



### Chapter 3

# A TALE OF TWO PROGRAMS

When the Little Makers program launched back in 2018, we envisioned it as an in-person experience for adults and children to attend together in the library. But 2020 changed everything.

We began by offering a Saturday series of two-hour drop-in sessions at the library that focused on guided discovery and fun for children, while modeling inquiry and play for adult caregivers. Due to the COVID-19 pandemic, we had to quickly switch gears to find new ways to continue serving families in our community. In the spirit of our values (playful process, co-learning, demystifying STEM, encouraging parents and caregivers to be key participants), we wanted to present families with programming, materials, and ideas without prescribing exact activities.

What follows is the tale of two programs and an outline of how you might run either an in-person or at-home program (or both!). Take a look at our comparison chart on the following page as you start to think through the challenges and opportunities of each model. And consider how you might be able to blend both types of programming to best serve the needs of your community.



	In the Library	At Home/Virtual
<b>Parent/caregiver engagement</b>	Variable. A key focus for facilitators is to engage adults and model interactions.	High. Adults, by necessity, had to be more involved in setting up and facilitating the experience.
<b>Child engagement</b>	High. Since there were a variety of stations and materials available, children could find multiple ways to start and stay engaged.	Variable. Attention spans for young children are short in a virtual setting.
<b>Materials</b>	The space affords the ability to have larger activities and experiences, such as tinkering with a wind tube or overhead projector.	Activities must be planned around tools and materials that can be gathered at home or can be put in a kit and delivered to parents or caregivers.
<b>Collaboration</b>	Children can engage with peers by either playing with or next to them.	Interactions between the parent/caregiver and child or parent/caregiver and library educator become the focus.
<b>Impact</b>	Children are allowed a rich tinkering experience, while parents/caregivers are provided a facilitation model and a minute to sit back and observe.	Tinkering becomes more integrated into the daily lives of parents/caregivers.

## In the Library

### CREATING SPACE

When designing the space for the Little Makers program, we started with the overall feeling or impression we hoped the area would inspire—the ambiance, if you will. There are many theories regarding colors in a child’s play space. Deciding colors may or may not be something you have control over right away, but in the Little Makers space, we devoted a good deal of time to choosing just the right colors and deciding where they would be used.

You also want people to feel safe and comfortable. There are many ways to accomplish this, from a warm, welcoming smile as they enter the room to having signs and materials available in your patrons’ native language. For young children, containment may or may not be a problem, depending on your space. In our scenario, some gates are required. Parents and caregivers rely on the two



entrances we have and make a point of keeping the gates themselves shut. Preventing a child from running up the ramp in our space or falling up or down the stairs means adults can relax a bit, especially if they have more than one child to watch. We also made sure to have a quiet, semi-enclosed space away from the main activity areas for children and adults who need to take a break or have a little alone time.

Keep in mind that young children often interact with materials more on the floor level. They move from tables to the floor and back again. They tend to sit right down and build on the floor, scoot around, and push things along the floor. Making sure that the flooring is safe and comfortable for the age group is extremely important.

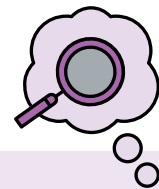
Another key consideration is storage space for large equipment, small tools, and consumables. We purchased some colorful, curved, mobile bookcases, which are extremely useful for dividing the room, and the shelves can accommodate tools, books, or display items. The shelves have clear plexiglass to see through them entirely, but items are still secure if the shelf gets moved. We also installed cabinets with doors for tools and supplies. It can be important to have certain things “out of sight” so that children and their caregivers can focus on what you have intentionally chosen to present that day.

If you have access to an ample open space, it allows for enhanced creative building with materials like cardboard and blocks. Children in the Little Makers program built multiple long, extensive ramps with the various blocks and materials because the space was available. Some children even incorporated the furniture into their extremely creative building. And their imaginations didn’t stop there—seated parents were often asked to hold up the top end of a ramp to ensure the height provided the necessary speed.



### TINY TIP!

Decide where strollers can be temporarily stored either inside or outside of your programming space, and place a sign to designate it. Use a picture or universal symbol on the sign to make it quickly and easily recognizable for all of your patrons.



