making is a journey and it's as much or more about the journey as it is the final result—we encourage you to join in on the fun too! In the process your child is developing valuable skills such as exploration, fostering creativity and fine motor skills. We are also all going to become master storytellers!

Part 2: Reading and Making; Approximate Length of Time: 15 minutes

- Before you begin ask children what kind of things they like to invent or Make (a spaceship, a car)? Give them a few minutes to answer.
- Then, prior to reading one of the Making books ask each child to collect a group of LEGO bricks and put them in front of them. Or, depending on how many children are in your program, ask them to sit in a circle around the LEGO bricks with you at the top of the circle.
- Reading stories is a great way to inspire young Makers as they explore far off worlds and dream up things to invent. Research shows that it's best to let children experience a story uninterrupted by questions so that they don't lose the flow (and enjoyment of the story). After they've heard it once and know the story, they're ready for questions and inspiration. (Source: [Read! Build! Play! Librarian Toolkit](#). Sue McCleaf Nespeca and the Association for Library Service to Children (ALSC), 2012.)
- Read the book the whole way through one time. Then the second time start to ask the children open-ended questions that might inspire their Making. For example if you are reading *Iggy Peck, Architect* you might ask "What is your favorite thing Iggy built?" "What would you build if you were Iggy?" "What colors would you use to make a big _____?"
- Here are some other prompts to guide the conversation and activity:
 - Let's Make something we could use to get us to the moon.
 - Let's Make a brand new type of animal. Maybe a cat with six legs?

- After they have created it you can ask them simple questions like:
 - Why did you invent _____?
 - How will you use _____?
 - Why did you choose _____ colors? Or objects?
 - Where will you go in _____?

- **HINT:** You can add the element of Making to any storybook experience. Pick your child’s favorite book and follow a similar routine to the above—coming up with your own questions along the way. You can use additional crafts and tools to bring it all to life.

Part 3: Free Build, Make and Share; Approximate Length of Time: 30 minutes

- Once the guided reading and Making section is complete give the children open-ended time (15-30 minutes) to explore and Make. This is a very important stage of independent play that lets kids explore on their own without instructions—building their self-esteem, logic and language skills.
- Is your session very popular? Consider group Making where all children build together and also work on their sharing skills.
- Another important component of this time is sharing stories. Once a child is finished Making their creation ask him what they made and write out a card to display next to it. Proudly display their creation somewhere for others to see: on a bookshelf, table, stand, etc.
- Another great way to share is by capturing it by photo. Take a picture of their creation and send it to family or friends or post on the library website or social media sites.

Closing

- Thank you all for being such good listeners and Makers. Grownups we invite you to visit www.LEGO.com/juniors to learn how to continue the Making experience at home.

FREQUENTLY ASKED QUESTIONS

What is the LEGO® JUNIOR Maker Program?

In partnership with ALSC, LEGO Systems, Inc. invites young children to Make, tinker, build and explore at public libraries nationwide. A combination of age-appropriate activities, tools, and downloadable resources—the JUNIOR MAKER program encourages children to take a hands-on, minds-on approach to Making with LEGO® bricks.

What is the target age for the JUNIOR MAKER program?

The JUNIOR MAKER program is designed for children four to six years of age.

What if a family can't attend an in-person event?

For families who cannot join the in-person activities, LEGO Systems offers a downloadable toolkit of the activities to inspire at-home Making. To download the toolkit, visit <http://www.LEGO.com/juniors>.

How do I facilitate a LEGO JUNIOR program at my library?

A downloadable librarian toolkit can be found on ALSC's website (<http://www.ala.org/alsc/junior-maker-space>) to help you facilitate the program at your library.

The toolkit includes information on the program, proposed activities and more.

How can I find more information on White House Maker Faire and future commitments?

For more information on the White House Maker Faire, Day of Making and commitments you can visit: <http://www.whitehouse.gov/maker-faire>.

Is there a developmental link between playing with LEGO bricks and reading?

ALSC and PLA's (Public Library Association) early literacy initiative Every Child Ready to Read (2nd Edition) is based on the current research. Parents or caregivers engaging daily in the five early literacy practices of reading, singing, talking, writing, and playing with their children may increase children's early literacy skills. Further research indicates that construction play benefits toddlers and preschoolers on multiple dimensions and contributes to every stage of learning.

Are there toys that go along with the JUNIOR MAKER experience?

Recognizing the critical role of construction to children’s development and minimizing frustration with a first hands-on building experience, the company introduced LEGO JUNIORS in March 2014. Designed specifically for children four to six years of age, LEGO JUNIORS delivers fun, age-appropriate building sets with easy-to-follow building instructions, colorful photos and playful guidance to help ensure a smooth transition to independent building. Quick start elements and modular bricks, such as walls and archways, facilitate easy builds—giving children out-of-the-box success. Storytelling and creative play is inspired by a variety of iconic themes from police to princess to super heroes.

