

Little
KIDSPACE
PreK-K **Exhibit Guide**

Dear Educator or Parent,

Welcome to the Imagination Station's early education resource! With the assistance of area K-12 educators, the Imagination Station has created learning guides to allow you to structure a visit to the Imagination Station that aligns directly to the concepts you are teaching your young scientists.

This guide allows students to explore language arts, math and science in our special Little KIDSPACE early learning area. Students will explore in the Construction Zone, Grocery Store, Hospital and Tree House.

Your Early Childhood Exhibit Guide contains:

- Introduction- suggestions for using the guide with key concepts included
- State Standards Alignment for both Ohio and Michigan
- Activity Pages- Tips for facilitating exhibit explorations with children, including guiding questions for each activity
- Pre and Post-Visit Activity to do back in the classroom

How to Use This Guide:

- Review the guide.
- Customize the guide for your needs. You can complete the entire guide or just a particular component, depending on your field trip objectives.
- Explore the area with your group and encourage questions. (You don't need to know the answers!)
- If you have questions, ask an Imagination Station team member for help. We are glad to show you how an exhibit works.
- Review the guide and your expectations with students and prepare for a day of fun science learning at the Imagination Station.

Content Standards

Ohio Academic Content Standards

PREK ES:

Weather changes every day.

Wind, water and temperature are all part of daily weather changes. Weather changes throughout the day and from day to day.

Water can be observed as lakes, ponds, rivers, streams, the ocean, rainfall, hail, sleet or snow.

PREK LS:

There are many distinct environments in Ohio that support different kinds of organisms.

Plants and animals have traits that improve their chances of living in different environments.

Plants and animals in Ohio interact with one another for food, shelter and nesting.

PREK PS:

Objects and materials are described by their properties.

Color, shape, size, weight and texture are some examples of characteristics that can be used to describe and/or sort objects and materials.

KINDERGARTEN LS:

Living things have physical traits and behaviors, which influence their survival.

KINDERGARTEN ES:

Weather changes are long-term and short-term.

Weather changes occur throughout the day and from day to day.

Wind, temperature and precipitation can be used to document short-term weather changes that are observable.

Yearly weather changes (seasons) are observable patterns in the daily weather changes.

KINDERGARTEN PS:

Objects and materials can be sorted and described by their properties.

Objects can be sorted and described by the properties of the materials from which they are made. Some of the properties can include color, size and texture.

GRADE 1 ES:

The sun is the principal source of energy.

Sunlight warms Earth's land, air and water. The amount of exposure to sunlight affects the amount of warming or cooling of air, water and land.

The physical properties of water can change.

These changes occur due to changing energy. Water can change from a liquid to a solid and from a solid to a liquid. Weather observations can be used to examine the property changes of water.

GRADE 1 LS:

Living things have basic needs, which are met by obtaining materials from the physical environment.

Living things require energy, water and a particular range of temperatures in their environments.

Plants get energy from sunlight. Animals get energy from plants and other animals.

Living things acquire resources from the living and nonliving components of the environment.

Living things survive only in environments that meet their needs.

Resources are necessary to meet the needs of an individual and populations of individuals. Living things interact with their physical environments as they meet those needs.

GRADE 1 PS:

Properties of objects and materials can change.

INQUIRY PRE K-3

Observe and ask questions about the natural environment;

- *Plan and conduct simple investigations;*
- *Employ simple equipment and tools to gather data and extend the senses;*
- *Use appropriate mathematics with data to construct reasonable explanations;*
- *Communicate about observations, investigations and explanations; and*
- *Review and ask questions about the observations and explanations of others.*

Michigan Curriculum Framework

Pre-visit Activity

Early Childhood:

Creative Arts:

1. Early Learning Expectations: Children show how they feel, what they think and what they are learning through experiences in the visual arts. (HSCOF-CD 5.2.1, 5.2.2)

Language Arts:

2. Early Learning Expectations: Children begin to develop writing skills to communicate and express themselves effectively for a variety of purposes.

