Head Start Joins the Global Cardboard Challenge!

As part of our 2014 Clinton Global Initiative commitment, National Head Start Association, Lakeshore Learning Materials and Imagination Foundation are teaming up to engage 1,000 Head Start centers and the 30,000 children they serve in STEM and creative play through the Global Cardboard Challenge.

What Is the Global Cardboard Challenge?
The Global Cardboard Challenge is an annual initiative of the Imagination Foundation inspired by the short film Caine’s Arcade that celebrates the power of creative play and childhood imagination—and the simple things that adults can do to foster it. Participation in the Global Cardboard Challenge will introduce thousands of educators, parents and learners to the value of creative play, STEM/STEAM and important 21st-century skills.

How It Looks
In September, kids are invited to build something amazing out of cardboard, recycled materials and imagination. Then, on October 11, 2014 (or on a given day in October), communities will come together to celebrate a “day of play.” Last year’s Challenge had over 90,000 participants in 46 countries, including Chile, Rwanda, Thailand, and Bosnia and Herzegovina, with hundreds of schools, libraries and community organizations hosting events around the nation. Kids built arcade games, gadgets, castles, robots, rocket ships—and anything else they could dream up. They practiced collaboration and creative problem solving, and learned about math, engineering, design thinking, sustainability, social entrepreneurship and more along the way.

Why Participate?
The Global Cardboard Challenge gives children an opportunity to explore their interests and build the things they imagine through creative play. The Challenge fuels kids’ natural creative abilities, allows hands-on exploration of STEM and design concepts, and develops critical thinking, resourcefulness, empathy, perseverance, teamwork and other 21st-century skills.

What Is Creative Play?
Creative play begins with inspiration and culminates in the sharing of an original artifact made by the child. In this process, kids open their minds to what’s possible, take chances, solve problems, collaborate and become better creative thinkers and doers. These are the critical 21st-century skills the whole world is talking about. (Chances are, as a Head Start educator, you are already regularly engaging kids in aspects of creative play.)
STEM and the Global Cardboard Challenge
Cardboard is a flexible, cheap material that can be used to bring children’s imaginations to life. By adding some additional materials, it can also be a vehicle for providing STEM (science, technology, engineering and math) learning opportunities.

Key STEM Elements

Science: How do we discover things? - observation, trial and error, and wondering

- Understand the properties of paper/cardboard: How does cardboard bend? What things are made of cardboard? What happens when paper and cardboard mix with water? If possible, introduce pieces of cardboard with varying thicknesses and illustrate that a thinner board will bend easier than a thicker board.

- Notice the fibers in cardboard. Think about where paper comes from.

- How does tape function? What are adhesives?

- Construct explanations and design solutions.

- Make connections to the natural world.

- Use cardboard as a material to define a particular solution.

- Communicate design choices to others.

Technology: Several kinds of tools can be considered technology—i.e., they are useful in the process

- Children can be encouraged to use a digital camera to take pictures of their creations. To encourage building big and tall things, teachers can take pictures of the children, print and laminate them, and then put them in a binder clip to make standing figures. The children will then be able to make things with cardboard that fit their little selves.

- Tape dispensers, scissors and other tools are useful because knowing how to use them enables us to realize our vision.
**Engineering: Designing and building**

- When balls and things with wheels are placed on a ramp, some objects will roll down, slide or stay still, depending on the angle of the ramp.

- The shape and weight of the object will affect how the object moves.

- The angle/steepness of the ramp will affect how far and how fast objects will move down the ramp.

- Sometimes, objects will fall off the ramp before they reach the bottom. Where the object is when it first starts rolling will determine its path.

- In engineering, design is one part of the process. You think of an idea, design it, try it, make adjustments, and learn what works and what doesn’t work.

- Stability and balance are learned when one piece of cardboard doesn’t stand by itself. What happens when two pieces stand at an angle?

- Vocabulary: *structure*, *connection points*, *stability*, *balance*, *foundation*, *construct*, *deconstruct*, *force*, *push & pull*, *slope*, *angle*, *weight*, *momentum*

**Math: Relationships and measurements**

- Providing different sizes and shapes of cardboard will allow children to play with patterns.