### PAUSE AND PONDER

As you create the ambience for your space, ask yourself:

- In what ways does the space foster curiosity and allow for open-ended exploration for children and adults of all ages? How does the space and seating allow for adults and children to work together comfortably?
- How do children and adults feel when they enter the space? Is there music playing when they enter the room? Are materials available in the native languages spoken by your patrons? What tone do the colors set?
- How do your patrons move through the space? Can children flow easily from one activity to the next? Are parents able to see and easily reach their children no matter where they’re seated?



But even without an ample, newly decorated space, making and tinkering activities can still take place! Whatever your area may be, rest assured that you can make it work for your program with a bit of planning.

When the Little Makers project began, the Keene Public Library was undergoing a renovation, and our room needed to serve multiple purposes. We created our design with constant room reconfiguration in mind. We planned on making messes, so when we learned that the room wouldn't have a sink and would be carpeted, we made sure to select carpet tiles that would be easy to clean. We also wanted furniture that was movable and reconfigurable to be used in more than one way. We selected our furniture with young children in mind but tried to make the seating adaptable to accommodate adults.

Furniture considerations included: adjustability, wheels, cleanability, weight, locking casters, durability, cost, versatility, and storage. We purchased affordable, wooden, work-type tables that are strong enough for hammering and at the right height for small children. We found that a good table height is about 24 inches tall. An excellent alternative to purchasing new might be using old wood tables; coffee tables are typically about the right height.

We also wanted a mixture of seating options. We had chairs with backs for posture and stability and stacking block stools. Because we're trying to encourage co-learning, an important consideration is finding comfortable seating for parents and caregivers when they're working on projects with their children. There must be adequate seating to accommodate adult involvement in the activities.

If you have ample space but it's also used for many other things in addition to the program, think creatively about the activities you choose. For example, when the Little Makers space wasn't available, we held the ramp-building activity in the Youth Department. The children built ramps that wound throughout the shelving units, under tables, everywhere! Participation by the targeted age group was high, but so was participation by older children.

## PROGRAM ACTIVITIES

The Little Makers program activities weren't designed to be sequential or based on a set of themes or scientific concepts. The focus was on the five Learning Dimensions described in Chapter 2 and on experimenting with different materials and activities which allow that type of discovery to flourish.

The primary objective during the Saturday Little Makers program was to be engaging enough for the participants across the age range, so there needed to be several different types of activities taking place at one time. One example is to include different types of blocks, some that are bigger and lighter weight for younger children and others that are smaller and require more fine motor skills for older children.



### TINY TIP!

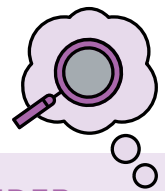
Disclosing the ingredients of the materials involved in a sensory experience is one way to ensure that adults are informed and can keep their children safe. Have a clear policy and be open to discuss with anyone who may express concern.

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Try to have a few engaging activities—no more than three or four—rather than overwhelm the children with too many choices. Children should feel comfortable staying in one place for as long as they like without feeling as if they’re missing out on something at another station or area. Parents and caregivers also then have the option to self-select activities they feel are most appropriate for their children.

Our program relied on activities and materials that provided a range of sensory experiences that are both familiar and new to the children. Some examples include:

- **Olfactory:** scented dough, leaves, flowers
- **Touch:** dough, pom-poms, sandpaper, slime
- **Sight:** light table, overhead projector, items arranged on nearby shelves
- **Sound:** music, wind tunnel, hammering



### PAUSE AND PONDER

- Is there flexibility for children to spend as much or as little time as they want engaging in an activity?
- What type of sensory experiences are provided?
- Do you have a range of tools and materials that are both familiar and new to children?
- How many activities will you have out? Do they appeal to a range of ages?

There was also a combination of low, medium, and highly facilitated activities. An example of a highly facilitated space would be a woodworking area. Highly facilitated activities meant that a staff person should be stationed in these areas to work with children, parents, and caregivers. The staff person’s role is to inform adults how to use the tools safely with their children and to provide assistance to children when needed. We chose to place the more highly facilitated activities toward the back of the room, furthest away from the entrance, so that if parents and caregivers didn’t want to engage in that activity, they could steer their child away. We used movable shelves or gates to divide the room to keep spaces separated and distinct. We talk more about facilitation in Chapter 4.



