Explorers Preschool Curriculum

Let's Explore Ramps and Tunnels

Developed by
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Arkansas State University Childhood Services
JoAnn Nalley, Director

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Let's Explore Ramps and Tunnels

Table of Contents

If Explorers Preschool Curriculum is new to you, or if you would like to review big ideas about this curriculum, see the Using Explorers section at the end of this packet.

An expanded Getting Started guide can also be found under the resources tab at www.ASUChildhoodServices.org

Let's Explore: Ramps and Tunnels

Balls race down steep tracks and children glide down slippery slides. Ramps add an element of exhilaration to indoor and outdoor play. In summer, children discover that water parks and county fairs have exciting ramps, too! Science and engineering skills are strengthened as children investigate, design, and test ramps, tracks, chutes, and tunnels.

This topic might be a fit for you if…

- Children seem eager to make balls and cars go fast.
- Ramp and track making takes place with commercial or repurposed materials.
- You've noticed children experimenting with the slide in your outdoor play area.
- You will be able to create and equip a spacious ramp lab for open-ended play.

Let's Talk About Ramps and Tunnels

Use words like these during everyday conversations with children.

angle
chute
design
elevation
force
friction
incline
prop
ramp
steep
structure
tube
tunnel

Exciting Verbs: swerve, slide, jump, roll, tumble, bounce, launch, crash

Comparatives and Superlatives: faster/fastest, heavier/heaviest, farther/farthest, and so on.

Ramps and Tunnels Collectibles

Collect some of these interesting objects to investigate with children. Families can help!

PVC pipe
cove molding
cardboard packing tubes
sheets of cardboard
short, lightweight boards
variety of small balls
real wheels/tires from bicycle, lawnmower, wheelbarrow, etc.

Preparing to Explore Ramps and Tunnels

1. With your teaching team, think about and discuss the following questions.
    - What experiences have our children had with ramps and tunnels so far? What background knowledge do they most likely have?
    - What resources could be helpful as we explore this topic with children? Are there any special places we might go or special people who might visit our classroom, as we learn about ramps and tunnels?
    - What are some things that children might learn and do as we explore ramps and tunnels? What new words or concepts could they begin to understand?

2. Let families know that the group is interested in ramps and tunnels. What can they tell you about their family's experiences? Think together about ways that families can be involved. For example, a parent might be interested in helping cut gutters or planks to make homemade ramps, or a grandparent who uses a wheelchair might want to talk with children about how they use ramps every day.

3. Gather books and materials to add to learning centers and to use during small group experiences. You'll find suggestions on the pages that follow.

Learning Center Extensions – Ramps and Tunnels

Here are some examples of materials that can be added to classroom learning centers over time, for use during daily free play times.

For more information on incorporating materials into your classroom, see the ***Learning Everywhere*** section in the Getting Started packet.

Table Toy/Fine Motor Area

- Interlocking ball or marble tracks
- Interlocking wooden train tracks with hill and/or tunnel pieces
- Kapla planks or similar small plank blocks
- Small character playset with a roller coaster or playground

Science Area

- Zig-zag car track or another simple cause-and-effect ramp toy
- Basket of cardboard towel tubes with a small flashlight
- Photos of ramps and tunnels, such as those available online with this curriculum
- Hamster habitat with tunnels (could be borrowed)
- Factual books about ramps and tunnels, such as:

    Digging Tunnels, JoAnn Macken, Capstone Press, 2008

    How Toys Work: Ramps and Wedges, Sian Smith, Heinemann, 2012

Music and Movement Area

- Balance boards

Sand and Water Play Areas

- Clear plastic tubing with funnels
- PVC pipe pieces and connectors
- Rain gutter pieces
- Long cardboard tubes/chutes to transfer sand from table-level bin to floor-level bin

Learning Center Extensions – Ramps and Tunnels

Ramp and Tunnel Building Area

This new learning center will be extremely important throughout the ramps and tunnels investigation.

Create a spacious ramp and tunnel construction area in your classroom. If it is placed near your block building area, ensure that ample space and protection are provided for children who wish to build traditional block structures. The ramp and tunnel area could also be located elsewhere, such as on a large group rug or even outdoors.

Materials for building ramps, such as:

- Wooden blocks, including long rectangular blocks
- Sheets of flat cardboard and foam core board
- Smooth, lightweight wood planks, 12"-18" long
- Cove molding, 12"-30" long
- Pieces of plastic rain gutter
- Old-fashioned Hot Wheels track
- Pool noodles, cut in half lengthwise

Materials for making tunnels, such as:

- Cardboard packing tubes
- Cardboard concrete forms, whole and halved
- PVC pipes and connectors
- Shoe boxes with arched tunnels cut on each end
- Wooden arch blocks

Things that roll, such as:

- Hot Wheels cars
- Ping pong balls
- Golf balls
- Wool dryer balls
- Tennis balls
- Spools
- Marbles and steel balls for older, more experienced preschoolers

More tools to support builders, such as:

- Low, sturdy step stools
- Masking tape
- Felt sheets
- Traffic cones
- Sand or rice bags
- Cardboard brick blocks
- Tape measures
- Buckets and other containers for transporting and catching balls

Too many new materials at once can overwhelm and distract children. Introduce materials over time, in response to children's ideas, abilities, and interests.

Book Area

Add some of these books and/or your favorite books with bubbles.

Balancing Act, Ellen Stoll Walsh, Beach Lane Books, 2010*

Dig a Tunnel, Ryan Ann Hunter, Scholastic, 1999

Digger, Dozer, Dumper, Hope Vestergaard and David Slonim, Candlewick, 2018

Dreaming Up: A Celebration of Building, Christy Hale, Lee and Low Books, 2012

Going Places, Paul Reynolds and Peter Reynolds, Atheneum Books, 2014

Just a Little Bit, Ann Tompert and Lynn Munsinger, HMH Books, 1996*

Mama Zooms, Jane Cowen Fletcher, Scholastic, 1995

Night at the Fair, Donald Crews, Greenwillow Books, 1998

Old Tracks, New Tricks, Jessica Peterson, The Innovation Press, 2017

Ricky, the Rock That Couldn't Roll, Jay Miletsky and Erin Wozniak, New Page Press, 2018*

Roadwork, Sally Sutton and Brian Lovelock, Candlewick, 2017

Roller Coaster, Marla Frazee, HMH Books, 2006

Roll, Slope, and Slide, Michael Dahl and Denise Shea, Picture Window Books, 2006

Rosie Revere, Engineer, Andrea Beaty and David Roberts, Harry N. Abrams, 2013*

See Inside Towers, Bridges, and Tunnels, Struan Reed and Annie Carbo, EDC Publishing, 2018

Trucker and Train, Hannah Stark and Bob Kolar, Clarion Books, 2019*****

***Denotes a recommended read-aloud to share with groups of children.**

Talking About Books

As you share books with individuals, small groups, or larger groups of children, ask questions like these:

- **Beginning: Do you think this will be a realistic story - or an imaginative story? What makes you think that?**
- **Middle: How would you feel if this happened to you?**
- **End: Did this book remind you of our work in the ramp area?**

Talking together about books is an important part of every preschool day!

Conversations about Ramps and Tunnels

Use prompts like these as you talk with children throughout the day. For more information on incorporating planned conversations into your daily schedule, see the ***Learning Every Day*** section at the beginning of this book.