May I use the LEGO logo to advertise my LEGO-themed activities and programs?

Unfortunately, we are not able to grant you permission to print and or use the LEGO red square logo to publicize your activities. However, you may say that you are hosting a “LEGO® Junior Maker” session where the word “LEGO” is used in all caps and followed by a Register mark. We’ve created a digital poster formatted in both 18x24” and 8.5x11” that you are free to color print and utilize to build awareness for your programming.

APPENDIX

1. LEGO® Ideas for Children 6+ Years of Age
2. The Importance of Brick Play in Relation to STEM
3. Official LEGO Systems, Inc. and ALSC Maker Press Release

LEGO® MAKING IDEAS FOR CHILDREN 6+ YEARS OF AGE

Here are a few suggested activities to engage children with LEGO bricks you may have as part of your resources and programming.

Bridging the Gap

Horizontal building is a challenge for even the best builders! Gather your LEGO Construction Crew and as many LEGO pieces as you can for the Bridging the Gap challenge. Start piecing together your design and see just how far you can build the bridge. Think about the number of supports you'll need and what kind of design will hold the most weight. When you are finished, start stacking books on your creation and see just how sturdy it is.

Blind-Fold Building

Start with a bucket of assorted LEGO pieces and blindfolds, scarves or bandanas for everyone playing. Challenge your group to all build their own version of the same idea, blindfolded. Great ideas for this challenge are small and simple creations like cars, simple houses, rockets, planes and small creatures. Or get creative with your ideas. Have each child tell a story about their model – creativity will help them convince the crowd that it looks just like she imagined.

Explain This!

Gather the children around a central pile of LEGO bricks and elements. Ask them to spend no more than 5 minutes building a model of something important to them. If they appear overwhelmed, encourage them to just let their hands start building and not to worry. When they are finished, you announce that now they need to make their model represent one of the following:

- Recess
- Homework
- Ice cream
- Favorite sport

Invite each child to spend a minute making any model tweaks and changes and then to share a story about how what they have in front of them best illustrates recess/homework/ice cream or favorite sport.

THE IMPORTANCE OF BRICK PLAY IN RELATION TO STEM

In 2007, President Bush signed into law the “America Competes Act” (America Creating Opportunities to Meaningfully Promote Excellence in Technology, Education, and Science) which was later reauthorized in 2010. Because of this, the U.S. government and public schools have put much emphasis on STEM (Science, Technology, Engineering, and Math) education. Libraries are increasingly asking what their role is in STEM education, particularly since there is much grant funding related to programming that has a connection to STEM subjects.

This partnership between ALSC and LEGO Systems, Inc. provides a perfect opportunity for libraries to introduce brick play into their programming for both young children and school age children to help children with math, physics, and engineering skills. Libraries may want to apply for grants to secure bricks and also more books on subjects related to STEM.

Three interesting resources libraries could consult for research when applying for grants (in addition to the LEGO Foundation research mentioned previously) are listed here. Please note that for all three resources blocks are mentioned, though within your article of book, LEGO bricks are mentioned as a type of “block play.”

- Park, Boyoung; Chae, Jeong-Lim; Boyd, Barbara Foulks. Young Children’s Block Play and Mathematical Learning. *Journal of Research in Childhood Education*, December 22, 2008.
- Pollman, Mary Jo. *Blocks and Beyond: Strengthening Early Math and Science Skills through Spatial Learning*. Paul H. Brookes Publishing Co., 2010.
- Wolfgang, C.H., Stannard, L.L., & Jones, I. (2001). Block Play Performance Among Preschoolers as a Predictor of Later School Achievement in Mathematics. *Journal of Research in Childhood Education*, (Vol. 15, Issue 2) Spring-Summer, 2001.

FOR IMMEDIATE RELEASE

LEGO SYSTEMS BUILDING JUNIOR MAKERS ONE LIBRARY AT A TIME

Responding to President Obama's call to action, company commits to fostering maker spirit via insights and inspiration with Junior Maker toolkits donations to libraries across 50 states-

WASHINGTON, DC (June 18, 2014) – LEGO Systems, Inc., makers of the world's leading construction toys, today announced in conjunction with the first-ever White House Maker Faire, a Junior Maker program to maximize opportunities for young children to play, make and share. Firmly rooted in the company's 82 year mission of developing the builders of tomorrow and supported by ongoing academic research, namely the *Cultures of Creativity* report, issued by the LEGO Foundation, the program celebrates the company's recognition that across cultures, children are born with a natural urge to be playful, to take risks and create their worlds. In addition to providing free activities and information directly to parents, the company and its long standing partner the Association for Library Service to Children (ALSC) will collaborate to provide age-appropriate make experiences to children as young as four years of age.