Construction Zone

Michigan Content Standards: Mathematics

Strand 3: Measurement

Early Childhood:

Mathematics:

1. Early Learning Expectation: Children begin to develop processes and strategies for solving mathematical problems. (HSCOF-M 3.1.1, 3.1.2)
2. Early Learning Expectation: Children begin to develop skills of comparing and classifying objects, relationships and events in their environment. (HSCOFM 3.2.4, 3.2.1, 3.3.2, 3.3.3)
7. Early Learning Expectation: Children begin to develop an understanding of numbers and explore simple mathematical processes (operations) using concrete materials. (HSCOF-M 3.1.3, 3.1.4, 3.1.5, 3.1.6) (GLCE-N.ME.00.01-.10)

Language Arts:

1. Early Learning Expectation: Children begin to understand written language read to them from a variety of meaningful materials, use reading-like behaviors, and make progress towards becoming conventional readers.
- A. In comprehension strategies: (HSCOF-LD 1.1.3, L2.2.1, 2.2.2)(GLCE-R.WS.00.11.12; R.NT.00.01-.05; R.IT.00.01-.04; R.CM.01-.06; RP.00.01-.03)
- B. In print and alphabetical knowledge: (HSCOF-L 2.1.3, 2.1.5, 2.3.5, 2.5.1, 2.5.2, 2.5.3, 2.5.4)(GLCE-R.WS.00.03-.09; R.FL.00.01)

Grocery Store

Michigan Content Standards: Mathematics

Strand 3: Measurement

Early Childhood:

Physical Development and Health:

7. Early Learning Expectation: Children become aware and begin to develop an understanding of nutritional habits that contribute to good health.

Mathematics:

7. Early Learning Expectation: Children begin to develop an understanding of numbers and explore simple mathematical processes (operations) using concrete materials. (HSCOF-M 3.1.3, 3.1.4, 3.1.5, 3.1.6) (GLCE-N.ME.00.01-.10)

Science

2. Early Learning Expectation: Children begin to recognize that many different influences shape people's thinking and behavior. (HSCOF-SS 6.5.2)

Social Studies

1. Early Learning Expectation: Children begin to understand and interpret their relationship and place within their own environment. (HSCOF-SS 6.5.4)

Hospital

Early Childhood:

Physical Development and Health:

5. Early Learning Expectations: Children begin having knowledge about and make age-appropriate healthy choices in their daily lives. (HSCOF-PDH 8.3.3, 8.3.4)

Mathematics:

7. Early Learning Expectations: Children begin to develop an understanding of numbers and explore simple mathematical processes (operations) using concrete materials. (HSCOF-M 3.1.3, 3.1.4, 3.1.5, 3.1.6)(GLCE-N.ME.00.01-.10)

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Tree House

Early Childhood:

Science:

2. Early Learning Expectation: Children beginning to show awareness of scientific knowledge and relate to living and non-living things. (HSCOF-4.2.1, 4.2.2)
3. Early Learning Expectation: Children show a beginning awareness of scientific knowledge related to the earth.

Coming to Imagination Station

Materials:

Paper or self-adhesive name tags

Markers

Crayons

Yarn, Optional

Paper punch, optional

Procedure:

1. Write each student's name on a paper or self-adhesive name tag. (This will be their name tag the day they come to the Imagination Station.)
2. Lay the cards down and invite the children, one at a time, to find their own name.
3. Have the children decorate these, as desired.
4. If using paper, the teacher will need to punch holes in the top corners and attach yarn to the necklace.
5. Talk about the Imagination Station. What is a science center? What will you do at the science center when you visit?

Guiding Questions:

- What is the first letter of your name?
- What sound does that letter make?
- What are some other words that start or end with that sound?
- Has anyone ever been to the Imagination Station before? What things did you like to do when you visited?

Back in the Classroom: Construction Zone**What's my Rule?**

Discuss with children the experiences they had with the blocks. Ask them to recall what they built with the blocks and the different kinds of blocks they used.

Materials:

Blocks of various sizes

Procedure:

1. Have children identify a group of blocks that follow a certain rule.
Examples:
My blocks all have straight edges on their sides.
My blocks all have three sides.
My blocks all have sides that are the same length.
2. Encourage students to use numbers, colors and shapes to group their blocks.
3. Gather in a group and see if students can guess how their classmates grouped their blocks.
4. Have students try to find more blocks that follow their rule.
5. Have students repeat this activity with a new and different rule.