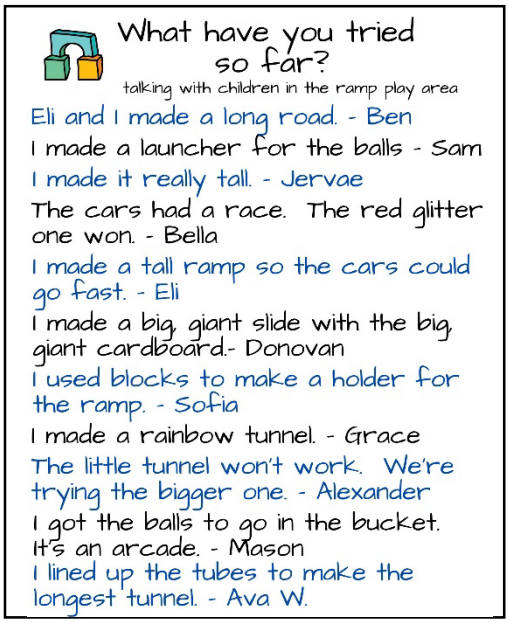
Ramp and Tunnel Conversations

daily - during meals, play times, transitions, or group times

Try asking one or two questions like these when you have opportunities to talk with individuals, small groups, or the larger group of children.

- What are some things you've tried so far in our new building area?
- What are some things you've figured out so far about ramps?
- What has been your favorite (ramp or tunnel) design so far?
- What are you planning to do next?
- How is a tunnel like a tube?
- Why do you think engineers build tunnels for trains?
- Besides train tunnels, where else do we find tunnels in real life?
- Do you like to go on rides at the fair? What kind of rides do you like best?
- Have you ever been sledding? Tell me about that…
- Why can't we go sledding in the summertime?
- Why do you think some slides are faster than others?

At least once a week, make a chart to write down children's answers to a question. Talk with children one, two, or a few at a time to collect answers. Later, read the written responses back to the group. Post the chart where it can be viewed by children and families.



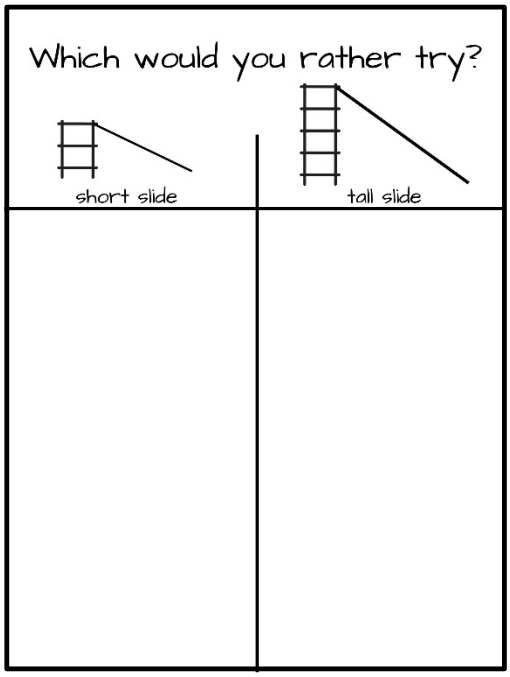
Conversations About Ramps and Tunnels

Ramp and Tunnel Polls

1-3 times per week – at arrival or group time

Choose a question from the list below or think of one of your own. Make a chart with the question and two possible responses, using picture cues when possible. Invite children to write their names or place name cards to respond.

- Have you ever ridden on a roller coaster?
- Have you ever ridden on a sled?
- Have you ever been on a water slide?
- Would you rather – Try a short slide?
  Or try a tall slide?
- Which do you like better – Building tunnels?
  Or building ramps?
- Would you rather – Slide down a slide?
  Or crawl through a tunnel?
- Would you rather – Climb up a hill?
  Or run down a hill?



Sharing Our Experiences So Far

several times a week - during meals or play times

As you talk with individuals and small groups of children, tell about your own, positive experiences with ramps and tunnels. You might talk about going on an exciting ride at an amusement park, riding on a subway train, or watching skateboarders perform tricks.

Listen attentively as children tell about their experiences, too. Help children make connections between shared experiences. ("Jack, it sounds like you and Cadence have both been in the pedestrian tunnel at the park. What was that like?")

Songs, Rhymes, and Games about Ramps and Tunnels

These playful songs, rhymes, and games can be incorporated into group times and transition times.

Five Fast Cars *- adapted from the fingerplay, 5 Little Pumpkins*

Five fast cars, speeding down the track.
The first driver said, "I'm ahead of the pack!"
The second driver said, "Give it some gas!"
The third driver said, "It's time to pass!"
The fourth driver said, "Let's finish this race!"
The fifth driver said, "But I'm in last place!"

Then VROOOM went the engines and flash went the lights,
And the five fast cars rolled out of sight!

We Built a Little Track

We built a track,
Tap, tap, tap. (Tap like using a hammer.)
It's almost done.
Clap, clap, clap! (Clap three times.)

Let's test it out,
Go, go, go, (Wave hand in a "come on" gesture.)
The balls fall off,
No, no, no. (Shake head sadly.)

Let's fix it up,
Tap, tap, tap. (Tap like using a hammer.)
It's almost done,
Clap, clap, clap! (Clap three times.)

Let's test again,
Hey, hey, hey, (Hand over eyes in a "look" gesture.)
It's working! It's working!
Yay, yay, yay! (Pump fist in the air.)

Songs, Rhymes, and Games about Ramps and Tunnels

A Wedge is a Triangle – *to the tune of Row, Row, Row the Boat*

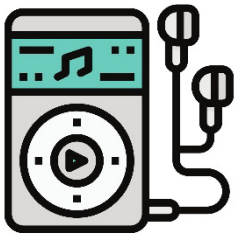
Use a wooden unit block as you sing this song.
A wedge is a triangle,
Look and you will see –
It has three corners, and three sides.
Let's count them – one, two, three.

Train in the Tunnel – *to the tune of Skip to My Lou*

Invite most of the children to make a tunnel by standing side by side in two lines. Each person can hold hands with the person opposite them, raising hands up to make an arch. Three or four children can form a train with hands one on another's waist. They can travel through the tunnel from one end to the other,

Train goes through the tunnel,
Choo, choo, choo,
Train goes through the tunnel,
Choo, choo, choo.
Train goes through the tunnel,
Choo, choo, choo,
Hey, friends – train is coming!

This simple song can be a call-and-response activity, with the children who form the tunnel singing, "Train goes through the tunnel" and the children in the train answering, "Choo, choo, choo!"



Ramp and Tunnel Playlist

18 Wheels on a Big Rig – Trout Fishing in America
Countdown Boogie – The Alphabet Rockers
Green Light Go – The Not-Its
Rock Island Line – Dan Zanes

Small Group Learning Experiences – Ramps and Tunnels

Share learning experiences like the ones on the following pages with small groups of children each day. Groups should usually consist of 3-7 children, rather than the whole group at once. Small group experiences may take place as children choose to join a teacher during free play time, or there might be a special small group time included in the daily schedule.

Use these questions to guide you as you choose daily learning experiences:

- **What is it about ramps and tunnels that children seem most curious about?** Let your observations and conversations with children be your guide as you choose experiences that invite children to pursue their interests and seek answers to their questions. In the course of this investigation, additional interests – such as pathways and bridges – may emerge.

- **What are our learning goals for individual children and for the group as a whole?** Choose experiences that support specific objectives for learning. Strive to create well-rounded plans that support all domains of development.