- Children will receive and use the language of geometric shapes.

- When children use shapes to make new shapes, they will be introduced to fractions.

- Children will practice spatial awareness.

- Kids will practice recognizing relative scales, e.g., bigger, smaller, wider, longer.

**Get Involved**

To learn more about the history of the Global Cardboard Challenge, watch *Caine’s Arcade 2: From a Movie to a Movement* (featuring Sir Ken Robinson, NASA’s Robert Manning and others). Sign up for organizer updates and download the complete Organizer Playbook and other helpful resources at [www.cardboardchallenge.com](http://www.cardboardchallenge.com). [For additional questions, please contact Alice Lin, Director of Community Engagement, at alice@imagination.is.]
Head Start Global Cardboard Challenge Guide

For the 2014 Global Cardboard Challenge, we’ve collaborated with The Exploratory, an early childhood STEM curriculum expert, to create a simple guide for running a successful Global Cardboard Challenge at your Head Start center. Challenges can take place over the months of September and October, with multiple days for kids to design and build, or as a one-day event in October—it’s up to you. All events should be completed by the end of October 2014.

Quickstart Guide

1. Choose dates for sessions and your “day of play.”
2. Recruit volunteers.
3. Sign up for organizer updates and register your event at cardboardchallenge.com.
5. Build and create (this can be in multiple sessions over a few weeks).
6. Invite the community.
7. Celebrate your “day of play.”

Mrs. Johnson’s Cardboard Challenge
A Snapshot of a Multiday Challenge

Location: Head Start center
Duration: 4 sessions, including a showcase on the “day of play”

In mid-September, Mrs. J. decides to do the Global Cardboard Challenge. She sends a note home to parents, asking them to save the date, volunteer and start saving materials.

In class, she gives kids time to explore basic materials and tools, like cardboard, scissors and tape. [Session 1]

The next week, she adds additional materials and challenges students to make something that others can play with. She has tables set up with materials, tools and volunteers. As a group, they brainstorm possible ideas and then go back to their tables and make something of their own choosing. [Session 2]

Next, she has kids reflect on their creations, test out each other’s creations, give each other feedback and tinker with their projects. [Session 3]

Then, she has students do one final round of improvements. [Session 4]

In October, she invites friends and family to celebrate a “day of play,” where kids can showcase their work. [Final Session]
SESSION 1: INTRODUCTION TO MATERIALS

**Cardboard:** Place cardboard boxes of different sizes around the classroom and outdoors, depending on available space. Encourage children to play with the cardboard, make narratives and construct different uses for the cardboard.

Introduce different-sized geometric shapes (cut out of cardboard) into the block area. Include plank-like cardboard pieces. Add balls, cars, cardboard tubes, toilet paper rolls, egg cartons, paper towel rolls, etc.

**Scissors and Masking Tape:** Give the children masking tape dispensers and scissors, or cut pieces of masking tape ahead of time for the children.

Encourage children to add cardboard to block structures. It’s easier for this age group to attach cardboard to blocks than for them to add cardboard to cardboard. Those with more developed fine motor skills will naturally start taping cardboard to cardboard.

THE CARDBOARD CHALLENGE

This year, the Global Cardboard Challenge will culminate in a global “day of play” on October 11, 2014. Some events will take place over multiple weeks (this is ideal), while others will take place on a single day. As long as events are completed by the end of October, Head Start centers are welcome to choose the option that works best for their children’s schedules.

**Preparation:**

Worktables that can accommodate six children work best, but use what you have. If possible, have a tape dispenser for every two children. If you do not have enough tape dispensers, you can pre-cut pieces of tape about 4 inches in length and hang them from the edge of the table. The children can then use scissors to cut pieces of tape as needed.

On the worktables, provide baskets of precut cardboard shapes in different sizes, along with these materials:

- Markers
- Buttons
- Glue sticks
- Pom-poms
- Pipe stems
- Small boxes (jewelry-size)
- Small tubes (bathroom tissue)

These materials can be saved for later to use for scaffolding purposes:

- Bells
- Brads
- Hole punches
- Glitter glue
- Aluminum foil

Use a cord, such as a bungee cord, to hold a roll of tape on your body so that you can keep cutting pieces of tape for the children.