Extension:

Read the following books:

- *The Tangram Book* by Jerry Slocum
- *Story Puzzles: Tales of the Tangram Tradition* by Valerie Marsh

**Back in the Classroom: Grocery Store
Class Pizza**

Learn about portions and servings.

Materials:

Assorted colored paper
Scissors
Glue/Paste
Crayons/markers
Large circular cardboard (to be the pizza)

Procedure:

1. Brainstorm a list of toppings for a pizza.
2. Divide the class into small groups. Ask each group to make a 'topping' for the pizza using the materials provided (pepperoni, mushrooms, green peppers, etc.)
3. Arrange and glue the toppings on the pizza.
4. Cut the pizza into four portions. Give one piece to four different children. Count aloud with the children the number of portions: 1, 2, 3, 4. Explain that this one pizza provides 4 portions.
5. Now take those same pieces and cut each in half. Count aloud with the children how many portions you have after you cut the pizza a second time. Explain that now this one pizza provides eight portions but that the new pieces are smaller.
6. Cut the pizza slices in half again and pass them out. Again, count aloud how many portions there are. Sixteen. Have the children observe that these pieces are even smaller.
7. Explain that as the number of servings increases, the individual portion decreases- the more people who eat the pizza, the smaller the piece each person will get! If we keep cutting the pizza so everyone can have a piece, the pieces will be so small, children may only get one bite!

Extension:

Read aloud: *Little Nino's Pizzeria* by Karen Barbour
Discuss how Nino's family worked as a team and how working as a team makes the task easier and faster.

**Back in the Classroom: Hospital
On the Job****Materials:**

Empty toilet paper rolls

Procedure:

1. Discuss the tools doctors and nurses use in their job to check a person's health. Have students recall some of the equipment they saw in the Hospital at the Imagination Station.
2. Make your own stethoscope in class using toilet paper rolls.
3. Have students take turns listening to one another's resting heartbeat through the roll, then have the children do some quick exercise, like jumping up and down for 30 seconds, and listen again to hear if the heartbeat is louder and faster.
4. Ask the children:
 - a. Which of the five senses do doctor's use to check your heartbeat?
 - b. Are good listening habits important for a doctor?
 - c. What other jobs require good listening skills or habits?

Extension:

You will need: *Fox on the Job* by James Marshall

1. Have children recall the Hospital at the Imagination Station. Ask them what kinds of jobs hospital workers have to do. Help them recall the ambulance, the admitting desk and the nursery area.
2. Read *Fox on the Job* aloud. In the book, Fox tries to earn money for a new bicycle in several different jobs. Talk about the different jobs that Fox took to earn money.
3. Have children think of (or invent) careers that would be fun to have, such as ice cream taster, video game designer, toy inventor or dog walker.
4. Give each child a handout. Help the children fill out the job description, then draw a picture of what they would like to do.

My name is _____

I am a _____

At my job, I _____

Post Activity

Back in the Classroom: Tree House

What's the Weather?

Materials:

Imagination Station's Weather Coloring Page
Crayons

Procedure:

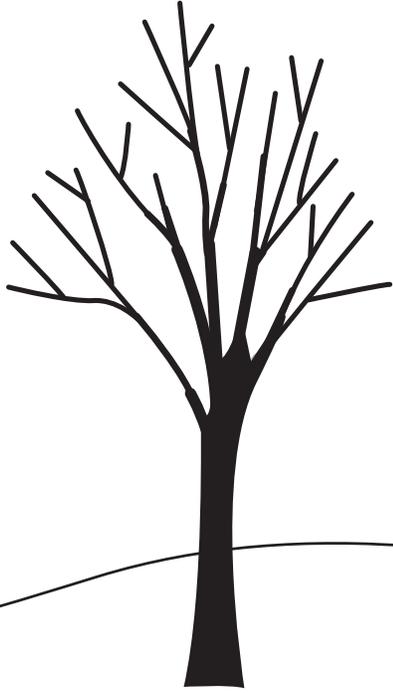
1. Have children color and discuss the Weather Coloring Page.
2. Ask the children to say one thing they like to do in each season.
3. Discuss the need to wear different clothes for rainy/hot/cold/windy weather.
4. Make a chart on the board with the titles: Rainy, Hot, Cold, Windy, Snowy and list or stick pictures up on the board of clothing that children state they would wear in that type of weather.
5. Discuss how animals change 'what they wear' in different seasons and why? (examples: dog shedding, rabbits turning white in winter)
6. Talk about how animals that can't change their clothes cope with different weather conditions. Examples: bears hibernate, fish swim to deeper water, birds fly south.