- **How can we extend children's thinking and learning?** Choose activities that can be connected to children's experiences so far. Remember that it is often appropriate to "re-run" planned experiences. Offering an experience two or more times over a few days or weeks invites children to gain expertise and deepen their understanding.

Pair planned learning experiences with ample opportunities for open-ended, free choice exploration in the classroom and outdoors.

Introducing the Ramp and Tunnel Building Area

Let's become familiar with this new play area. Complete this introduction before opening the play area for free choice use.

Materials

- ❑ Teacher-created signs (see below)
- ❑ Ramp and tunnel learning center equipped with basic materials
- ❑ Clipboard and paper for the teacher
- ❑ Sit-upons or carpet squares for children and adult (optional)

Adults can work to create space for the new ramp building area while children are away from the classroom. Post signs that say "Coming Soon" and "Do Not Enter" at the entry points to this area. Children will be intrigued to discover this new space!

Equip the ramp building area with a scaled-down, basic set of materials. Some bare shelves are OK; you'll introduce and add new materials throughout the investigation. An example of initial materials might include the following.

- 20-30 wooden rectangle blocks
- 10 cardboard brick blocks
- 10 pieces of 14-inch-long cove molding
- 3 large, flat pieces of cardboard
- 3 large cardboard tubes
- Basket of 5 marbles **or** ping-pong balls
- Basket of 5 Hot Wheels cars
- 2 spare classroom chairs

Have additional materials set aside to add as children express or demonstrate a need for them!

Invite a small group of children to join you on the floor in the play area. Explain that they can look around, but it isn't quite time to play yet. After children have looked at the materials, talk together about their observations and ideas. Here are some guiding questions.

What are some things you've noticed?

What are some ways you might play here?

What are some things we can do to keep each other safe here?

I wonder – how could you get this marble to move along this path (cove molding) without pushing it with your finger?

How will you know what to build?

What if it doesn't work?

What could you do when you finish playing here?

Introducing the Ramp and Tunnel Building Area (cont.)

Invite children to take down the signs and engage in free play in the area. Stay near to provide support if needed, but do not take over. Your role during this play session is primarily one of a quiet observer so that children can have an uninterrupted opportunity to try new materials. You may want to take notes about what you hear children say and see them do.

Helpful Hints

- Cove molding can be purchased at building supply stores. Children's family members may be willing to help cut and sand the pieces. Laundry baskets, clothes hampers, and even clean trash cans make good storage containers for cove molding, large tubes, and other long materials.

- When you create this space, try it out. Get down on the floor to view the space as children will. Try taking materials in and out of storage containers and on and off of shelves. Go ahead and play a little! Continue to think about the arrangement each time materials are added to the center. How are you setting children up for success?

Including Every Explorer

Marbles should not be used with younger, less experienced children.
If your group includes children who cannot work at floor level, create a parallel set of table-top materials.

More to Do (optional)

Take first-time photos of each child at work. Plan to take another set of photos later, after children have had many opportunities to play here. How will their work change?

This play area is the most important part of the entire investigation. The time that interested children spend playing here will always be time well spent! Re-run the activity of writing documentation while children work several times.

Did You Know?

This first conversation introduces children to the idea of an engineering mindset: planning, building, testing, and refining. You'll continue to focus on these skills throughout this investigation.

This experience offers special opportunities to build and strengthen:

Social and Emotional Development – SE 1.2, SE 2.1, SE 2.2, SE 3.2

Cognitive Development – CD 1.1, CD 1.2, CD 2.1, CD 3.1

Science and Technology – ST 1.1, ST 3.1

Rolling, Rolling, Rolling

Let's explore how different materials roll down ramps. This experience will take place in the ramps and tunnels play area.

Materials

- ❑ Ramp and tunnel learning center equipped with basic materials
- ❑ Bowls, cups, or small baskets with several new materials to roll, such as:
  - o golf balls
  - o Wiffle golf balls
  - o marble-sized steel balls
  - o tennis balls
  - o round craft pompoms
  - o round wooden beads

Invite children to work together to create simple ramps. Explain that you have gathered some different materials to roll down the ramps.

Test the materials one by one. Next, work together to create a ramp design that allows two materials to roll side-by-side. Invite each child to choose two materials to test out. Before each test, solicit predictions from the small group: Which material do they think will be faster?

Which material seems slowest of all? Which seems fastest? How does this fast material compare to the marbles or ping pong balls that children have been using for their play so far? Test and find out.

Encourage children to handle the materials as they think about what makes materials faster or slower. What do they notice? What theories do they have?

Spend several more minutes using the new materials for open-ended play before cleaning up. Encourage children to help pick up and sort out materials. Let them know that these materials will be available in the center from here on out.

Helpful Hints

Too many materials can be overwhelming and will create a cluttered play space. Offer only as many of each type of rolling material as the number of children who usually play together in the space.

Craft pompoms are included in this experience intentionally. They do not roll well. Notice how children quickly set them aside in favor of heavier materials. They're learning through trial and error!

Rolling, Rolling, Rolling (cont.)

Now that children have new rolling materials, remove the Hot Wheels cars. Over the next few days or weeks, add more of the rolling materials that children seem most interested in while removing those that do not seem to interest them.

Including Every Explorer

Materials that are best suited for the needs of younger, less experienced preschoolers include tennis balls, wool dryer balls, Wiffle golf balls, ping pong balls, ball pit balls, and large wooden beads. Standard golf balls are heavier and provide a more satisfying experience, but will require special supervision at first.

Older, more experienced preschoolers will need heavier balls for their more complex designs. Try golf balls, marbles, steel balls, and/or rubber racquetball balls.

Some children will need special support to work alongside peers in the ramp and tunnel area. Provide patient, individualized guidance to help children find space, negotiate materials, and communicate needs.

More to Do (optional)

- Place one of each of the balls in your family sign-in area. At arrival or departure time, can children explain to families which ones are the fastest rollers, and why?
- If children show interest in racing materials, introduce masking tape to the play area. The tape can be used to create a finish line if desired.
- Children's work in the ramp and tunnel area is becoming more complex. Does this feel like a good time to add more wooden blocks and more cove molding?

This experience offers special opportunities to build and strengthen:

Cognitive Development – CD 1.1, CD 1.2, CD 2.1, CD 3.1

Mathematical Thinking – MT 3.1, MT 4.1

Science and Technology – ST 1.1, ST 2.1, ST 3.1, ST 3.2

Will It Roll?

Let's investigate the properties of objects that roll.

Materials

- ❑ Smooth, flat wooden, foam core board, or cardboard plank measuring at least 3 inches wide and at least 18 inches long
- ❑ Sandpaper
- ❑ Glue
- ❑ Wooden rectangle blocks or books for propping
- ❑ Basket of items to test, such as:
  - o toy car
  - o cylinder-shaped block
  - o spool
  - o crayon
  - o roll of masking tape
  - o glue stick
  - o ball
  - o feather
  - o toy animal
  - o rectangle-shaped block
  - o toy boat
  - o domino
  - o small paper plate
  - o beanbag

Before you begin, glue sandpaper to one end of the plank. Let dry.

Explain to the small group of children that you'll work together to test a collection of materials to find out which ones roll down a ramp, and which ones don't.

Ask children, "What could we do to make this plank into a ramp?" Use blocks or books to prop up the sandpapered end of the plank.

Invite each child to select an object to test. Before each object is placed on the sandpaper starting place, invite children to predict whether it will roll or not.