## SELECTING MATERIALS AND EQUIPMENT

From the very beginning, we selected the materials for the program with an eye toward accessibility, adaptability, ease of use, and cost. We constantly kept our focus on creating playful experiences that allow for open-ended exploration and co-learning, in addition to being developmentally appropriate for our intended age group.

Most activities involved the purchase of smaller craft items like tape, pom-poms, balls, etc., keeping in mind that children might need assistance handling these depending on their level of coordination and fine motor skill development. With all materials, of course, we had to be mindful not to include any smaller materials that could be a choking hazard.

There's also a lot of research showing the importance of bringing in natural materials for young children to play with. In Little Makers, we brought in flowers and leaves so kids could create pictures with different materials. Don't be afraid to use materials from right outside your library in your programming. Not only does it help cut down on cost, but it can also provide unexpected learning experiences! We noticed that bugs sometimes hitched a ride on our collected leaves. We quickly turned this into a new exploration with the addition of a few magnifying glasses and an open mind.

In addition to these smaller materials, your library may want to invest in some larger items that can be used time and time again. Some of these larger items were offered to the library as a trial by the manufacturer in exchange for providing them with feedback on how their product performs.

Here are a few of our favorite things:



**Color-changing light table** allows for exploration of light, color, and shadow, as well as building with interlocking or transparent blocks.



**Wind tunnel** allows for exploration of airflow and lift as children play with different materials, like scarves, coffee filters, cone cups, etc., or objects of their own creation.



### TINY TIP!

If you don't have a no-choke testing tube available, you can [make your own!](#) Kodo Kids has a version that is great to use at the library or share with adults.



**Overhead projector** allows for exploration of light, color, etc.



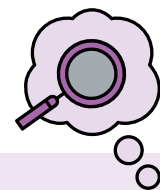
**Mirror box** facilitates making reflecting art, while exploring concepts around symmetry.



**Ramps** offer engaging engineering experiments that relate speed with design. We used many items to make our ramp systems: curved moldings we got for free from leftover building projects or sympathetic hardware store personnel, rubber moldings, cardboard box leftovers, tubes from poster mailings, and so much more.



**Conveyer belt** allows children to build hand-eye coordination, explore cause and effect relationships, and discover how machines can help make a tough job a little easier.



### PAUSE AND PONDER

- Are materials safe and at the appropriate level for young children?
- Will the material stand the test of time and use? Is it easy to repair? How can it be cleaned?
- Does the material serve more than one purpose so that it can be used for multiple activities?
- Where and how will the materials be moved and stored?
- How and when are you using food during your program? (Thinking about and articulating a food policy is standard with any program, not just preschool ones.)



## LENGTH AND FREQUENCY OF PROGRAMMING

Crucial factors to consider for your programming are the length of time you plan to hold each session and how long of a series you'd like to host. We ran the Little Makers program as a five-Saturday series. Each session was two hours with flexible start times and end times, and drop-ins were welcomed. Some children and parents stayed for the entire two hours, while others left and came back. Some of the participants came every Saturday, while some came once or twice and then didn't attend again.

The attendance varied according to interest and expectations about the program. We often had parents and caregivers ask about the next session as they were leaving the current one! Thankfully, we had brochures with dates and times for the projected upcoming events. Sometimes the question was about when a particular concept might be featured prominently. The family wanted to be sure to attend on that date. For example, one family loved building complicated ramps and would spend the two hours working on a very elaborate ramp project. For others, circuits interested them, and they wanted to be sure to attend when exploring circuits was part of the session.

Some of the activities were available consistently every week. For example, on most Saturdays, blocks and the light table were out for experimentation. However, the type of blocks and the items to place on the light table varied all the time. Children became accustomed to seeing and using blocks and a light table, but the materials found at the activity station were always different, and how they were used was up to the child.

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"The way the room was set up, there were different types of activities and he'd go from one to the other, check it out, and then decide which one he wanted to work on."