Extension:

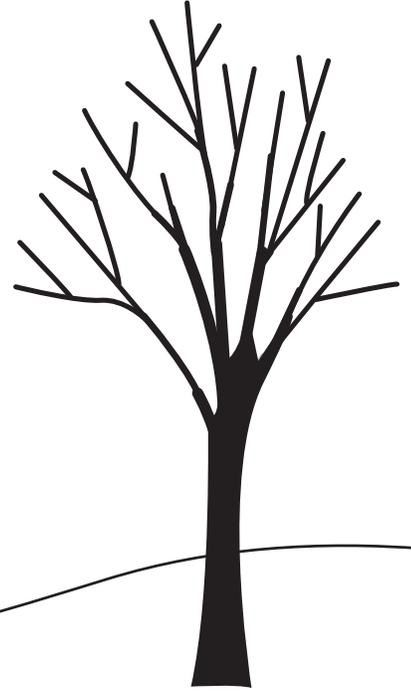
Read the following books:

- *Jesse Bear, What Will You Wear?* by Nancy White Carlstrom
- *The Living Rain Forest: An Animal Alphabet* by Paul Kratter

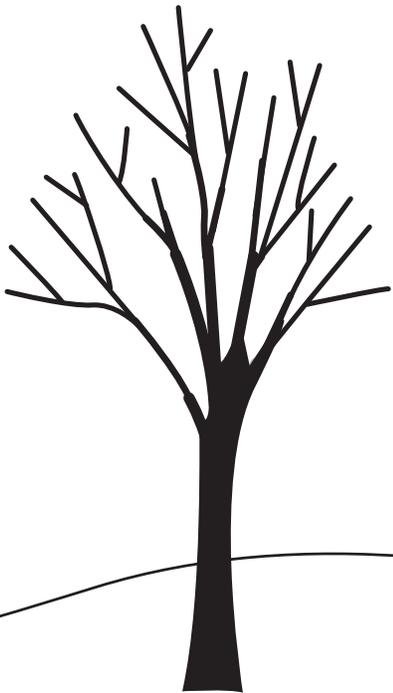
winter



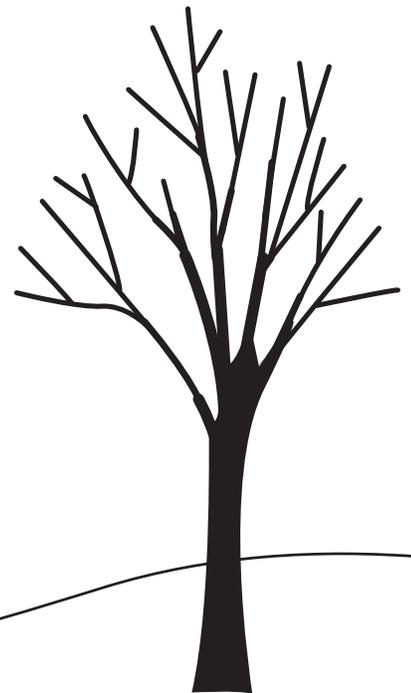
spring



summer



fall



Visitor Guide

Attractions

High Wire Cycle – This thrill ride hovers over 18 feet above the ground, suspended on a 1-inch cable with a 275 pound counterweight that enables any person to defy gravity.
 • You must be 54" to ride

Simulator Theater – Over The Edge!

Experience every turn, jolt, twist and drop. With HD visuals, surround sound and a responsive platform, you have an adventure without leaving your seat!

- Imagination Station members ride FREE! You must have a token to ride. Tokens are \$2 and available at Simulator entrance or Visitor Service.
- You must be 42" to ride.
- Elevator available. Please contact a team member.

Demonstrations

Extreme Science Theater

Interactive demonstrations with an exciting EXTREME twist! Check monitors located at Visitor Service or at elevators for times.