SESSIONS 2, 3 & 4: IMAGINE, BUILD & CREATE

Let kids know that they are joining the Global Cardboard Challenge, and that kids all over the world will also be making cardboard creations. Suggested prompt: “Make something you can play with.”

**Morning Meeting:**

1) “Today we are going to invite you to be inventors. We are going to make something with the things that we have under this special basket.” Fill a basket with cardboard pieces and toilet paper rolls. Cover the basket with a cloth and present it in a fun, mysterious way/tone.

2) “Can we make this basket of materials into something that can be played with?”
3) “Let’s make a list of things that we like to play with.” If the majority of the list includes electronic games or TV, you can say, “What else do you play with that doesn’t have to be plugged in or use batteries?” or “What can you play with that uses your body?”

4) Give a piece of flat cardboard to each child and say, “Let’s try to bend it and change its shape. Let’s try to roll it.”

5) “I wonder if we can change the cardboard into something on the list. Let’s try.”

6) Have the children move to the worktables to make something that they can play with. Encourage them to think about new toys, new dolls and new vehicles.

**Scaffolding Questions:**

If a child doesn’t know where to start, ask these questions:
“What are you thinking of making?”
“What does that look like?”
“Which part of the _____ are you going to start with?”

Then say, “Find the piece that you can use to make that part of your ______.”

If a child gets stuck, or if you notice that a child is not doing anything, you can ask, “What part are you working on?” or “What do you want to attach?”

If a child is done really fast, say, “How do I play with this? I wonder how you could add ______________ to your design. I wonder if you could add something that would move or make a sound.” (Here is where you can bring out the materials you saved before to help the child continue to work on his/her creation.)

If a child is very frustrated/discouraged and says, “It doesn’t look right. It doesn’t look like what I want,” you can say, “Show me with your body what you want it to look like.”

**Reflection Meetings:**

After each work session is done, a closing reflection meeting can be conducted to enable the children to build communication skills and flexible thinking as they share their work. Children can receive ideas from their peers that they can then choose to use for their inventions. This meeting is most useful if done over a few days. This way, the work sessions can build on each other as the meetings provide the children with new ideas.

**FINAL SESSION: SHARE/“DAY OF PLAY”**

When projects are completed, celebrate a “day of play” and invite Head Start parents, teachers and other children to see what the students have made. We have found that at this age, a showcase format where each child sits or stands by his/her work, rather than a formal presentation, is the best format. This takes less time, does not require the children to sit through presentations, and allows students and their guests to get an up-close look at their creations.

If possible, teachers can write down a description of each child’s work and place it nearby so that the children don’t feel pressure to speak to each guest.

**Documentation:**

If possible, bring in volunteers to document the process through the following:

- • Quotes from the children
- • Photos
- • Videos
- • Notes about the children’s projects and ideas

Documentation serves to help other Head Start facilities do this work, and to present the work to parents who could not be at the showcase.

Then share on social media via #CardboardChallenge. Also e-mail pictures to cardboard@nhsa.org at NHSA.
Using Head Start Volunteers to Support Your Challenge

The first 45 days of a Head Start program’s school year are beyond busy! Don’t allow the rush to let you miss this wonderful opportunity to bring STEM learning and creative play to your classrooms and children. Think parent and community volunteers! Volunteers offer the flexibility to focus intently on a particular task, as well as the ability to reduce the overall workload. Recruit from within or outside your program to help coordinate your Global Cardboard Challenge. Download a Volunteer Recruitment Flyer to help you get people excited about joining the Global Cardboard Challenge!

Head Start—Supporting Critical and Creative Thinking for 50 Years!

In 2015, Head Start will celebrate its 50th anniversary. To see that the saying “everything old is new again” is more true than ever, check out “Beautiful Junk,” a publication of Head Start and the Office of Economic Opportunity from 1967. View it at www.nhsa.org.