—Parent/Caregiver

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## PROMPTS AND SIGNAGE

One of our goals was to help demystify STEM for parents and caregivers. And one way to accomplish this is by introducing vocabulary that applies scientific terminology to everyday experiences to help familiarize it. Often, adults might not be familiar or comfortable with science and math concepts, so displaying signs that broaden their vocabulary, with familiar

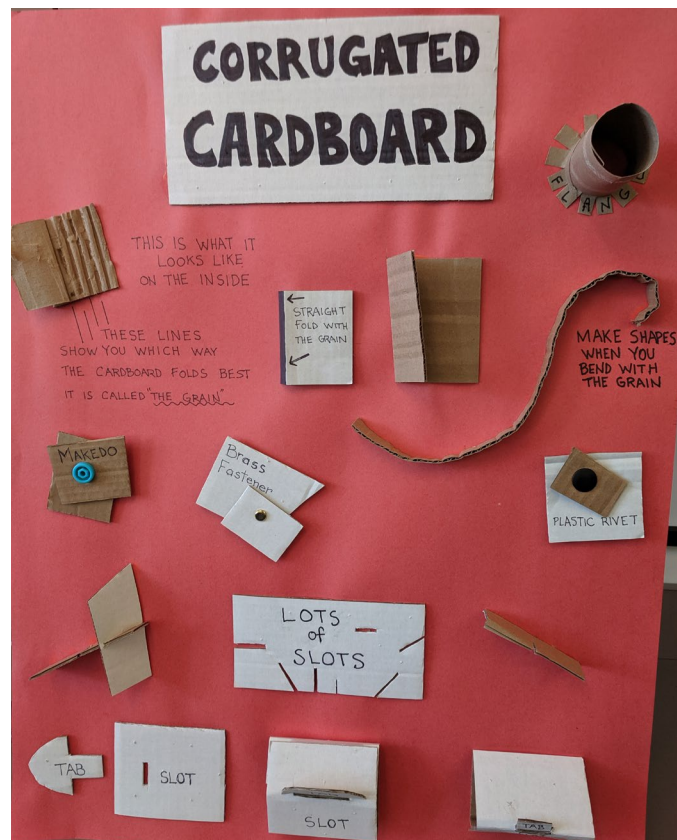


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or playful examples, helped make adults more comfortable. We used accompanying graphics and simple analogies. For example, the sign for “pendulum” showed a picture of a swing. The hope is that these words would not only be used while in our programs but modeled for use back at home, too.

We experimented with ways to create meaningful prompts. First we tried signs on the wall with scientific words or question prompts. We heard parents using some of the language posted on the wall, but it was unclear if this method was globally effective. Even though parents didn’t always read our signs, they were often handy for our library educators. We could quickly refer to them to highlight vocabulary words or remind ourselves of open-ended questions (e.g., How does that work? Why do you think that happened?) while working with families.

When activity areas needed directions, posting detailed explanations wasn’t valuable, since we noticed that most adults don’t read longer signs. Prompts were written on posters, kept to short phrases or single words as much as possible. When we didn’t have written materials for parents and caregivers, things became more spontaneous, as if both parties could play together to figure out the concepts based on short vocabulary lists and nearby definitions.




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“After doing both in-person and virtual programming, I would never go back to only doing it in person.” —Little Makers Staff

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## At-Home Programming

When the coronavirus pandemic shut down the library in March of 2019, we had to rethink the entire outlook for how we would facilitate another round of Little Makers activities. Like most libraries, we were unsure when or if we would be open for programming in the coming months. We wondered if we’d be able to offer the same types of exploration activities in another way. How best could this be facilitated? Would we be able to evaluate the levels of engagement in making and tinkering that we saw during the in-person program at the library? Should we even try to offer something?



These discussions became more intense and focused as time continued. We decided that we absolutely should offer programs, but the big issue was how. Should we curate websites and show a list of age-appropriate activities that could be done at home? Should we shoot video of and post online a book and activity prompt for caregivers to use to engage their child? Would anyone participate? Were caregivers even interested in virtual programs, or did they already consider their children to be online too often?

In the end, our virtual model consisted of both a synchronous and asynchronous experience for our patrons. Using [Niche Academy](#), a learning portal the library bought a subscription to, we were able to build weekly making and tinkering exploration activities for adults to facilitate from anywhere. In addition, regular live Zoom meetings provided connections to library staff and helped guide parents and caregivers on the learning activities provided for that week.

By moving to a virtual model, our focus turned even more toward parents and caregivers. They became the sole facilitators of their children's making and tinkering. We offered advice, guidance, and meaningful opportunities—and the adults really engaged in learning alongside their children.