Learning Worlds

Eat It Up! – This Learning World is focused on nutrition and exercise and tells the story of how the choices you make affect your body. Eat Smart. Play Hard. Have Fun.

Energy Factory – Get a glimpse into the abstract world of oil refining and solar energy.

Flex Space – This ever-changing space features some of the best exhibitions from North America and great experiences that we've created right here at Imagination Station.

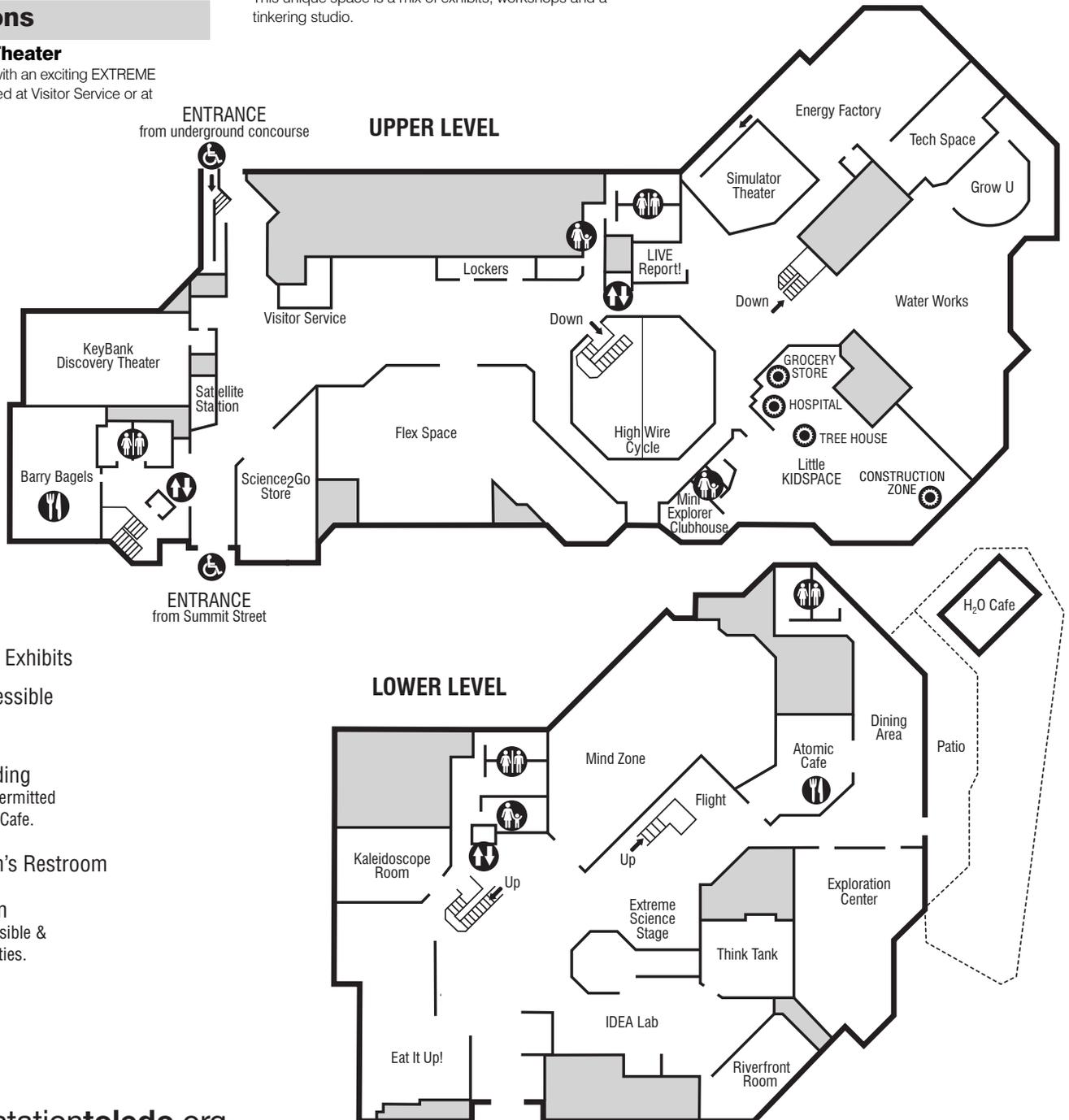
Grow U – Let Mother Nature be your guide as you take on FARM 101: Know It to Grow It.