Place objects that roll in one pile, and objects that do not roll in another. Continue taking turns until all of the objects have been tested.

What do children notice about objects that roll?
Think together about how some objects will roll when they're placed on a round edge, but not when they are placed on a flat edge. Children may also notice that some objects – like the paper plate – have a round edge but do not roll well. Why might this be?

Helpful Hints

Many building supply stores will cut wood planks for you. Hobby stores also sell pre-cut planks.

Use words like *predict*, *hypothesize*, *observe*, *investigate*, *test*, and *results* as you work with children. Experiments like this one offer a good introduction to scientific processes.

Including Every Explorer

If your group includes a child with limited use of hands, select larger, easy-to-grasp objects to test and sort. Rain gutter can be used in place of a plank to provide bumpers to aid in the placement of objects.

Simplify and shorten this activity for younger and/or less experienced groups. Watch children's body language for signs of engagement or weariness.

More to Do (optional)

- Invite children to search the art center, music area, and dramatic play center for more materials that they think will roll. Test them out.
- Together, make a chart listing each of the objects and whether they rolled or did not roll.
- Why was there sandpaper at the top of the plank? Flip it over to find out! On the smooth plank, some materials that do not roll will slide. Children may wish to sort again: roll, slide, and neither.
- Add this activity to your science area along with sorting mats with symbols and words.
- This could be a good time to add planks to children's ramps and tunnels play area. If wooden planks are used, model and teach children how to move them safely. Wooden planks are only safe for a spacious, uncrowded play area. Lightweight cardboard and foam core board are safer for crowded areas, but also less stable and less durable.

This experience offers special opportunities to build and strengthen:

Cognitive Development – CD 1.1, CD 1.2, CD 2.1, CD 3.1

Mathematical Thinking – MT 3.1, MT 4.1

Science and Technology – ST 1.1, ST 2.1, ST 3.1, ST 3.2

Real-Life Ramps

Let's go outdoors to search for ramps. What purpose do they serve?

Materials

- ❑ Wagon, a stroller with a doll, or other large, wheeled item
- ❑ Clipboards, paper, and pencil for each child
- ❑ Investigator's Kit - backpack with a tape measure, ruler, flashlights, magnifying glasses, small notepad and pencil
- ❑ Traffic cones if possible

Before sharing this activity with children, walk around your building. Notice where ramps are located along sidewalks and at entryways to the building. You won't lead children directly to these ramps, but will plan a route that enables them to discover them!

Invite children on a walk to look at how engineers and architects use ramps to help people every day. Walk around until you spot a ramp. Use traffic cones if possible to define work in a visible work zone. Try walking up and down the ramp a few times. How does it feel going up and coming down? Children may make comments like, "Going down is faster."

If the ramp is located on a curb, also try stepping up and down the curb. If the ramp is located next to the stairs, carefully walk up and down the stairs. How does it feel going up and down the curb or stairs? Children may describe it as easy or fun. Ask, "Is there anyone who might have a hard time going up and down the curb/steps?"

Investigate with your wheeled item. Let children try moving the wagon, stroller, or similar item up, over the curb. Next, try moving it up the ramp. How is it different?

If you've found a ramp near steps, invite children to watch as you try to move the wheeled item up the first step or two. Use body language to show that this is difficult. Next, invite children to try moving the wheeled item up the ramp. How is it different?

Children may wish to use tools from their Investigator's Kit to help answer their questions.

Invite children to sit safely away from traffic and sketch about what they noticed.
When you return to the classroom, debrief by talking about your investigation. What feels important to children to remember? Are there any words that they would like for you to write, or help them write, on their sketches?

Real-life Ramps (cont.)

Helpful Hints

If you expect traffic in your parking lot or do not have safety cones, ensure that at least two adults are present for this investigation. A family volunteer might participate with children while you focus on supervision and safe boundaries.

You may also be able to find indoor ramps in some larger facilities.

Including Every Explorer

Think of ways to provide extra supervision for children with more impulsive behavior. If extra supervision cannot be provided, look for ways to investigate in a safe, indoor space. A therapist may be willing to loan a wedge and a small set of therapy stairs for children to investigate.

Some children's sketches may not be identifiable to adults yet, but every line on the page has meaning to the child. Praise effort and invite all children to tell about their work. Avoid judging or comparing one child's work against another's. If you have a child with limited use of hands, offer adaptive drawing tools that are easier to hold and handle.

More to Do (optional)

- Visit playgrounds to look for – and try out - ramps and stairs. (Hint: A slide is a ramp, too!) This could be a good time to experience how the angle of a ramp affects acceleration!
- Ask families to help their children notice ramps in their community. Children may want to take photos to show their class.
- Invite a friend of the classroom who uses a walker or wheelchair to explain how important ramps are for them.

This experience offers special opportunities to build and strengthen:

Physical Development and Health – PH 1.1, PH 1.2, PH 3.2

Mathematical Thinking – MT 3.1, MT 4.1

Science and Technology –ST 1.1, ST 2.1, ST 3.1

Social Studies – SS 1.1

Creating Tunnels

Let's use simple, open-end materials to construct tunnels that we can crawl through.

Materials

- ❑ Chairs and tables that are not being used for other purposes
- ❑ Paper and pencils or other drawing tools
- ❑ Variety of items that can be used on furnishings, such as newspaper, cardboard, and lengths of fabric
- ❑ Photos of tunnels, printed or on a digital device (optional)

Look together at tunnels, such as train tunnels and pedestrian tunnels. What makes a tunnel a tunnel?

Invite children to create a child-sized tunnel in your indoor or outdoor space. They can begin by drawing diagrams. Encourage children to share their ideas with one another. Can they decide on a plan?

As children move on to building their design, encourage them to notice and solve problems. Resist the urge to step in and build the tunnel yourself, but help children look closely to notice what is working and what is not. Brainstorm and test solutions. Children may wish to use masking tape, blocks, or other materials from around the classroom to make their tunnel structure work.

Once children are satisfied with their structure, take turns crawling through. Children may wish to add a soft rug or bring flashlights for their tunnel. Classmates will want to try the broad builders' tunnel, too. Help children talk about and decide on rules for fair and safe play. Are children allowed to hang out in the tunnel, or should they crawl straight through? Is the tunnel wide enough to accommodate two-way traffic, or would one-way traffic be safer?

Leave the tunnel up to be enjoyed for a while after small group time is through. This may be a good time for social support as children manage turns, design changes, and repairs.

Creating Tunnels (cont.)

Helpful Hints

What is the difference between a garage and a tunnel? You may want to remind children that a tunnel is open on both ends.

To help each group generate their unique design, vary the furnishings and materials that are offered to each group.

Remember to have an adult positioned to see and supervise children in the tunnel.

Including Every Explorer

Very young or inexperienced children may take on a simplified task, such as figuring out how to drape a flat bedsheet over a sturdy table.

The oldest, most experienced preschoolers may be ready for complex challenges, such as constructing a tunnel from sticks on a nature playground or using four barstools and newspapers in a family child care home.

More to Do (optional)

- If your group takes field trips, consider visiting a pedestrian tunnel in your community. Families could also be encouraged to visit on the weekend, or children could look at maps and photos online.
- A large appliance box could be used for a tunnel for pedestrians or tricyclists in your outdoor play area. Check for any staples or other sharp edges before introducing it to children, and remember to provide close supervision.
- Continue to offer open-ended materials for construction, indoors and/or outdoors. Notice and document how children's strategies change over time.
- Add more cardboard tubes and arch-shaped blocks to the ramp and tunnel area.