The first step was to attract participants, and it all began with advertising. People who had participated in the Little Makers program in the past and those who participated in other library programs had provided us with email addresses, so we were able to send hints and teasers about how the program would run in the summer. As we developed our ideas, patrons continued to receive information and were asked to provide feedback based on their interest levels in the programming. When it became clear that we had interest and enthusiasm on the part of the staff and families to make this virtual program work, we started to refine the programs.

## PROGRAM STRUCTURE

We first ran the program as a five-week series in the summer of 2020. The short, live Zoom meetings for families were held on Mondays and Fridays, to bookend the week with ideas for further exploration. When fall came and some adults started returning to work, we ran it as a three-week program to keep it more manageable. The following outlines the five-week series. We offer these details for you to use as inspiration as you shape your own program offerings.

Every Monday at 11 a.m., we held a Zoom meeting that participants could join to learn what the weekly activities might involve. Both caregivers and children participated. It was an opportunity to ask questions, hear a story read, discuss successes they had with previous activities, or preview and predict some of what they might





do based on the week's theme when it was revealed. In one meeting, when discussing what they might do to explore colors, one child thought aloud about using a flashlight to look through a bubble. It was an "Aha!" moment and a much-needed confirmation that virtual tinkering experiences were possible. He was thinking about the tools we had provided in the materials kit and extrapolated a use for the flashlight that we hadn't considered.

Once the Monday kick-off meeting for the week ended, participants could log in to our Niche Academy page and explore the additional activities around the theme for that week. Niche Academy is a straightforward platform where you can create a sequential set of lessons or activities for the user.

It's worth noting that we did have some adults express discomfort early on with the notion of open-ended play and exploration. They voiced that they would be more comfortable with projects that had a clear end product, likely because they were more familiar with this style of learning. We explained why open-ended exploration is so important to the developing minds of young children, and adults did become quite engaged. You might consider having key benefits in mind to offer in these instances.

We also decided to present participants with a scavenger hunt based on the theme each week. This was done online through an app called [Goosechase](#). Participants get a password to join in the hunt and can document their completion of the hunt through pictures. The scavenger hunts served as the kickoff activity each week.

At the end of the week, participants were asked to attend a Friday morning wrap-up at 11 a.m. This Zoom meeting allowed time to share stories and a slideshow of pictures and movies sent in of the children participating in that week's activities or scavenger hunt. Children were also asked to reflect on the week and share anything they wanted to.

Families were able to communicate with our library point person at any time through email or calling. They were provided with one person to contact at Keene Public Library with their questions, concerns, thoughts, and reflections on the week. The contact person remained in close contact every week and used the photographs and videos people sent to create a slideshow of activities for the Friday morning meeting.

Each week's module followed the same format, which included:

- A video introduction to the week, which could be a recording of the Monday morning Zoom meeting, that typically included a story or a Keene Public Library video introducing the program



### TINY TIP!

When you choose meeting times, keep in mind nap times, lunchtime, normal preschool hours, and adult work schedules.



- A section called “Tips on Facilitating Tinkering and STEM Learning,” which had ideas on how to ask good open-ended questions and prompts to remind caregivers to let their child explore
- A video introduction of the concept, either produced in-house or gathered from the web and used with permission
- A “Safety Tips” section that was included when necessary to explain some of the possible dangers, such as teaching children not to inhale the bubble solution when blowing bubbles in a straw
- A “Science Talk” section, which included vocabulary as well as simple, direct information related to the concept at hand, so caregivers could be sure to impart correct information
- Multiple areas titled “STEM Play” and “Making,” which included many age-appropriate activities and ideas for how to explore the concept at hand and also included extension activities, as well as more ways to ask questions during the activity to stimulate STEM thinking and a maker mindset
- A “Reflection” section, which offered writing prompts, as well as information on why reflecting on things is so important
- The Friday Zoom meeting, which was added after it was recorded
- A “Documentation” section, which included ideas and ways a caregiver could record the experiences they had that week
- An area called “Additional Resources for Parents and Caregivers,” which included links to online videos or resources they could use if they wished to explore further with their child or on their own

We offered making and tinkering activities that would provide ideas for caregivers to use with their children and included vocabulary and concept information at an adult level. Parents and caregivers could log in to the system as often as they wanted. They could use whatever part of the module they wanted to access and choose to complete the activity or not.