IDEA Lab – This Learning World combines science, art, engineering and design to allow for open-ended exploration. This unique space is a mix of exhibits, workshops and a tinkering studio.

Little KIDSPACE™ – Our littlest adventurers (kindergarten and under) can hop aboard our fire truck, shop in the grocery store or climb on our favorite tree house while learning science fundamentals.

Mind Zone – Home to the Distorted Gravity Room, discover how the mind processes, interprets and creates illusions and perceptions.

Water Works – Discover the slippery science of water and explore nature's most powerful resource.



- Little KIDSPACE Exhibits
- Wheelchair Accessible
- Elevator
- Restaurant/Vending
Food & beverages permitted only in Atomic/H2O Cafe.
- Men's & Women's Restroom
- Family Restroom
Special needs accessible & baby changing facilities.

Construction Zone

Explore building and measurement.

Materials:

Wooden blocks
Large, colored, soft blocks
Pencil (for chaperone)

Procedure:

1. Ask the children to tell you something about the blocks (their properties/characteristics).
Ask the children:
 - How are the blocks the same or different?
 - Can you find some blocks that match? Can you find a smaller or larger block?
 - Which blocks look like a square? A rectangle? A cylinder?
2. Grab blocks of different sizes and have the students arrange them from smallest to largest.
3. Hand each child a block and have them find an identical block.
4. Play a game with the blocks. "I spy a block that is _____" and have the children locate it.
5. Invite the children to use the blocks as "measuring" tools. Have them line up the blocks and then count how many blocks it is to the Tree House. Then count how many blocks it is from the Tree House to the Hospital. Have the children build their own "train" of blocks and count them.
6. Have children explore how tall they are in blocks.
7. Ask the children:
 - How many blocks can you stack up before they fall down?
 - Have children build a tower of blocks starting with the largest blocks at the bottom. Then have students try to build a tower with the small blocks at the bottom. Which blocks make a stronger tower?

Write down the children's comments and questions.

Chaperone

Grocery Store

Explore food and customs.

Materials:

Food items

Pencil (for chaperone)

Procedure:

1. Invite the children to gather foods in their shopping cart to 'prepare a meal'.
2. Prompt the children to sort the foods according to:
 - Number
 - Size
 - Breakfast, Lunch or Dinner
 - Healthy or Unhealthy
 - Vegetable, Meat, Fruit or Grain

Guiding Questions:

- Where does this food come from? A plant or an animal?
- How are the different foods prepared that are in your cart?
- What is a tradition? Explain that a tradition is something we enjoy doing again and again, like eating turkey at Thanksgiving. Are there foods in the grocery that remind you of traditions in your home?
- What other holidays involve a special meal?

Write down the children's comments and questions.

Chaperone

Hospital

Explore hospitals and their equipment.

Materials:

- Dolls
- Hospital scrubs
- Blankets
- Pencil (for chaperone)

Procedure:

Task 1

1. Invite the children to dress and care for their babies.
2. Have the children observe the equipment and areas that the hospital has to help people take care of the children.
 - What are some hospital jobs?
 - Do these workers wear special clothes? Do they use special equipment or tools?

Task 2

1. Count the babies. Match one blanket for each baby. How many blankets do you have? How many babies do you have?
2. Sort scrubs from blankets and count them. Are there more blankets or scrubs?

Write down the children's comments and questions.

Chaperone

Tree House

Learn about habitats, weather and seasons

Materials:

Pencil (for chaperone)

Procedure:

1. Invite the children to explore the Tree House and pretend that they are animals.
2. Imaginative play is a great way for children to better understand the world around them. Encourage the children to make sounds like the animals they are pretending to be, move like the animals, eat food like the animals, etc.
3. Ask the children:
 - What animals live above the ground (in the branches of the trees)?
 - What animals live below the ground (in dens/burrows/tunnels)?
 - How are these animals the same? How are they different?
 - By looking at the leaves, what season do you think it is in KIDSPACE?
4. Look out the windows. Ask the children:
 - What is the weather like outside today?
 - What season is it in Toledo today?

Write down the children's comments and questions.