This experience offers special opportunities to build and strengthen:

Social and Emotional Development - SE 1.2, SE 2.1, SE 2.2

Cognitive Development – CD 1.2, CD 2.1, CD 2.4, CD 3.1

Physical Health and Development – PH 1.1, PH 2.2, PH 3.2

Creativity and Aesthetics – CA 3.1

Slow Race

Let's investigate how a ramp's surface changes the way an object moves.

Materials

- ❑ Four, identical planks – wooden, cardboard, or foam core board
- ❑ Aluminum foil
- ❑ Non-slip shelf or rug liner, sandpaper, and glue
- ❑ Sticky notes (optional)
- ❑ Clear contact paper and/or masking tape
- ❑ Ball or toy car
- ❑ Blocks or books for propping
- ❑ Stopwatch/stopwatch app

Before small group time, prepare the planks.

1. Wrap one plank with aluminum foil to create a flat, smooth surface.
2. Glue non-slip liner or sandpaper to a second plank, covering as much of the rolling surface as possible.
3. Use tape to attach contact paper sticky side up to a third plank. Secure underneath with masking tape. If you don't have contact paper, wrap strips of masking tape around the plank sticky side up. Secure underneath with more tape.
4. Leave the fourth plank plain.

Use blocks or books to prop the planks at the exact, same height.

Invite children in the small group to examine the planks by looking closely and touching them. How are the ramps alike? How are they different?

When you roll the toy down the ramps, which do children think will be slowest? What makes them say that? Test it out, inviting children to take a turn to roll the toy down each of the ramps in order while the rest of the small group watches closely.
Ask children to help you rearrange the planks from the one they observed to be slowest, to the one they observed to be fastest.

Show children the stopwatch and explain how it works. Test their work by timing toys on each of the ramps. Write down the time it takes the toy to reach the bottom on a sticky note that can be attached to the ramp. Children can help by calling out "go" and "stop" during each test. Did they successfully arrange the planks from slowest to fastest? Or would they like to make changes?

Talk together about children's theories. What do they notice about the slower ramps? Can they think of a time when it could be important to have a slow ramp?

Helpful Hints

Use words like *predict*, *observe*, *test*, and *results* as you work with children, along with words like *friction*, and *velocity*. The goal is not for children to memorize these words, but simply to be exposed to them in the context of a meaningful experience.

Including Every Explorer

If your group includes a child with limited use of hands, rain gutter can be used in place of planks to provide "bumpers" to aid in the placement of objects.

Simplify and shorten this activity for younger and/or less experienced groups. Notice whether children seem interested and engaged.

Challenge older and/or more experienced groups by asking whether there is anything that could be done to help the toy roll more quickly down the slowest ramp, other than changing the surface. Children may figure out how to prop the ramp at a higher angle, or they may want to try other ideas.

More to Do

- Place the planks in the ramp and tunnel play area for free choice experimentation.
- Add a stopwatch to the ramp and tunnel play area.
- Make a chart with swatches of each material that you used to cover the planks. Next to each swatch, record the times that your group recorded. Display the chart where it can be viewed by children and adults. Can children explain the experiment to their families?
- Watch a short clip of ramps used for manufacturing. Children may recognize this as one time when a slow ramp is important! *

*When using video platforms with advertisements, always start videos ahead of time, pausing at the beginning of the content that you want children to see. This helps protect children from potentially inappropriate advertisements.

This experience offers special opportunities to build and strengthen:

Language Development - LD 1.1, LD 2.1, LD 3.1

Mathematical Thinking – MT 3.1

Science and Technology – ST 3.3, ST 3.2, ST 3.1, ST 1.1

Social Studies – SS 2.1

Drawing Diagrams

Let's think about the process of planning, testing, and improving designs. This experience will take place in your ramp and tunnel building area.

Materials

- ❑ Clipboard, pencil, and paper for each child
- ❑ Sit-upons or carpet squares for children and adult (optional)
- ❑ Camera (optional)

As you sit with children in the ramp and tunnel building area, remind them of how they have been thinking and working like engineers as they play here. Engineers build and test structures or systems. Then they solve problems to make the structures even stronger and better.

Invite children to get up to look at all of the choices available for construction. Pass out clipboards and invite children to draw a diagram – or picture plan - that shows a ramp or tunnel structure that they plan to make. As each child explains their diagram to you, ask permission to label the items in the drawing or write down other words that they would like on their page. You might also ask, "How will you know if it works?" and/or "What do you predict will be the most challenging (hardest) part?"

Next, children will follow their diagrams and create independent structures. You may need to spread out into the classroom to give everyone in the small group room to work. You might remind children of their diagrams, but don't insist that they follow them precisely. It's OK for them to change their minds.

As children test their designs, encourage them to tell about what works and what doesn't. Can they modify their design to make it work better? Notice and encourage persistence: a "try, try again" attitude. Once children feel satisfied with their work, take a photo. Invite children to return to their clipboards to update their diagrams.

Ensure that children have more time for continued play, if desired, once they finish their diagrams. Some children may want to begin a new structure, while others may show interest in collaborating by joining their structures.

Helpful Hints

As children tell you about their design changes, expand on what they tell you, incorporating topical vocabulary:

> Child: I put it up higher.
> Educator: You put the end up higher? So it sounds like you changed the angle of your ramp. You made it steeper.
> Child: Yes. I made it steeper so the ball could go faster. It worked!

Including Every Explorer

If your group includes children who cannot work at floor level, create a parallel set of table-top materials.

Younger, less experienced preschoolers may want to make a 3-step, collaborative plan with their teacher. Sketch the design on a dry erase board as children explain it to you:

> Educator: So, you said that first, we'll use the blue chair. (drawing) We're going to put it on the edge of the rug—like this. Then what?
> Child: Then we'll put the long, long tube on it.
> Educator: OK, I'll add the longest tube to our sketch. (drawing) Like this?

Once children have their plan in mind, they can gather the materials and carry it out.

More to Do

- Create a display with children's diagrams alongside photos of their structures.
- Add clipboards and pencils to the ramp and tunnel building area.
- Add blueprints and architectural drawings to the ramp and tunnel building area. A child's family may be able to donate these to the classroom.

This experience offers special opportunities to build and strengthen:

Cognitive Development – CD 1.2, CD 3.1

Language Development - LD 1.1, LD 2.1, LD 3.1

Emergent Literacy – EL 3.3

Mathematical Thinking – MT 3.1, MT 4.1

Drip, Drop, Slide

Let's use a ramp to paint in an unusual way. This messy activity is most comfortable for about three children at a time.

Materials

- ❑ Homemade slide from tabletop to floor – a storage bin lid or large sheet of cardboard work well.
- ❑ Large sheet of paper, such as bulletin board paper or kraft paper
- ❑ Wide masking tape or packing tape
- ❑ Marbles or golf balls
- ❑ Liquid watercolor paints or tempera paints thinned with water
- ❑ Wide, shallow bowls or containers for paint
- ❑ Spoons
- ❑ Smocks or large t-shirts to protect children's clothing
- ❑ Something to stop the balls at floor level, such as an old towel

Invite children to help you use tape to create a slide that runs from the edge of the table to the floor. Attach paper to the slide.

Together, choose colors of paint to add to the bowls. Children can stir in water to thin the paint if needed. Place marbles or ping pong balls in the paint.