"Creativity is innate in children across cultures and backgrounds. However, sustaining creativity is universally challenging for parents, teachers and governmental institutions," said Bo Stjerne Thomsen, director of research and learning, The LEGO Foundation and co-author *Cultures of Creativity*. "We are failing our children if we do not recognize the crucial role of playing, making and sharing in the development of both the individual human being, and the innovative society."

For more information on the White House Maker Faire and the National Day of Making, visit www.whitehouse.gov/makerfaire and follow #NationofMakers on Twitter.

Junior Makers Will Lead the Way

Children are society's role models for possessing a creative mindset: an attitude that is characterized by curiosity and a desire to play. Parents, educators and communities can encourage this creative mindset by providing stimulating environments to promote playfulness and tools so children can tinker, experiment and play. Making is both a physical experience and awareness that the world is constantly being built and rebuilt. Makers are those that choose to take an active role in that building and rebuilding.¹

Junior Maker Spaces Pop-Up Across Country in Libraries' Children's Departments

"Children's librarians are always spearheading programs and activities that foster young children's development and as enthusiasm swells for libraries as community maker spaces, it is important that our community consider appropriate hands-on experiences for young children," said Starr Latronica, president Association of Library Service for Children. "We're thrilled that through our ongoing LEGO partnership we're able to provide digital and physical tools and inspiration that will allow librarians to deliver age-appropriate 'make' experiences to children."

Beginning July 2014 any children's librarian can download a free, digital toolkit with information and inspiration to host Junior Maker Sessions via the ALSC resources website. 750+ libraries nationwide (15 per state capital) will receive a physical toolkit to host ongoing Junior Maker sessions in children's reading areas.

¹ David Gauntlett and Bo Stjerne Thomsen, "Cultures of Creativity: Nurturing Creative Mindsets Across Cultures," 2013, LEGO Foundation.

Each toolkit will include over 10 thousand LEGO® bricks, an inspirational poster, activity guide and salient academic insights from the *Cultures of Creativity* report. Additionally, the company will co-host Junior Make sessions, as recently held at the Washington DC, Mini Maker Faire, in 20 libraries.

Junior Maker Sessions in the Playroom

Building or construction play benefits young children on multiple dimensions, nurturing cognitive and motor skills along with developing social, emotional and imaginative skills. Beginning in July, parents can find free downloadable activities and play tips at LEGO.com/Juniors. Additional insights and inspiration will be made available to millions of families in an issue of the LEGO Club Jr. magazine. What is making – watch [DC Mini Maker Faire](#). Visit www.YouTube.com/LEGO for more play inspiration.

Cultures of Creativity Report

Available for download at www.LEGOFoundation.com the *Cultures of Creativity* report explores how creativity is nurtured across cultures, at a time where creativity is one of the most sought-after skills for innovative societies. Co-authored by David Gauntlett and Bo Stjerne Thomsen, the report synthesizes 18 essays contributed by leading global academics describing the role of play and creativity and cultures.

A Positive First-Time Building Experience Primes Creative Mindset

Recognizing the critical role of construction to children's development and minimizing frustration with a first hands-on building experience, the company introduced LEGO JUNIORS in March 2014. Designed specifically for children four to six years of age, LEGO JUNIORS delivers fun, age-appropriate building sets with easy-to-follow building instructions, colorful photos and playful guidance to help to ensure a smooth transition to independent building. Quick start elements and modular bricks, such as walls and archways, facilitate easy builds—giving children out-of-the-box success. Storytelling and creative play is inspired by a variety of iconic themes from police to princess to super heroes.

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About LEGO Systems, Inc.

LEGO Systems, Inc. is the North American division of The LEGO Group, a privately-held, family-owned company based in Billund, Denmark, one of the world's leading manufacturers of creatively educational play materials for children. The company is committed to the development of children's creative and imaginative abilities, and its employees are guided by the motto adopted in the 1930s by founder Ole Kirk Christiansen: "Only the best is good enough." Visit the virtual LEGO world at www.LEGO.com

LEGO, the LEGO logo, the Minifigure and brick and knob configuration are trademarks of The LEGO Group. ©2014 The LEGO Group.

About LEGO Foundation

The LEGO Foundation shares the mission of the LEGO Group: to inspire and develop the builders of tomorrow. The Foundation is dedicated to build a future where learning through play empowers children to become creative, engaged, lifelong learners. Its work is about re-defining play and re-imagining learning. In collaboration with thought leaders, influencers, educators and parents the LEGO Foundation aims to equip, inspire and activate champions for play. Visit at www.LEGOFoundation.com