Although we didn’t require participants to reflect online, we offered adults an area in the Niche module to include a writeup, video, or photographic reflection, if they chose to. Some of the reflections were very involved, whereas others were just a quick note. For example: “My boys are two and three years old. So their big sister and brother helped in making ramps with the cardboard from their diaper boxes. We also made a shoebox ramp. They loved watching each of the small balls they had roll and go down the ramps. Their favorite one was the shoebox ramp because they could fix it in different ways. They loved to put it on different things. They used it on the table, a chair, and the outside stairs.





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They loved the stairs because of all the different levels. Their ball was the wooden one that came in the bag.”

During our Friday Zoom meeting, we also set aside time for real-time reflections from parents, caregivers, and the children themselves. Some children shared nonverbally. One week, a boy sat quietly in his mom’s lap throughout the whole session, holding a paper plate with his special color exploration painting on it along with another item he had created that week. When his mom told him that it was his turn to share, he became timid and ran offscreen to hide his creations. As soon as he had laid them down offscreen, he returned to his mom’s lap and quietly participated in the rest of the meeting. As he was running offscreen, his mom calmly described his actions as his “independent way of sharing.” We all smiled and understood what she meant. Some children find it challenging to be in the spotlight even when they expect it and act differently on screen than they may in person. We understood that his sharing was done differently, but he had shared his creations with us nonetheless.

You can visit our [Niche Academy page](#) and explore our offerings.



## MATERIALS AND KITS

To make the activities inclusive for all families, we knew that we needed to provide all of the supplies participants would need. We purchased all of the consumables, as well as generic items that could be used across the many activities, and we placed them in bags to supply to participating families.



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Families who were signed up for the program received a bag of materials and tools, as well as written flyers with activity ideas to explore.

**Materials included:** a variety of balls (large, small, wood, plastic, soft, hard, etc.), pom-poms, rubberbands, unpainted wooden beads, colorful wooden beads or large plastic beads, small pieces of wood, wire, yarn, fabric scraps, pipe cleaners, craft sticks, plastic bottle tops, plastic buttons, colored film, white cardstock, construction paper, wooden skewers, paper straws, plastic straws, plastic cups, feathers, wooden wheels, paper doilies, paper muffin liners, watercolor paint, school glue, a glue stick, transparent tape, duct tape or painters tape, markers, liquid detergent, berry baskets, clothespins, wooden spools, coffee filters, a wooden spoon, sidewalk chalk, a book to read, and a book to record reflections.

**Tools included:** scissors, rulers, a magnifying glass, a prism, a hole punch, a flashlight, measuring tape, cardboard-cutting tools, cardboard-connecting tools, and a glue gun.

Parents and caregivers were reminded that although the bag was full of beautiful tools and exciting materials, they could supplement the supply with recyclables and natural materials that could be found around the home. We also encouraged adults to create a little makerspace area in their home, if they had space, and organize the consumables and tools.



### TRY IT!

Check out the [Cardboard Exploration](#) in Resources.

**Playing and Making Bridges**

Repurpose and reuse materials to create a bridge structure

**Included**

- Popsicle sticks
- Pipe cleaners
- Straws
- Tape
- Beads
- Clothespins

**What you'll need from home:**

- Additional materials to build with
- Scissors, glue
- paperclips, or other things that can be used to hold parts together

**Playing with Wind, Motion & Sound**

Repurpose and reuse materials to create a Wind Chime

**Included**

- One wooden dowel
- A variety of colorful beads and pipe cleaners
- Craft wire
- Craft wire

**What you'll need from home:**

- Additional items to hang from your dowel that will move with the wind, make a sound or just be beautiful
- Scissors, tape, glue.

**Playing with Ramps and Balls**

Repurpose and reuse materials to create your own pathways and targets

**Included in this kit:**

- 4 Cardboard tubes
- 1 Plastic cup
- 1 roll masking tape
- 1 ball
- 1 "V" shape cardboard

**What you'll need from home:**

- Additional tubes and cardboard
- Other interesting materials you find around your home that you use to create pathways and targets for your balls.