Children can use spoons or their fingers to drop balls at the top of the slide. Notice how the balls leave a track of paint as they roll to the bottom. Continue retrieving balls from the bottom, dunking them in paint, and rolling them down the slide as long as children are interested. Notice how the colors mix and blend as the balls streak down the slide.

When finished, set the painting out of the way to dry. Encourage children to help clean up any drips or stray marks of paint.

Helpful Hints

If you notice a problem with your slide design, invite children's ideas and help to fix it.

Adding a little glue to tempera paint makes it more flexible and less likely to chip and peel when the painting is dry.

Including Every Explorer

Some children may not want to touch the paint-covered balls with their fingers but may feel comfortable using tongs or a slotted spoon.

Choose larger balls for younger, less experienced children. If marbles are used in a group with a child or children who still put things in their mouths, provide direct supervision at all times. Count the marbles before and after the activity to ensure that none are lost in the classroom.

More to Do

- Once the painting is dry, model folding it in thirds and cutting it into equal sections so that each child can take a part of the painting home.
- Try using eye droppers to drop colored water down the slide.
- Invite children to try traditional marble painting: Place paper in the bottom of a box and add a paint-covered marble. Children can tip the box to paint.

This experience offers special opportunities to build and strengthen:

Cognitive Development – CD 1.1, CD 2.2, CD 2.3

Physical Health and Development – PH 2.1, PH 2.2

Science and Technology – ST 3.1

Designing Rides

Let's create our own amusement rides like roller coasters, log rides, and trains with tunnels. This is a three-dimensional art project.

Materials

- ❑ Collection of clean, reusable materials (see below)
- ❑ Art supplies: Scissors, markers, yarn, tape, glue, paint, construction paper
- ❑ Large t-shirts or smocks to protect children's clothes
- ❑ Index cards or sticky notes
- ❑ Optional: Photos of amusement rides, printed or on a digital device
- ❑ Book, *Night at the Fair*, by Donald Crews (optional)

Before the activity begins, gather a large collection of clean, reusable materials. Possibilities include, but are not limited to those listed below.

- aluminum foil
- cardboard tubes
- jar lids
- oatmeal and coffee canisters
- ribbon
- small cardboard and chipboard boxes
- wood scraps
- yogurt cups

Provide these materials alongside more traditional art materials and tools.

Begin by talking with children about amusement rides. Listen to children's descriptions and brainstorm a list. You may want to look at some photos and/or read the book *Night at the Fair*. Some children may associate rides with an amusement park or theme park, while others may recall rides on the midway at the county fair. Use terminology that children are most familiar with.

If children were going to design an amusement ride, what kind of ride would they make? Show children the collection of materials and explain that these can be used to construct any sort of ride that they want. Children may wish to draw diagrams on paper before they get started.

If problems with materials occur, don't solve them for children but support children as they think of their own solutions. For example, pieces that don't stick well with glue might be attached with tape.

This may be a multi-day project with children coming back to paint their dried sculptures. Invite each child to tell about their ride. Write down exactly what they say on an index card or sticky note. Group the finished sculptures together to create an entire amusement park!

Helpful Hints

This activity will be most relevant to children if they have had recent experiences with amusement rides. If the children in your group have not been to a fair or amusement park lately, consider skipping this activity in favor of others that are more relatable.

Educators sometimes refer to reusable scrap materials as "beautiful junk". Families and colleagues can help collect these materials throughout the year. Activities like this one connect visual arts with STEM skills.

Including Every Explorer

Not every child will want to make an amusement ride. Some children may prefer to create other things, and that is OK.

With children with disabilities, offer adaptive and easy-to-grasp tools. It may help to cut pieces of tape to hang along the table edge for children to use when they want them.

Some children will naturally stand up as they work on their sculptures. This makes it easier to reach and gives more freedom to use the whole arm. Unused chairs can be tucked out of the way when children prefer to stand.

More to Do (optional)

- Offer a second opportunity to build amusement rides from small building materials such as Lego bricks, Lincoln Logs, magnet tiles, and Tinker Toys.
- Invite children to incorporate amusement rides into dramatic play. They might arrange chairs to make a train or roller coaster and make and collect tickets. If you have a projector or smartboard, you might even experiment with using a video clip of a rollercoaster to create a virtual experience.* Remember to limit the overall amount of time that children spend in front of videos. This should be a brief activity.

  *When using video platforms with advertisements, always start videos ahead of time, pausing at the beginning of the content that you want children to see. This helps protect children from potentially inappropriate advertisements.

- Amusement rides are just one of many topics that could capture children's curiosity and spark a whole, new investigation. How could you follow their lead?

This experience offers special opportunities to build and strengthen:

Cognitive Development – CD 1.2, CD 2.1, CD 2.4, CD 3.1, CD 3.2

Physical Health and Development – PH 2.1, PH 2.2

Creativity and Aesthetics – CA 2.1

Stopping Point

Let's begin with the end in mind as we create increasingly complex ramp structures. This activity will take place in your ramp and tunnel building area.

Materials

- ❑ Small buckets and/or targets
- ❑ Sticky-Tack adhesive or masking tape (optional)

Place a bucket or target on the floor in the ramp and tunnel making area. Ask children if they will help you create a structure that can make a ball to land on exactly that spot. Consider securing the bucket or target to the floor so that it doesn't get moved by accident.

If children seem to want your help, follow their lead. Encourage children to give specific instructions about how you can help. Resist the urge to solve problems for the children. Notice how trial-and-error strategies emerge as children work to solve problems. They may try different ramps, different props, and different balls as they experiment to find the perfect combination.

There may be opportunities to provide social support as children negotiate over designs and materials and share ideas with one another.

When the ball eventually lands in the bucket or on the target, celebrate success! We did it! Encourage children to tell about how they modified and improved their design to make it work.

Would the group like to place a new bucket or target and begin again?

Helpful Hints

Use the printable target patterns – available in full color on the curriculum website – or make your own.

Small buckets can be found at dollar stores and hobby stores.

Talk about concepts like weight, height, angle, and distance as you talk with children. This should be an authentic conversation, not a lecture or quiz.

Including Every Explorer

If the group includes children with disabilities who cannot work at floor level, create targets that can be used at table level.

Provide special support for children who struggle with communication or impulse control. It may be helpful to invite these children to participate in a smaller group.

Challenge older, more experienced preschoolers to incorporate measuring tools into their work. For example, they might roll three different balls and use the measuring tape to determine which on landed closest to the target.

More to Do (optional)

- Add the buckets and targets to your ramp and tunnel building area.
- Make a video of each group's successful structure in action. Share video clips with families via email or your program's social media page.

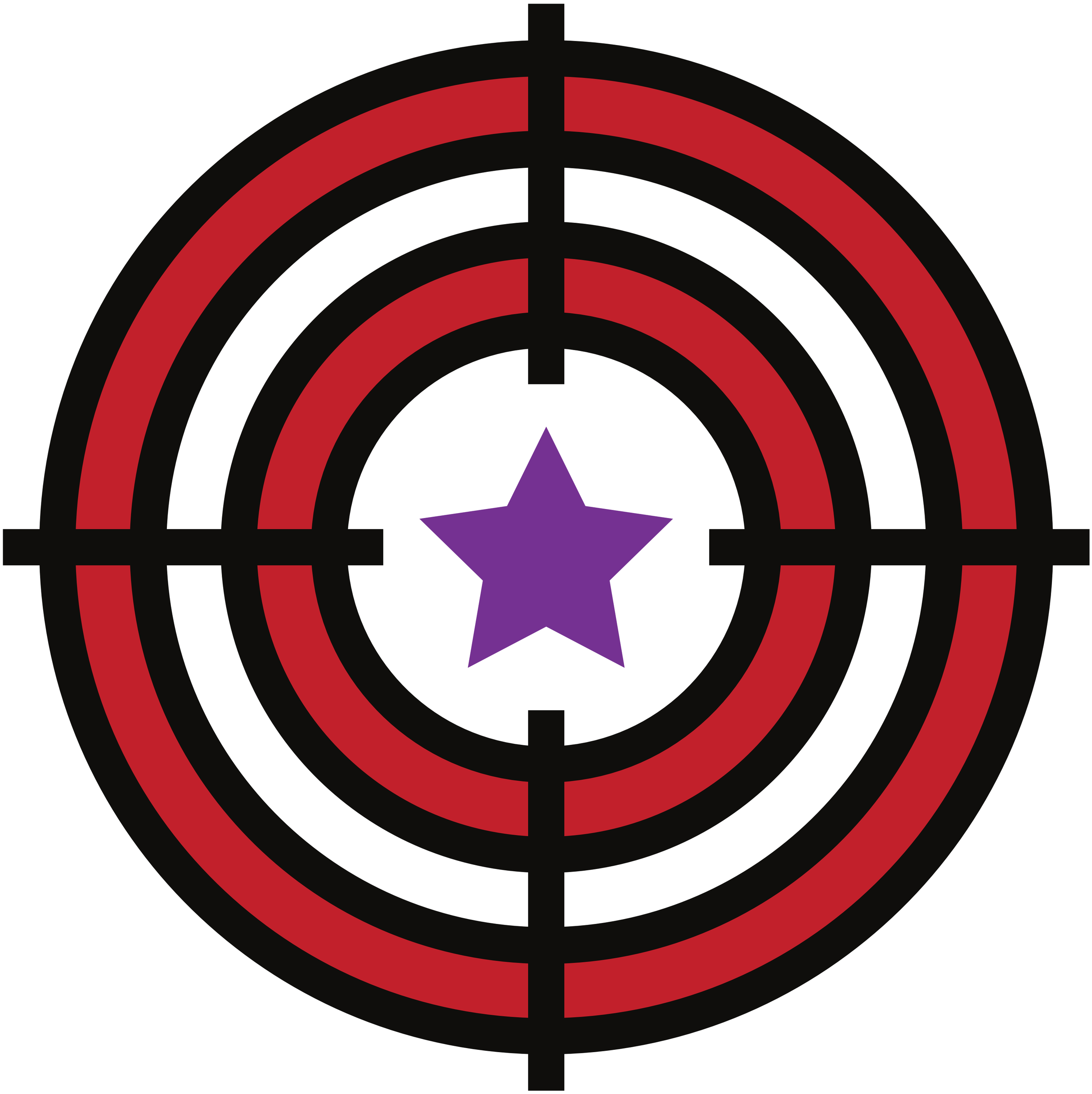
This experience offers special opportunities to build and strengthen:

Social and Emotional Development – SE 1.1, SE 1.2, SE 2.1, SE 2.2, SE 3.2

Cognitive Development – CD 1.2, CD 2.1, CD 2.3

Mathematical Thinking – MT 3.1, MT 4.1

Science and Technology – ST 2.1, ST 3.1, ST 3.2



Active Physical Play – Ramps and Tunnels

Invite children to join in activities such as these during outdoor play times. Some children will want to come and play, while others will prefer to continue with their own, free choice activities. Some activities found in this section may also be appropriate for indoor gross motor play or active group gatherings.

Obstacle Course

Incorporate collapsible play tunnels into a fun obstacle course. For example, children might run around the tree, touch the playhouse, jump in and out of a hoop, and crawl through a tunnel to the finish line. If you don't have a commercial tunnel,

Investigating Hills

Experiment with balls or large trucks on a hill. Is it easier to roll up the hill, or down? Let children take turns to try pushing and pulling peers in a wagon up a low hill.

Skee-Ball

With children's help, create a homemade Skee-Ball-style game. Children can roll a ball up a homemade ramp. Can they make the ball land in a bucket?

Ramp Path

Invite children to work like civil engineers. Can they figure out how to get a ball or water to move through pieces of rain gutter or large PVC pipe - from one side of the playground to the other? Continue to add resources in response to children's ideas.

Back-and-Forth Game

Thread a bangle bracelet or napkin ring onto a jump rope. When two children hold the ends and stretch the rope tight between, can they figure out how to slide the ring back and forth? Try moving the ring fast and slow, high and low.

Growing Every Day:
Supporting Social and Emotional Development

Carol Evans, A-State Conscious Discipline Coach

Sam and Elliot, both age 5, are playing side by side, building ramps and tunnels in the block area. Both boys are fully engaged in creating their own work. Sam reaches over to get a block to prop his ramp up a little higher. He accidentally knocks several more blocks off of the shelf, but he hardly notices.

The tumbling blocks crash into Elliot's tunnel wall. Shocked and surprised, he thinks Sam must have ruined his tunnel on purpose. He shoves Sam, who begins to cry. Elliot runs away to hide.

If you didn't see the whole incident, you might think Elliot knows he is in trouble for hitting. He's done it before. A teacher's first impulse might be to scold him or send him to time out before checking on Sam. Ms. Judy, their teacher, knows there may be more to the story.

She has observed that Elliot is usually reacting to perceived transgressions when he hits and kicks. When he is overwhelmed by upset feelings, he sometimes forgets his words and acts out physically. She lets him retreat to his safe place until he is calmer. She goes quickly to Sam, using her soft voice and open arms to comfort him while checking to see if first aid is needed.

Sam calms quickly, telling her that Elliot hurt him for no reason. She looks at the fallen blocks and says, "Let's go talk with Elliot. It looks like something happened to his tunnel." By now Elliot is calmer. As they approach he looks down at the ground and says, "I'm sorry," very quietly. Ms. Judy asks, "Elliot, did something happen that upset you?"

Elliot looks up. His eyes brighten as he tells about Sam ruining his tunnel. When Sam protests - "Did not!" - Ms. Judy helps them figure out what happened. Little by little, the mix-up comes to light. Sam tells Elliot that he didn't mean to mess up his tunnel, and Elliot admits, "I shouldn't have pushed you." The two friends head back to the block center together.

Ms. Judy supported the children's social-emotional development when she:

- Went first to the child who had been hit.
- Listened without judgment and offered grace – seeing the best in each boy.
- Helped the boys understand one another's point of view.

Even More Ramps and Tunnels Experiences

- Invite an older sibling who skateboards to bring a low ramp to demonstrate for the class. Remind her/him to wear a helmet for the demonstration.

- If your outdoor play area is flat, consider building a small hill for children to play on. This is a fun way for children to experiment with physics all year long!

- Look online for ideas for water walls and wall or fence-mounted ball tracks. One of these could be an interesting project for you or for a family volunteer.

- If your group takes field trips, think of other places in your community where you might investigate ramps and tunnels. Possibilities include – but are not limited to – a pinewood derby track, dog agility course, or community park. Encourage families to continue looking for ramps and tunnels to – at the fair, at water parks, and elsewhere.

- Highly recommended for the educator's bookshelf:

  Ramps and Pathways: A Constructivist Approach to Physics with Young Children, Rheta DeVries and Christina Sales, NAEYC, 2010

Notes:

Concluding Your Ramps and Tunnels Exploration

1. With your teaching team, think about and discuss the following questions.

   What new experiences have our children had during this exploration? What new knowledge and skills have developed?

   Do the children seem ready to conclude this exploration? Have their questions been answered? Is their interest waning? If children are still excited about ramps and tunnels, think about ways to continue and extend the exploration.

   How can we document children's learning and help children share what they have learned with others?

Your ramps and tunnels exploration might end with one of these activities:

- Hosting a family engagement event. For example, you might bring all of your materials outdoors for a family construction event. Add in some large cardboard boxes for even more fun.

- Creating a book of photos of children's diagrams and structures from the ramps and tunnels play area. The book can be added to the classroom library and/or copies can be made for each family.

- Invite children to vote on whether they would like to keep the ramps and tunnels play area as an ongoing center in their classroom.

2. Talk with children about their favorite memories about ramps and tunnels. Model gratitude by creating thank you cards or letters to the families, school members, and community members who supported your exploration.

3. Where will you go next? Use your observations and conversations with children to help you plan your next exploration!

Using Explorers Preschool Curriculum

Explorers Preschool Curriculum (EPC) is designed for early childhood educators and preschool-aged children. It can be used in any setting, including private preschool programs, public school programs, and family child care homes.

EPC Guiding Principles

1. **Children are naturally curious and eager to understand their world.**

   The ***Explorers*** curriculum promotes authentic, enjoyable, first-hand experiences in a vibrant and encouraging environment.

2. **Domains of child development are interrelated and are all important.**

   Physical, cognitive, communicative, social, and emotional development are all vital for success in school and life. ***Explorers*** supports the *Arkansas Child Development and Early Learning Standards (CDELS)* with engaging experiences that promote learning across all domains.

3. **Children are trustworthy partners in learning.**

   Explorers is inquiry-driven, guided by children's interests, questions, and ideas. Children take on meaningful decision-making roles and responsibilities as a part of each investigation. The child's right to play is protected and supported as fundamental component of every day.

4. **Each child, and each group of children, are unique.**

   Explorers offers choices and flexibility for children and adults. Individualization to include children with developmental differences and special needs is integral to the curriculum.

5. **Learning happens best within the context of family, community, and the natural world.**

   Explorers strives to promote positive connection between preschool-aged children and their school, community, and environment. Diverse and meaningful opportunities for family engagement are given special importance.

For professional development support with Explorers Preschool Curriculum,
please contact Marcy White, MWhite@AState.edu

Big Ideas from EPC

Explorers may be different from other curricula you've used in several ways. Understanding these differences will help you use the curriculum successfully.

Explorers includes a collection of topics for investigation. These topics include, but are not limited to:

- Bubbles
- Day and Night
- Farmers' Market
- Insects
- Making Music
- Ramps and Tunnels
- Songbirds and Squirrels
- Trees

Each topic supports children's real-life, firsthand experiences.

Topics of learning – known as investigations – do not have to occur in a predetermined order. Instead, educators are urged to observe, talk with, and think about children in their group. Which of the topics would be most interesting and engaging to this group of children? Decisions may also be guided by the resources that are accessible to the program. Programs may choose to participate in any of the investigations, in any order.

Within broad topics, individual groups are urged to "zoom in" and focus most intently on areas of special interest. For example, one group taking part in a *day and night* investigation might be most interested in city lights that shine though the dark. A second group might be more interested in nighttime creatures like crickets and moths. Although both groups have the same, broad focus, conversations and planned activities in the two rooms may differ greatly. Some activities in the topic packet may be skipped, and different high-value activities may be offered to support children's interests.

Educators are expected to "re-run" books and activities that especially interest children. That means that the same activity will be shared again over the course of several days or weeks. Through repeated opportunities to explore, children gain expertise, test new ideas, and work in increasingly complex ways. Repetition helps children build confidence and construct knowledge.

Investigations are not limited to one week. In fact, groups may focus on the same topic for two, three, or four weeks – or more! It is believed that deep, comprehensive investigation of any interesting topic is more beneficial to young thinkers and learners than a "sprinkling" of many different topics. Thus, children and adults are invited to continue their investigation as long as it sustains children's interest. An investigation concludes when educators observe that children's questions have been answered. Children seem satisfied and ready to move on to other topics of interest.

EPC Daily Practices

A resource packet is available to support each investigation topic. These packets support learning throughout the day in these eight ways:

1. Learning Center Extensions

Free play is a crucial part of every day! Learning Center Extensions are play objects and other materials that support the topic. These can be added to the indoor play areas that children use every day. The items in this section are examples. Educators may implement their own ideas, as well.

2. Books for Sharing with Groups

Suggestions for books are listed in each packet. It is not expected that programs will purchase the entire book list. Rather, the list may provide guidance and inspiration as educators select books from their storage area and/or their local children's library.

These may be added to classroom book areas and can be shared informally with one or a few children at a time during play times. Some of the books on the list are also designated as *** recommended read-alouds** for sharing with larger groups of children.

3. Topical Conversations

Conversations can occur within the context of play or daily routines. Especially with older preschoolers, some conversations may also occur during whole group meeting times. In addition to informal conversations throughout the day, ***Explorers*** encourages educators to routinely use two additional strategies each week:

Response Charts

The educator talks individually with each child and writes down exactly what they say. This interview process takes place during play time or other informal times. Once all of the children have had a chance to respond, the chart is posted where everyone can easily see it. The educator reads all of the responses aloud during a group meeting. Written response charts are recommended at least once a week.

Polls

Children and adults respond to a question by writing their name under one of two choices on a chart. Younger or less experienced groups may opt to place name cards on the chart instead. The polling process takes place with one, or a few, children at a time – perhaps as part of the morning arrival routine or as children finish breakfast.

During a group meeting, children and adults look together at the chart. It is recommended that children are invited to complete polls 1-3 times per week.

4. Playful Songs, Rhymes, and Games

These simple activities may be incorporated into group gathering times or used as transition activities. Many are "piggyback songs" – meaning that they offer new words to tunes that children may already know.

5. Active, Physical Play

Most of these activities are intended for the outdoor play area. Some are also suited for indoor gross motor spaces – such as gyms – or active group gatherings.

Educators are encouraged to invite children to join in activities such as these daily. Many children will want to participate, while others would rather continue with their own, free choice gross motor play. When two or more adults are present, one can lead the activity while others supervise children elsewhere in the play area.

6. Growing Every Day

These vignettes highlight strong, positive guidance practices. Educators are reminded that the most valuable learning occurs when adults model, coach, guide, and encourage children in the context of everyday interactions.

7. Small Group Learning Experiences

Ideas for small group learning experiences make up the bulk of each resource packet. These learning experiences are intended to be carried out with groups of 3 – 5 children at a time.

This means that educators will complete each activity with several small groups. For some activities, some children may participate in the morning and some may participate in the afternoon. A few activities may even take place over the course of several days. Using lists or sign-up sheets can reassure children that everyone will have a turn.

You'll find a key to small group learning experiences on the following page.

8. Concluding Your Exploration

This final section of each resource packet invites educators to reflect about whether children are ready to wrap up and move on to another topic of investigation. It includes ideas for culminating events and documentation.

Key to Small Group Learning Experiences

Each double-sided small group learning experiences idea sheet has specific components to assist you with planning and facilitation: