Chapter 6:

Learning through Play

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Guiding Principle: The Learning Program

The Kindergarten learning program provides many opportunities for child-initiated play supported by engaged and intentional teachers, in balance with more focused experiential inquiry guided by teachers.

Children's Kindergarten experiences help to shape their motivation and approaches to learning. Since children learn through play, their teachers offer rich, holistic, inquiry-based, playful learning designs and environments and use cross-curricular integrated instruction that responds to children's development and interests.

Learning/play centres* and interesting materials to work with help children to experience joy and wonder in their Kindergarten experiences. Learning centres may be implemented for the purpose of exploring new ideas and concepts, providing strategic instruction, or giving time to practise and consolidate new learning. While at learning centres, children learn through play, make their own inquiries, and further develop their independence in making choices, problem solving, time management, and personal responsibility.

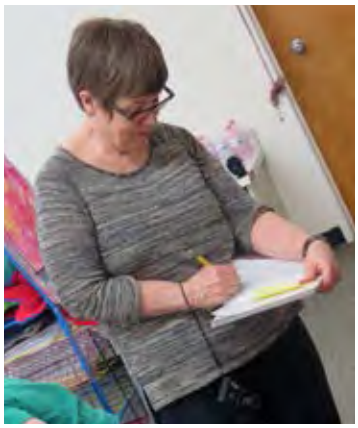
The Rationale for Play Centres

According to the National Association for the Education of Young Children, a play-based Kindergarten classroom is filled with learning centres that promote free play and children's choice. At the same time, intentionally planned centres can promote the provincial curricular goals through the types of materials that are present and the types of learning they invite. The learning landscapes in many Manitoba Kindergarten classrooms include play centres that promote many rich contexts for children's play-based learning, explorations, and holistic development. Some teachers may interpret time for learning centres as time for teacher-directed activity. However, true play centres are freely chosen by the children, embrace children's choice and self-direction, and foster collaborative processes or inquiry (as discussed in Chapter 5). Learning takes place everywhere and is not limited to a centre.

Choice time at learning centres offers children "a powerful opportunity to develop independence, risk-taking, perseverance, initiative, creativity, reasoning, and problem-solving—the 'learning to learn' skills" (Gullo 62), which "are the skills that children need to succeed in school and in life" (Elementary Teachers' Federation of Ontario "Learning in Centres" 4). During choice time, your role is to provide supportive environments and to interact sensitively with your students. Choice time offers you opportunities to gather important information about children's prior knowledge, their developing skills, their attitudes to learning, and how they express and construct their knowledge. These authentic observations allow you to differentiate instruction while you interact with children individually and in small groups.

* In this document, the terms *play centres* and *learning centres* are used interchangeably.

As discussed in Chapter 2, developing strong oral language skills is one of the most important tasks for the young child. Talking, questioning, drawing conclusions, and making inferences should be part of the learning occurring *in every play centre and in every learning experience of the day*. Children should be improving their listening ability, learning to follow directions, becoming curious about the written word, and feeling the desire to write things for themselves. Language and thinking are closely related, and, as an astute teacher, you will take advantage of opportunities to encourage children to do their own thinking and to express their own thoughts.



During exploration time, an intentional Kindergarten teacher circulates the room, taking photographs and making notes in her journal about children's learning.

Think of your literacy and numeracy goals and be strategic and intentional about how you can address cross-curricular goals through your play centres. The centres should provide many opportunities for children to write, count, and represent.

The number and types of learning centres available will vary according to the needs and interests of the children in your class, your available space, and your learning goals or objectives. Your centres will grow and change over the course of the year, so stay flexible with what you offer to children. Be mindful of the possibilities as you observe children's responses to the materials you have set out, or to the space itself. Be intentional in your responses to a child's own observations and discoveries. Ask yourself:

- What can you enhance?
- How can you extend children's learning?
- What do the children's homes look like, and with what types of furniture, utensils, tools, books, and toys are they familiar?
- How can you incorporate these elements into the Kindergarten environment?

Learning centres may be temporary or permanent. Permanent centres will be available to children on a year-round basis and will include sand and water, blocks, and resources for dramatic play. Temporary interest centres may respond to children's current play themes and interests, skill development, or seasonal availability of materials, such as spring tadpoles for a tadpole observation centre. The materials in some learning centres will vary, but the centres will remain in use for the entire year.

Permanent learning centres are available to children year-round and should include sand and water, blocks, and resources for dramatic play.

In this Kindergarten classroom, the light table is a year-round feature, but what children may examine on it changes. Today, these girls enjoy a literacy activity that is enhanced by the light shining through clear plastic trays (partially filled with a 3-to-1 mixture of salt and gelatin powder for colour and scent) so that they can easily see the letters they are practising making. They are also developing key science competencies, such as asking questions, observing, and predicting, which are learning outcomes identified in Cluster 0 of Kindergarten Science.

(L) Two friends create their letters on a light table.

Suggestions for Play Centres

The remainder of this chapter offers intentional teachers many suggestions for learning centres that should be made available year-round, along with some that may be of a temporary nature. It also offers suggestions for discovery bins, which encourage discovery, exploration, and investigation. Special learning opportunities children may encounter during field trips away from the classroom are also discussed. The chapter concludes with a reminder that learning is not confined to a learning centre you create and that some of the best learning opportunities occur outdoors.

Permanent Play Centres

Some key play centres, which have been found in child-centred classrooms for decades, are recommended as fixed features for a Kindergarten classroom. Permanent play centres provide a variety of open-ended learning experiences and should include a block centre, sensory centres such as a water table and a sand table, and a dramatic play centre (sometimes called a playhouse, a housekeeping centre, or a daily living centre).

Block Centre

Blocks are open-ended learning materials that children of various ages and levels of development can use in ways that are quite simple or quite complex. Blocks have been a mainstay of Kindergarten classrooms since the time of Friedrich Froebel, who originated the first Kindergarten curriculum. Today, many Kindergarten children have previously experienced block play in their nursery school, in a child care centre, or at home.

Purposes Play at the block centre

- develops children's large muscle control
- provides opportunities for classification
- provides opportunities for cooperative play
- provides opportunities for imaginative play
- offers children mastery opportunities and the chance to feel powerful

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- offers many opportunities for talking and learning and using new vocabulary
- promotes experimentation with different materials and their properties
- offers children a three-dimensional medium through which to represent their ideas
- facilitates children's problem solving
- addresses many mathematics and science learning outcomes

Equipment

Equipment and materials at the block centre could include the following:

- **Unit blocks:** Unit blocks expose children to different sizes and shapes and to the relationships that exist among them, since they are based on the ratio of 1:2:4 and include 20 different shapes. The Bank Street School for Children (as cited in Wellhousen and Kieff 102) recommends a minimum of 472 unit blocks of various shapes for a space that will facilitate block play by 7 to 10 Kindergarten-age children, including triangles, ramps, pillars, small and large cylinders, curves, right-angle switches, and other unique shapes. The roof boards, switches, and intersection blocks are especially valuable in supporting the more sophisticated building Kindergarten children enjoy.
- **Hollow blocks:** If space allows, add at least 20 hollow blocks and 10 boards to your block centre. Many hollow blocks are one foot (30 cm) long or longer and may be made of wood or cardboard, and so, despite their size, they are easy for Kindergarten children to carry around. Hollow blocks can be used to build larger structures that facilitate children becoming part of the drama as they play in the structures they build, as they walk or drive their toy cars along the big roads they create, and so on. These blocks are also great to take outdoors.
- **Accessories to block play:** Add wooden or plastic objects or figures such as animals, people of various ages, genders, ethnic groups, abilities, and occupations (e.g., community helpers), traffic signs, cars and trucks, and so on.
- **Other loose parts:** Add interesting supplements such as tarps or tablecloths (for creating tents), small logs, milk crates, plastic cups of different sizes, tree stumps or rounds, tongue depressors, up to 50 pine planks (1 x 4 in., or 25 x 100 mm) of various lengths, PVC pipes, pieces of bamboo troughs or gutters, tires, milk jugs, plastic pop bottles, and so on. These may be changed during the school year to support children's emerging interests.

Special Considerations

Blocks differ from other building materials (e.g., Lego, K'Nex, Tinkertoys) because they do not have a prescribed way to fit together. Blocks challenge children to learn about design and balance as they create the structures they have imagined. They can be made of sponge, wood, or plastic, and can be hollow or solid. Experiences with various kinds of blocks can help children make important science and engineering connections regarding the properties of materials, as well as connections to mathematics learning outcomes and to science learning outcomes in Cluster 0 of Kindergarten Science.

Although wooden blocks may be more expensive than other kinds of blocks for the initial purchase, they will last for many years. Many children will use the wooden blocks, so they should be a staple of your classroom.

Unit blocks are considered to be representational and move children into the "microworld." As children play with these blocks, they will make discoveries, such as four little blocks equal one big block. These kinds of discoveries will also support children's emerging numeracy skills.

Because Kindergarten children are often quite capable of building very large, complex structures, it is critical to have enough supplies. Ensure that there are enough blocks and sufficient clear floor space for at least three children to play. If the room allows, bigger is better for this play centre.

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Block Centre

If budgets or spaces are limited, and to keep the peace in your classroom, it is better to have multiples of the basic shapes than one of every unique shape.

Rich, detailed block play requires ample building time, so long, uninterrupted periods of play are necessary. Sometimes a work in progress can be preserved "as is" for completion the following day. A sign that reminds children that an area is "Under Construction" will be a good visual reminder to children and caretakers to leave this structure where it is. Alternatively, if cleanup is a necessity because a different group of children share the same space, take a photograph of the children and their creation. The photograph serves as a souvenir and is a concrete way for you to demonstrate your respect for the children's hard work even though cleaning up is a requirement.

Make sure there are enough accessories to support children's collaboration and to avoid provoking their competition. Use clear plastic bins or baskets to store and organize small accessories, and place the larger props, such as construction hats, nearby.

Ideas to Try

- **Storage:** Store blocks on open shelves so children can access them without help, choose the blocks they need, and put them away easily. Open bins where all blocks are jumbled together are not recommended, as the block the child wants will invariably be at the bottom, and all blocks will be dumped out to find that elusive one being sought. Instead, organize blocks by type, size, and shape. As children return blocks to their designated spots during cleanup, they have opportunities to sort and categorize. Label the block shelves to help keep them organized. Some teachers outline the various shapes right on the shelves to make this placement job easier, while others use small printed labels along with the graphic representations. This approach helps children make the connection between the symbol and the written word.
- **Location:** Place your block centre close to the dramatic play centre to extend imaginative play further (e.g., a garage could be built for the fire station, or a castle for the princes and princesses). Watch for traffic challenges so that children who are moving around the room do not disturb or interrupt children who are busy building. A corner that is somewhat protected through the placement of the block shelves at right angles to one another often works best.

What to Observe

The block centre offers opportunities to make observations:

- What interests do children show as they build?
- What social skills do you see them using?
- What stories do children tell as they build?
- What questions are they asking?
- How are they representing their learning?
- What problem-solving strategies do you see them try?
- What do you notice about children's fine motor development?
- How do children move through the physical space?
- What mathematics and science learning outcomes do you notice them meeting?

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Extensions

To extend block play, think about adding construction hats, safety vests, books about building, blueprints, tape measures and metre sticks, lengths of string to use as non-standard measurement tools, levels, clipboards, graph paper, and carpenter's pencils. Plastic cups, blankets, and swaths of materials are other loose parts you can add. These materials help children to explore different themes in their block play. You will certainly find many good opportunities to introduce children to the vocabulary of engineers.

> "To extend exploration with the materials, and to encourage more hypothesizing and theorizing," the teacher can help children think more deeply about their constructions by asking questions such as: Why did you choose these materials? What might you do differently if you were to build this structure again? Questions like these will ". . . spark further questions, discussion and engagement with the materials" (Wien, *Emergent Curriculum in the Primary Classroom* 41).

(Top L) Interlocking rubber tiles laid over the carpet create a firmer level surface for children's building. (R) Construction books help inspire children's building. Photos documenting their learning and creations are attractively framed and displayed, while seagrass baskets with photos and labels remind children where the props go during cleanup. Adding blankets to the selection of props helps children create "hidey" spots.

(Bottom L) Children enjoy walling in their teacher by building with plastic cups added to their block centre. (R) In this complex co-construction, children make full use of their block centre's space and a multitude of hollow blocks, unit blocks, and small blocks.

Sensory Centres

Sensory Centres

- **Sand**
- **Water**
- **Light**
- **Other Media**

Children develop their understanding of the natural and physical world through sensory exploration, and a sensory centre provides them with opportunities to understand the different senses and the types of data/information they gather through these experiences. All Kindergarten classrooms should provide children daily experiences with sand, water, and playdough or other types of clay, which are the quintessential materials for unstructured play. Sand and water play activities are happy experiences for most young children and offer many natural mathematics and science learning opportunities. Children often play completely engrossed for long periods, filling and dumping pails of sand or water, building castles, and running trucks on imaginary roadways carved into the sand. Children find pleasure in filling a bucket of water and dumping it or pouring it on the sand. For many children, sensory play can be quite therapeutic and offers a calming effect.

Purposes

As children use their senses to gain experiences of how the materials at their sensory centres look, feel, react, and change, they encounter many excellent opportunities to develop skills related to inquiry and exploration, such as asking questions, posing theories, observing, and predicting.

In addition, sensory play

- contributes to socialization (also allowing the shy or less skilful child to join in and have a feeling of accomplishment)
- improves visual-motor coordination as children consciously try to make their hands work for them
- strengthens small muscles
- contributes to experiences related to understanding of numeracy and science concepts such as
  - estimating and measuring
  - conservation of mass
  - characteristics of water and other sensory materials
  - size, weight, pressure, shape, and displacement
- allows opportunities for imaginative and cooperative play
- calms children
- expands children's vocabulary through conversations with friends and teachers

Equipment

Equipment and materials at the sensory centres could include

- sensory materials, such as sand, soil, birdseed, small plastic pellets, water, snow, bubbles, and playdough
- toys for sand and water play that can be used to dig, scoop, fill, and pour, such as shovels and pails, scoops and trowels, small rakes, wide-toothed combs for making patterns, spray bottles, egg beaters, turkey basters, eye droppers, hand pumps, sand moulds, measuring cups and spoons, sifters, sieves, and colanders, litter scoops (for separating out items you may have hidden in the sand, such as alphabets, "jewels," or other collectibles), and so on (ensure there are enough toys for collaboration, not competition)

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- toy animals, small people and figurines, small cars and trucks, wooden or plastic boats, and washable dolls
- a sand/water wheel
- plastic tubes, funnels, and graduated cylinders (50 mL and 100 mL)
- sponges and non-porous items for comparison
- soap for creating bubbles, food colouring, and glitter (to add a new dimension to water play)
- sponge alphabets for floating in water or alphabet moulds for use in sand
- rolling pins and cookie cutters (for the playdough table), buttons, feathers, pipe cleaners, small pebbles, coloured pasta in various shapes, craft sticks, a garlic press (makes wavy hair), pizza cutters, plastic knives, scissors, and more

Special Considerations

- **Location:** If space is limited, don't be afraid to sacrifice a classroom table to make room for a sand table with wheels for ease of movement, and of a height that allows children access without strain. Tables like these usually come with a lid so that you can open or close them as needed. With the lid on, you have a surface for other uses (e.g., to build upon, dry paintings on). Avoid placing sensory tables too close to the wall so that there is room for at least four children per table (one on each side). If your classroom space does not allow for both sand and water tables, place deep plastic dish basins on children's tables and fill them with a sensory medium.
- **Supplies:** If your sand table has room for four friends, ensure there are sufficient quantities of the resources needed (e.g., four shovels, four pails).
- **Hygiene:** Remember that the water table must be emptied each day for health reasons. Children should wash their hands before and after playing in the water. Add fresh water and chlorine bleach to the water table every morning at a concentration of 10–50 ppm to help reduce the spread of germs. During cold and flu season, you may wish to use small basins of water for individual use; these can be dumped and refilled for each new use. Sanitize water tables and water toys (using 100 ppm chlorine bleach solution or equivalent) at the end of each day. Adding food colouring and/or dish detergent to water tables is acceptable when chlorine is not added. The organic compounds in soaps, detergents, and food colouring, when combined with chlorine, make these products ineffective as a sanitizer. Change the sand, rice, or macaroni table at least four times a year (or when rice or macaroni gets wet). Sanitize plastic beads weekly. As a relatively inert medium, rice does not present the same hazard as do water and sand. Nonetheless, examine rice and other grains regularly, and change the table's contents at least quarterly.
- **Mixed messages?** Some teachers object to the use of food products as an art or sensory medium; they think their use may inadvertently teach young children that it is acceptable to waste limited resources—a special concern when one out of five children in Canada lives in poverty. For example, using rice or cornmeal at the sensory table, gluing beans or pasta to a mosaic, or potato printing with tempera paint at the art centre may seem to sanction wasting food. What do you think?

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Sensory Centres

Ideas to Try

To encourage children's independence, store a child-sized broom and dustpan and a damp mop close to the sensory centre to guide children to clean up spills and keep the area safe. Keeping plastic smocks on hooks close to the water play will help children keep their clothing dry.

In addition to offering sand and water, some classrooms offer children the chance to explore with other sensory media on a daily or occasional basis. Consider emptying the sand or water table occasionally to allow for other media, such as wooden pieces, mud, snow, birdseed, cornstarch magic (oobleck), and so on.

A light table (an illuminated table, box, or panel) is also used in early childhood classrooms (where space permits) as another type of sensory play that allows children to explore light, transparency, and reflection. In Reggio Emilia-inspired classrooms, "light is another language of learning" (Wien, *Emergent Curriculum in the Primary Classroom* 40). Children will enjoy exploring light with inviting materials such as glass jewels, transparent bingo chips, film negatives, clear parquetry shapes or small transparent blocks, coloured light film or gels, X-rays, fall leaves in autumn, flowers in spring, clear plastic cups, and so on. Children can write on overhead transparencies laid over the light table. If you do not have a light table, see whether there is an old overhead projector in your school and repurpose it for this kind of play.

What to Observe

Sensory centres offer opportunities to make observations:

- What stages of play do you see among the children who play here?
- What interests do children show as they play with sand or water?
- What social skills do you see children using?
- What stories do children tell as they use the sensory materials?
- What questions are they asking?
- What problem-solving strategies do you see them try?
- What do you notice about children's fine motor development?
- How do children move through the physical space?
- What mathematics and science learning outcomes do you notice them meeting?
- Are children willing to take risks with "messy" play?
- Are children calmed by the chance to play with these open-ended materials?

Extensions

As children play with sensory materials, they discover relationships, observe, and make plans they have developed themselves. As you observe children's learning, you will recognize opportunities to link their explorations to specific learning outcomes. Ask children the types of questions that help them to observe and compare, to predict and investigate, to tell stories, to count, and to communicate their discoveries.

Ask children questions such as the following:

- What would happen if you dampened the sand?
- Can you build a structure with sand? How is it different from building a structure with blocks?
- I see a digger, a truck, and some people near the big hole you made. What is going on over there?

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- How does the oobleck feel as it slips through your fingers? (For a recipe, see Appendix P: Simple Recipes for Children.)
- How much water can fit into that turkey baster? How can you use it to move water from the water table to the sand table?
- What will happen to the snow we have put onto the table? How do you know?
- What will happen if we add dish soap to the water? What can we use to mix it up?
- Which items do you think might float? Which ones will sink?
- How can you keep track of your discoveries?

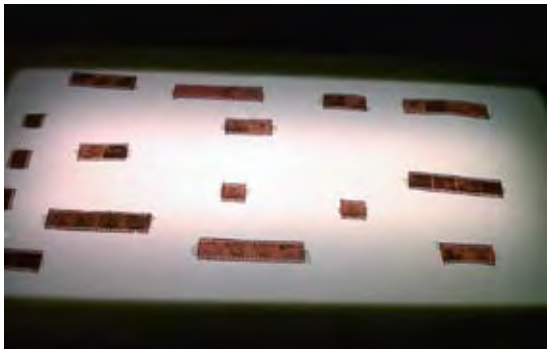
Playdough

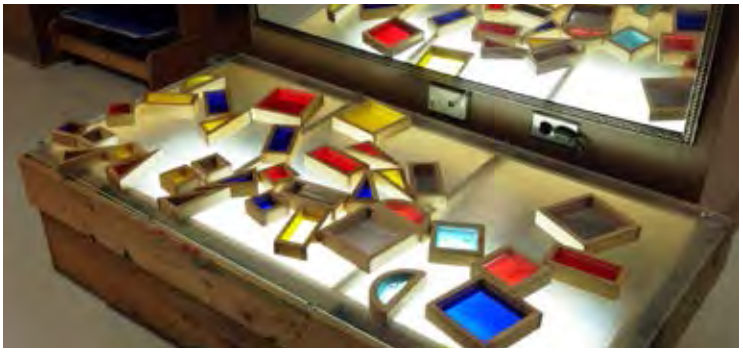
- Instead of using commercial products, make playdough with children to offer authentic literacy and numeracy experiences. (For a recipe, see Appendix P.)
- Create letter shapes out of playdough.
- Practise cutting playdough.
- Use playdough to create three-dimensional objects: monsters, animals, letter shapes.
- Let the creations harden and dry. Once the creations are ready, children can paint them.

Children can be responsible for their own cleanup during sensory play if there are mops, brooms, and dustpans nearby.

The light table offers children many opportunities to explore colours, shapes, patterns, and design, meeting mathematics, science, and visual arts learning outcomes.








(Top L) Children use skills of observation and matching, and are thrilled to find blue "gems" hidden in the sand as they sift it with their kitty-litter scoops. (R) Children play with rice tinted with food colouring, using skills of observation while exploring the properties of rice (e.g., texture, flow).

(Middle L and R): Investigating negatives or X-rays on the light table is a wonderful opportunity to emphasize skills, provoking children to ask questions and to think of how to answer them.

(Bottom L): A light table fascinates children and offers explorations about colour and transparencies.
(R) Wooden pieces are loose parts added to this sensory table.

Dramatic Play Centre

Almost all children enjoy imaginative play. They love to play "house," "hospital," or "store." The dramatic play centre allows young learners to simulate real-life experiences. Many teachers choose to begin the year with a standard housekeeping centre, which may be adapted during the year to simulate other settings familiar to children, such as a veterinary clinic, doctor's office, hair salon, restaurant, and so on. Think about ways you can use the dramatic play centre to enhance children's literacy and numeracy skills, and enrich it with many props, texts, and types of paper to encourage children's reading, writing, and counting. According to Lev Vygotsky, make-believe play is a unique zone of proximal development in which children try out a variety of challenging activities and acquire many new competencies. (For more information, see Chapter 3.)

Purposes

Dramatic play

- affords excellent stimulation for language use and development
- provides opportunities to recognize and appreciate social and cultural differences and to increase children's own self-awareness
- encourages role-playing, perspective taking, and decision making, which involve organization and planning, important parts of self-regulation
- provides practice in social skills, such as respecting property rights, sharing, cooperating in play, taking part in group enterprises, and doing one's share of "family duties"
- encourages creative and divergent thinking and problem solving
- provides opportunities for classifying and organizing into categories, development of visual discrimination, and eye-hand coordination
- provides practical situations in which children become responsible for putting things back where they belong
- promotes children's emerging numeracy and literacy by providing opportunities to use numbers and letters in a meaningful context, such as making grocery lists, taking pizza orders, using play money, and setting the table (one-to-one correspondence)
- fosters science concepts when children's interests are related to trees, paper, and colour

Equipment

Equipment and materials at the dramatic play centre could include

- furniture, such as a wooden stove and refrigerator, and cupboards and shelving for storage
- a table and chairs
- a telephone and telephone directory (include old smart phones with the batteries removed)
- a doll carriage and doll highchair
- a crib or cradle and bedding
- dolls, clothes, and blankets
- sarongs, cradleboards, and *amautiit* (Inuit) baby carriers
- baby supplies (plastic baby bottles, a high chair, or a stroller)
- housekeeping tools (child-sized broom, mop, and dustpan)
- a sink or dishpan
- pots and pans, dishes, cutlery, cooking utensils, and bowls
- plastic or wooden play food and recyclables, such as empty cereal boxes and milk and yogurt containers with labels and logos

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Dramatic Play Centre

- dress-up clothes for both sexes, as well as gender-neutral clothing or swatches of fabric, which the children can use imaginatively to recreate hero capes, princess gowns, and other clothing items
- cookbooks, recipe cards, takeout menus, grocery store flyers, and coupons
- pens, pencils, and notepads
- a mirror
- a monthly calendar

Special Considerations

Your role: During children's pretend play, be present and involved as you

- help facilitate children's developing social skills
- model entry strategies to join peer play
- stimulate children's numeracy and literacy thinking by making suggestions or asking questions (e.g., How many pizzas do you need to order for all your hungry children?)
- help enhance and extend children's conversations
- gain insight into children's thinking about the roles played by family members
- encourage nurturing and helpful behaviours

Hygiene and health: Remember that dress-up clothes should be washed regularly. If lice are an issue in your school, you may need to discontinue the use of dress-up clothes made of fabric during times of infestation. (You can wash or freeze these items before placing them back in the classroom.) Plastic firefighter hats, for example, should be fine.

Ideas to Try

Add items that represent the diversity of your classroom, neighbourhood, and community to the dramatic play centre. What kinds of things might children see in their own kitchens at home? Consider adding woks, gourds, Asian soup spoons, cultural serving trays, bamboo mats, bamboo steamers, chopsticks, tortilla presses, rice bowls, wooden bowls, mortar and pestle, small cast-iron pots, and so on. Look for dolls that represent the diversity of Manitoba's Kindergarten children and their families, including dolls with differing abilities. Ask families to contribute props for your dramatic play centre, such as dishes, recyclables, fabric swatches, cultural items, hats, and so on.

What to Observe

The dramatic play centre offers opportunities to make observations:

- Which children engage in dramatic play?
- Who seems uncertain of what to do?
- What stories or scripts are children playing out?
- Do you notice particular themes (e.g., danger/rescue, good/bad) being explored?
- How are children using language as they play?
- What prior knowledge do children bring to this play?
- How do children self-regulate as they stay "in character"?
- What do you notice about children's fine motor development as they undo buttons, write a grocery list, and so on?
- Which numeracy and literacy outcomes are met at this play centre?

Extensions

Respond to children's interests and ideas. Make changes to the dramatic play centre based on children's interests and decisions, not on "the theme of the month."

(Top L) Dolls with different abilities use special mobility aids.
(R) Culturally diverse dolls.

(Middle L) A doll lies in her cradleboard. (Centre and R) Children enjoy the dramatic play props and are inspired to write as they take their friends' orders.

(Bottom R) Children themselves decide how their dramatic play centre will transform next, using a graph that encourages reading, writing, and democratic decision making. In this case, the pet store was the clear favourite.

Switch It Up

You may wish to adapt the dramatic play centre to simulate other settings and materials that will encourage children's imaginative play. Some suggestions follow.

Children play "doctor's office."

Grocery Store

- cash register
- play money
- empty food containers
- plastic fruit and vegetables
- bags
- grocery flyers
- coupons
- paper and pens to make shopping lists and signage
- coupons
- purses and wallets
- price tags (envelope or folder labels)
- open/closed sign

Hair Salon

- empty shampoo bottles
- old blow dryer and curling iron
- combs and brushes
- mirrors
- beauty magazines
- telephone
- invoice pads (with carbon paper)
- open/closed sign

Doctor's Office

- white shirts
- cloth bandages
- adhesive bandages
- stethoscope
- plastic syringes (needles removed)
- telephone
- telephone message pad
- appointment book
- magazines and books for the waiting area
- paper pads and pens for prescriptions
- file folders and loose-leaf paper for patient records
- in/out sign
- poster about flu shots
- eye chart

Carpentry Shop

- screwdrivers
- hammers
- screws
- wood pieces and other loose parts
- cans and brushes
- non-toxic wood glue
- ruler, level, and measuring tape
- safety goggles
- open/closed sign
- blueprints
- books about building
- clipboard and pencils
- carpenter's aprons and hats
- empty (non-toxic) paint cans, brushes, and rollers
- invoice pads (with carbon paper)

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Restaurant/Pizza Parlour/Ice Cream Parlour/Diner

- tablecloths and napkins
- menus
- telephone for taking orders
- notepads and pencils for taking orders
- cash register and money
- invoice pads (with carbon paper)
- chalkboard and chalk or dry erasable board for "special of the day"
- large sign for the name of the restaurant
- placemats
- beverage list
- board for reservations (where children can write their names if they want to play)
- aprons for chefs and servers
- chef hats
- signs, such as "Please wait to be seated"
- trays for carrying orders to the tables
- plastic dishes, cups, and food
- takeout containers

Gas Station

- work clothes
- hats
- empty oil cans
- funnels
- hose or tubing
- toy tools
- larger toy vehicles
- maps
- cash register
- car magazines
- invoice pads (with carbon paper)

Post Office

- rubber stamp and ink pad
- mail carrier's bag
- hats
- mailbox
- paper and envelopes of various sizes
- pencils and pens
- "cancelled" stamps
- Easter or Christmas seals
- samples of various kinds of mail, such as thank-you cards, special events cards, bills and invoices, magazines, and postcards
- old stamp collection or binder with "trader" stamps
- map of the area
- cash register and play money

Fire Station

- raincoats
- hosing
- firefighter hats
- old smoke detector with its batteries removed
- fire safety poster (Stop, Drop, and Roll poster)
- small old fire extinguisher (expired, no foam)
- telephone
- handbell for the alarm
- maps

Police Station

- fingerprinting materials
- speeding tickets
- telephone
- alarm bell
- maps
- police hats
- badges
- paper for writing incident reports
- toy handcuffs

Vignette: The Pizza Parlour

In response to the children's interest in a book they had read about how to make pizza (*Pizza at Sally's* by Monica Wellington), the Kindergarten teacher and the children turned their dramatic play centre into a pizza parlour. The centre is open during free-play time, and supports the literacy and numeracy work children are doing during more adult-directed times of the day when children write about pizza, read poetry about pizza, and solve simple mathematics problems that involve deciding how many pizzas need to be ordered. The children and their teacher also made their own mini-pizzas (using pita rounds) and visited a local pizza parlour for a field trip. These pizza photos show how the use of dramatic play supports literacy and numeracy goals for children.

(Top L and R) All the fixings are ready for children's pizza making.

(Middle L) Clip charts with order forms get mathematics concepts into play. (R) Children add up the totals and pay and make change.

(Bottom L) A customized pizza order is ready to be enjoyed. (R) During choice time, the pizza parlour is open.

Vignette: The Animal Hospital

In this Kindergarten classroom, children's interest in animals was supported by changing their dramatic play centre into an animal hospital or veterinary clinic. The children researched what they would need for the clinic, and drew their own floor plan of what the clinic should look like. Learning about animal care was enhanced by a classroom visit from a veterinarian, accompanied by some real dogs. This dramatic play also reinforced science concepts related to animal needs, hygiene, food, and so on.

(Top L) Children research what they would see in a vet clinic and create a blueprint for how theirs will look. (R) A friendly vet from the local community later visits the classroom, accompanied by several real pets, to the children's delight.

(Bottom L) Vets examine the stuffed animals. (R) The animal hospital is open.

Arts Education Centres

The multiple perspectives and different ways of viewing the world that are possible through dance, drama, music, and the visual arts richly enhance children's learning. Your arts centres not only facilitate teacher-guided learning experiences that you plan for your group times, but also allow children to explore the arts in more self-directed ways.

Inclusion of First Nations, Métis, and Inuit Arts

Invite both contemporary and traditional dancers and singers to talk about Indigenous musical perspectives and to perform. Include traditional instruments, such as the Iroquois flute. Purchase and display posters and prints depicting First Nations, Métis, and Inuit musicians and dancers, both contemporary and traditional, as well as DVDs, CDs, and MP3s by Indigenous artists to include in the arts centres. Be aware of protocols related to drums and other instruments, as well as appropriate ways to recognize and thank cultural performers (e.g., honorarium, gift).

Music and Movement Centre

A music centre is a wonderful addition to a Kindergarten classroom even if children attend music classes in another designated room in the school.

Purposes

The music and movement centre provides opportunities for children to

- express feelings and develop skills in the social and emotional domains
- develop appreciation for different types of musical genres (e.g., world music, jazz, Indigenous music, classical music)
- develop vocabulary, language, and listening skills
- develop emerging phonological awareness in rhymes and repetition
- explore the physical sciences by creating sounds using various instruments
- demonstrate physical development through dance and movement to music
- explore different sounds, pitches, vibrations, and so on

Equipment

Equipment and materials at the music and movement centre could include

- pitched and non-pitched classroom instruments (e.g., handbells, rhythm sticks, xylophones, slide whistles, finger cymbals, hand drums, tambourines)
- non-traditional musical instruments: items that make interesting sounds or are linked to a curricular theme (e.g., pots and pans with spoons, bubble wrap, dried gourds)
- instruments from other cultures (e.g., Lummi [rhythm] sticks or rainsticks, maracas, West African djembes, castanets, conch shells, brass bells, rattles, wooden flutes, bongo drums, guitars, ukuleles)
- a CD player and CDs in an assortment of musical genres
- microphones
- headphones (these may be in the listening centre, or the two centres may be combined)
- scarves, ribbons, and streamers to support children's dancing
- books about musicians
- sheet music

(continued)

Music and Movement Centre

Special Considerations	Place the music centre close to other noisy learning centres, such as the dramatic play centre. Ensure sufficient space for movement.
Ideas to Try	If there is room and you play an instrument yourself, add a piano, a small organ, a guitar, and so on. Families may wish to donate real instruments they are no longer using.

(Top L) Sheer scarves support children's dance and colour explorations (dance, music, and science learning outcomes).

(Bottom L) A girl experiments with sound using a donated violin.

(Top R) Strumming a guitar is a kind of inquiry.

(Middle and Bottom R) Culturally based instruments add to children's musical explorations.

Visual Arts Centre

Children's art is a joy to children and to the adults who know how to appreciate it. Give young children materials and opportunities to explore all art media, and talk with them about their creations (if they want to). Expose children to various media, artists, and their styles, and encourage children to try out some of the art techniques. The majority of the time, children should be engaging in free art rather than following a teacher's example. Teacher-directed arts and crafts do not respect children's own ideas and interests, as they often focus on product rather than on process. Instead, encourage children to use individual expression, which means that they determine the subject of the art activity and the medium they will use.

Purposes

As children create at the visual arts centre, they can

- explore an interesting variety of materials to which they may not have had access previously
- represent their feelings, ideas, and prior experiences through art
- make two- and three-dimensional art
- become involved in a creative process of making art
- learn and use vocabulary related to artistic endeavours, such as *sculpt* or *shade*
- practise and master art techniques, such as sculpting
- practise thinking and fine motor skills that will also support their emerging printing, as children draw their ideas before they begin to write about them

Engaging in the arts also helps Kindergarten children to

- develop holistically in other domains, such as social competence, emotional maturity, and language and thinking skills
- strengthen related skills, such as numeracy and critical thinking

The visual arts centre has opportunities for addressing some of the Kindergarten Science learning outcomes related to colour through provocations that ask children what happens when they mix colours, and then have them try it. Address learning outcomes related to paper by stocking the visual arts centre with a variety of different types of paper for children to explore. The visual arts are also rich for addressing learning outcomes related to Cluster 0 of Kindergarten Science.

Equipment

Your visual arts centre or "studio" might include

- an easel with paint (if room allows, place several easels together to let children share their experience and collaborate with one another)
- various tools (e.g., different sizes of paintbrushes, natural sponges, easy-to-use staplers, hole punches, glue and glue sticks, right-handed and left-handed scissors)
- various materials for drawing, including several sizes of markers, coloured pencils, chalk, pastels, and crayons
- several types of paint supplies, such as watercolour and tempera paints
- many types of good quality paper in various sizes, textures, and colours
- a sturdy, mobile drying rack
- squeegees, small and large paint rollers, and feather dusters
- a spatter screen

To encourage three-dimensional work, the arts centre may include

- various loose parts that children can cut and glue (e.g., glitter, stickers, recyclables such as toilet paper rolls, natural materials such as pine cones, twigs)
- natural clay or modelling clay (e.g., Plasticine, Fimo) for sculpting
- small pieces of wood, recycled cardboard, plastic, and all-purpose glue for construction projects
- an assortment of wire in different gauges stored in clear containers, including pipe cleaners in a multitude of colours

(continued)

Visual Arts Centre

Special Considerations

Consider the organization and placement of supplies and equipment:

- Place a table and chairs for several artists close to the shelf where art supplies are kept, and, if possible, locate the art centre close to a sink and on non-carpeted flooring.
- Regularly organize your art area to make sure children can easily find what they are looking for and can easily see where materials go when they have finished using them.
- Ensure children have easy access to their choice of materials and do not need to ask for help.
- Encourage independence and taking care of shared space by placing a mop and a pail close at hand to help children take responsibility for paint spills and messes.
- Take care not to frustrate young children who may have poorly developed manipulative skills. Plastic or blunt scissors, oversized crayons, markers that are dried out or have mushy tips, and dry crumbly clay often present children with greater problems than necessary. Provide a wide variety of drawing and painting tools, some that make fine lines and some thick, and several different types of papers that allow for both large- and small-scale artworks. In addition, provide a good balance of two- and three-dimensional materials.
- Some art projects take several days to complete, so think about storage.

Ideas to Try

- Try mixing in some non-toxic laundry detergent flakes (not powder) into your paint to facilitate easier cleanup.
- Introduce children to famous artists with the use of your interactive whiteboard or through reference books from the library. Visit an art gallery or the studio of a local artist. Discuss various techniques used by artists. For example, introduce children to the works of artist Georgia O'Keeffe, who is famous for her extreme close-ups of flowers done in chalk; then provide children with chalk, a vase full of peonies or other beautiful flowers, and see what happens.

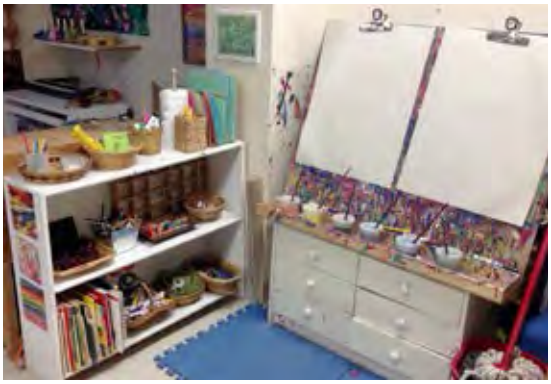
What to Observe

The visual arts centre offers opportunities to make observations:

- How do children explore their own interests at this centre?
- What do children choose to represent?
- Do children show specific interest in certain materials (e.g., clay, pastels)?
- What "arts" language (e.g., shades, textures, patterns) do you hear children using (also related to science and mathematics learning outcomes)?
- What do you notice about children's fine motor coordination as they play at this centre?
- What social skills do you notice being demonstrated?
- Which of the "100 languages" do you see children using?

Extensions

- Include clipboards with writing/drawing materials that children can take around the classroom or even outdoors.
- Introduce materials that support learning going on in other areas of the classroom. For example, when children are learning about the seasons, add paints in fall or spring colours; when learning about trees, children may paint with small evergreen branches.
- Invite local artists, contemporary and traditional, to visit your class to work with children using techniques and media you may not use yourself, such as mosaic, tie-dye, beading, printmaking, sculpture, and so on.



Think about how and where you store supplies for your visual arts centre. When these are organized with purpose, you provide clear messages to children about where things belong, supporting order and calm. You show children the importance of the learning they undertake at this play centre and that you value their independence while they focus on their creations.

(Top L) A three-dimensional sculpture made of recyclables. (R) Having children paint side by side promotes conversations and shared experiences.

(Middle) An attractive and organized visual arts centre allows children to choose their medium with minimal adult support.

(Bottom) Children use mirrors and collaborate in the creation of self-portraits.

Library and Listening Centres and/or the Meeting Place

Intentionally develop a comfortable spot where children can browse among photographs, picture books, fold-out books, reference books, and easy-to-read books. Encourage sharing and quiet talking.

When several copies of an easy-to-read book are available, have those children who are very eager to learn to read follow along on each page of the book as you read to them. Children enjoy hearing a story several times, especially if it is well read. Occasionally, a young child can read well enough to hold the interest of small groups of classmates. Some classrooms combine their circle area or meeting place with their library area; others may separate these when space allows. What do you do?

Purposes

Library and listening centres foster children's

- emerging reading skills
- imaginations
- interest in and respect for books, and a growing appreciation for good literature
- visual perception
- expanding vocabulary, focus, and task orientation
- ability to isolate and decode one-syllable words
- developing abilities in retelling stories they have heard before

The purpose of having a well-defined meeting area for your circle activities is outlined in Chapter 5 (see the discussion of The Social Environment).

Equipment

The library and listening centres and/or meeting place may include

- a selection of books, including fiction and non-fiction, some picture books without words, as well as simple books that emergent readers may try to read independently, and books that adults read to children
- books representing the diversity of Manitoba's Kindergarten children
- books representing children and adults of various abilities
- books and music by First Nations, Métis, and Inuit writers and musicians, as well as books and music with First Nations, Métis, and Inuit themes and subject matter
- books that support the themes children are interested in or the kinds of activities they most enjoy, such as building with blocks (e.g., Lego)
- fantasy stories about people or animals, and non-fiction books that provide information about animals, plants, or other countries, or about nature or science themes the class is exploring
- books that support numeracy work, such as counting books
- books that relate to current classroom activities or upcoming special events, such as a visitor from the Humane Society
- comfortable furnishings, such as floor pillows, carpet squares, soft chairs, an area rug, and soft lighting
- puppets and a stage
- flannelboard and flannelboard characters from favourite stories
- a bookshelf where books can be displayed and easily accessed
- an adult armchair or rocking chair
- a big-book stand
- an easel and chart paper or a whiteboard (or interactive whiteboard) for recording children's ideas during story time or circle time

Note: Rotate books regularly to maintain children's interest, but leave favourite books on the shelf as long as children are still interested.

(continued)

Library and Listening Centres and/or the Meeting Place

Special Considerations	When the library centre doubles as your classroom meeting area, ensure that there is enough room for the entire class to gather comfortably. Locate the centre away from traffic so that children can read without interruption by friends passing through.
Ideas to Try	If an educational assistant, a book buddy from another grade, a volunteer, or a visiting storyteller is available, that person should be ready to read the stories or poems the children ask for. He or she can support children who are trying to read by helping them with the words they ask about. If a listening centre or a CD player and microphone are available, you can record favourite stories and books. Children can also record themselves telling stories and listen to their recordings. If the recording includes signals to indicate that a page is to be turned, the child can follow along and enjoy the illustrations. When headsets are provided, children can listen without distraction from other noises in the room. Some teachers choose to separate the listening centre from the library to create a quiet cozy spot for independent listening to books or music. This listening centre may be placed close to the reading centre or in another quiet part of the classroom.
What to Observe	The library and listening centres and/or meeting place offer opportunities to make observations: ■ Which types of literature do children select? ■ How do children respond to the texts you offer and to the *environmental print* in this area? ■ Are children engaged by the discussions you have together about books read in this area? ■ How do children retell stories with the materials you have made available to them? ■ Which concepts about print do children demonstrate? ■ What do children already know about letters, sounds, and words? ■ What do you notice about children's oral language? ■ How do children see themselves as readers? as communicators? ■ What do you notice about children's social skills?
Extensions	Supplies such as puppets and a puppet stage, and a flannelboard with flannel characters, encourage children to recreate and retell favourite stories. Puppets related to stories you have read to children help familiarize them with vocabulary, support their story comprehension, and support their growing ability to retell stories. If there are children in your classroom who are learning English as an additional language, add books in their first language to the selection. Some bilingual books also tell a familiar story in both English and another language, such as Arabic. Invite First Nations, Métis, and Inuit storytellers to share traditional and contemporary stories. As children create their own books, display them for children's reading enjoyment.

Bilingual Books

Bilingual books make valuable additions to the class library. Try to find books that contain both English and the other languages spoken by students in the class. Allowing EAL students the opportunity to further their literacy skills in their first language helps bridge English language development.

(Top L) Children retell a favourite story using puppets. (R) A comfortable library centre welcomes young readers.

(Middle L): A large book is easily seen by all children during circle time. (R) A listening centre allows children to listen to stories or music without disturbing peers.

(Bottom R) Children can rate the stories they listen to and tell something about what they heard, using drawing and writing.

Discovery or Exploration Centres

Jerome Bruner's constructivist theory (discussed in Chapter 3) describes children as active problem solvers who are capable of solving difficult problems. Discovery or exploration centres, which are especially suitable for mathematics and science learning, enable children to explore materials actively with an intentional curriculum focus.

"Now while mathematics is inescapably tied up with written symbols and in some ways, indeed, incorporates them into its very essence, it is also true that the symbols are nothing without the perceptual and manipulatory intuitions which bring them life and meaning. The experiential roots evolve as a product of children's exploration of their environment and, by reflection, of their own emerging practical competencies" (Hawkins 99–100).

Mathematics Discovery Centre

A dedicated mathematics discovery centre helps to focus on and support children's emerging numeracy competencies, in addition to other play centres where children explore numeracy.

Purposes

The mathematics discovery centre provides opportunities for children to

- learn number symbols
- develop reasoning and estimating skills
- begin measuring using non-standard units (e.g., hands, feet, thumbs, tiles, paper clips) and standard units (e.g., metre sticks, litre jugs, cups, scales)
- begin to see patterns in the number system
- explore patterns in beading, birchbark biting, baskets, and so on
- expand vocabulary while using mathematics language: longer, shorter, taller; heavier, lighter; too much, too many; thin, thick; few, less; before, after, and so on
- gain exposure to simple geometry and learn to recognize and name simple shapes, such as triangles, rectangles, squares, and circles, and their three-dimensional counterparts, such as prisms, cubes, and cylinders
- categorize and compare according to shape or quantity (e.g., Which pile of buttons has more?)
- create and copy patterns, and make symmetrical designs
- name and differentiate between coins
- practise eye-hand coordination and fine motor skills
- begin to tell time
- work on the concept of conservation
- place objects in one-to-one correspondence
- make and interpret simple graphs (e.g., to show attendance as up or down from yesterday, score in a game, birthdays by months)
- work on puzzles (these may also be in the manipulative centre)
- develop social skills while playing simple mathematics games with rules (e.g., using spinners and dice or number cubes, and counting spaces while moving tokens around the board)

(continued)

Mathematics Discovery Centre

Equipment

The equipment and materials at the mathematics discovery centre may include

- measuring units, such as cups, spoons, tapes, rulers (metric), a small kitchen scale, and a bathroom scale
- counting frames and 10-frames—look for blackline masters in *Kindergarten Mathematics: Support Document for Teachers* (Manitoba Education and Advanced Learning)
- pegs and boards
- design cards and beading frames
- wooden sticks of various lengths (e.g., tongue depressors, craft sticks)
- boxes of shapes varying in size and colour
- foam trays (from meat and bakery counters)
- linking or interlocking cubes (e.g., Unifix cubes)
- geometric shape puzzles
- wood cylinders (Montessori-type)
- various "Kindergarten collections"—loose parts that can be sorted and counted (e.g., buttons, shells, bread-bag tags, beads, lima beans, coins, counting bears, keys)
- containers to sort things into (e.g., plastic divided trays for pre-cut fruit and vegetables, egg cartons, ice-cube trays, cutlery trays)
- playing cards
- magnetic checkers
- bingo chips
- small beanbags
- sand for measuring and pouring
- water and beakers
- a magnetic board
- Cuisenaire rods
- attribute blocks
- geoboards and rubber bands
- dominoes and other simple games that use dice (number cubes) or counters
- cups and boxes
- hula hoops in various colours to create Venn diagrams to explore overlapping characteristics
- a number line on the floor or wall
- block design cards
- parquetry blocks
- props to help teach time, such as an egg timer, a digital timer, a traditional Judy clock (with its visible gears and easy-to-read numbers), or old alarm clocks
- mathematics books about patterns, shapes, and numbers
- calendars
- a cash register and pretend money
- materials for recording or drawing, including graph paper
- simple calculators and old adding machines
- an abacus

(continued)

Mathematics Discovery Centre

Special Considerations

It is important for children to experience free exploration of the materials before the teacher structures learning activities. This is a necessary first step. Daily opportunities to encounter numeracy through play provides for "children's deep and sustained interaction with key mathematical ideas" (NAEYC and NCTM 3).

Ideas to Try

As you observe children exploring at the mathematics discovery centre, you can help scaffold on their learning by asking key questions, model the use of mathematics vocabulary as you name shapes or explain number operations, and add new items to the centre to extend children's learning. For example, in one classroom, the Kindergarten teacher noticed children's growing interest in money emerging from the grocery store play. She visited a local thrift shop and purchased as many piggy banks as she could find to add to the learning environment, and added a bowl of pennies for children to count.

What to Observe

The mathematics discovery centre offers opportunities to make observations:

- What do you notice about children's interest in using math manipulatives?
- What social connections are fostered at this discovery centre?
- What types of mathematics words (e.g., more, less) do children use here?
- What prior knowledge about numeracy do children demonstrate here?
- What inquiries do children have?
- Which mathematics learning outcomes do you see children meeting?
- How do children represent their understanding of numeracy concepts?
- What do you notice about children's fine motor skills as they use the various tools you have made available in this area?
- Are children engaged in the process of solving mathematics problems?

Extensions

Even after this centre is set up, continue to take advantage of the many opportunities for developing mathematical concepts and skills in other play centres or learning experiences.

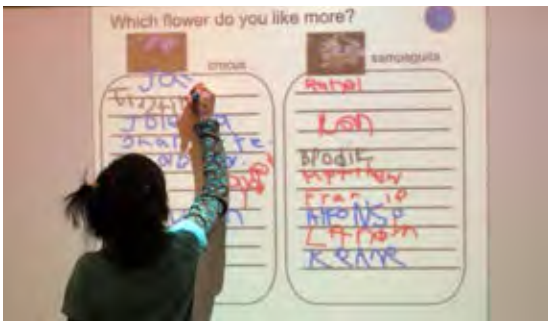
For appropriate concepts and skills, see *Kindergarten to Grade 8 Mathematics: Manitoba Curriculum Framework of Outcomes, 2013* (Manitoba Education).

For ideas to help you create numeracy-rich early learning environments, see *Kindergarten Mathematics: Support Document for Teachers* (Manitoba Education and Advanced Learning).

Your mathematics discovery centre might include a survey of the day.

Math manipulatives are available to children in the mathematics discovery centre.

Children draw cards to guide the number of blocks or coins they are to count.



(Above L) At the mathematics discovery table, children find that quantities can be sorted, counted, and compared using tokens, cards, numbers, and numerals. (R) A "Survey of the Day" asks children a question; the numbers of respondents are counted later in the day.

(Bottom) Geoboards allow children to explore many mathematical concepts.

Science Discovery Centre

Children are like scientists in that they are curious and learn by observing, questioning, exploring, and interacting with the world around them. Science is an effective platform on which to build skills, knowledge, and attitudes fostering learning and language development. The inquiries that happen at this play centre will depend largely on the children's interests, which they demonstrate by the things they bring to school, the questions they ask, and the discussions that have developed in some of their large-group learning activities.

Purposes

Children may undertake scientific explorations at the sensory centre, block centre, or other play centres. In addition, a dedicated science discovery centre

- provides opportunities for exploring, investigating, and building knowledge that helps children understand their world
- addresses skills from Cluster 0 of the Kindergarten Science curriculum when children ask questions that demonstrate curiosity about living things, objects, and events in their immediate environment, manipulate materials purposefully, research and carry out their own plans, and so on
- provides opportunities to develop concepts in science, nature, social studies, numeracy, and literacy
- allows children to observe, ask questions, predict what might happen, carry out self-directed investigations, and manipulate and classify natural things by their attributes
- sparks children's curiosity and sense of awe and wonder
- exposes children to a variety of living and non-living things
- offers children opportunities to care for pets or plants
- creates reasons for children to write and draw about their observations
- offers children opportunities to take apart human-made and recyclable items
- allows children to use simple machines in classroom applications (e.g., using a pulley or simple lever)
- encourages the use of computer technology and concept books to learn about science topics

Equipment

Equipment and materials at the science discovery centre could include

- artifacts and pictures that support what the children are interested in learning about
- nature and science magazines and books
- things to feel, smell, hear, and observe—consider collections that have different textures, make different sounds, or have different smells
- seeds and bulbs to grow
- a bowl of moss with stones, acorns, and pine cones
- displays of rocks, bones, and shells
- class pets
- objects of interest brought by the children
- old appliances, such as toasters, radios, and telephones for taking apart and putting back together, and tools to do this
- tools with which to explore, such as magnifying glasses, flashlights, binoculars (for looking out the window), prisms, thermometers, magnets, mirrors, eyedroppers, tweezers, tongs, units of mass (weights) to place on the balance scale, a bathroom scale, a height chart, and litmus paper

(continued)

Science Discovery Centre

- receptacles for sorting, such as mats and containers (e.g., ice-cube trays, egg cartons, muffin tins, cutlery trays, plastic vegetable or fruit trays), materials to use for recording discoveries, such as notebooks, cameras or tablets, audio recorders, paper, clipboards, pencils and crayons, and science journals
- materials for science activities suggested in *Kindergarten to Grade 4 Science: Manitoba Curriculum Framework of Outcomes* (Manitoba Education and Training)

Special Considerations

- Monitor the science discovery centre carefully, to ensure that it does not become cluttered up with a collection of dusty shells and bird nests unrelated to the children's own emerging interests.
- Give children plenty of uninterrupted time (and your assistance, as needed) to work with their peers to explore at the science discovery centre, and to analyze and interpret information they discover. Provide the kinds of "scientific tools" (e.g., eyedroppers, thermometers) that will enhance their interest in being scientists.

Ideas to Try

While the science discovery centre can and should support children's interests, it can certainly also help you to meet science curriculum outcomes. Children may independently explore paper, colour, and trees at the centre, in addition to participating in whole-group and small-group learning about these topics. For example, growing a plant could lead to questions about trees and address young children's common misconception that a tree is not a plant, but rather, a tree is a tree.

To develop skills to support inquiry and problem solving, provide children with measurement tools and have them explore how these enhance their observations (e.g., a magnifying glass vs. the naked eye). Thermometers, rulers, and weighing devices help children see that objects and energy vary in quantity.

Since young children learn through hands-on experiences, they enjoy using their senses to explore their world. Children can explore through touch, smell, and taste, as well as through sight and hearing. Offer children interesting things to explore through touch by providing collections of various textures ranging from rough sandpaper to smooth velvet, prickly evergreen branches and soft feathers, bubble wrap of different sizes, straw, string, wire, and foil. Create your own "feely bag" (a large sock or cotton bag full of interesting items to explore through touch). Let children guess what is inside and then see whether they are right. Sound collections, which may be borrowed from your music centre, offer children auditory experiences. Items such as boxes of paperclips to shake, clickers, bells, and small and big zippers all make different sounds for children to explore and talk about.

To explore colours, you can offer children clear plastic cups or small glass bottles, food colouring in the primary colours, glitter, a small pitcher of water, eyedroppers with which to transfer water, and a bucket for discarding water mixes they have finished using. Children can make "perfume" or a "magic potion" as they explore shades and hues that will change depending on the amount of colour and/or water they add (these may be arts education learning outcomes as well). Offer children the chance to explore how colours can change through the use of paint or food colouring on porous materials, such as coffee filters, paper towels, and tissue paper.

(continued)

Science Discovery Centre

What to Observe

The science discovery centre offers opportunities to make observations:

- What do you notice about children's interest in using science materials?
- What social connections are fostered at this discovery centre?
- What types of science words (e.g., more, less) do children use here?
- What prior knowledge do children demonstrate here?
- What inquiries do children pursue?
- Which science learning outcomes do you see children meeting?
- What do you notice about children's fine motor skills as they use the various tools you have made available?
- Are children engaged in the process of solving science problems?

Extensions

Add new materials to the science discovery centre to support both the children's interests and the goals of the science curriculum, and make sure you remain responsive to children's development and their emerging inquiries.

You may have a variety of collections for children to explore, including natural items gathered from field trips and walks.

Encourage children to extend their thinking from one learning centre to another (e.g., old appliances "taken apart" at the science discovery centre might be used in the visual arts centre to create a sculpture).

Help children to focus their attention, compare and contrast, make predictions, and carry out investigations by asking questions:

- What do you think would happen if . . . ?
- How are these the same? How are they different?
- What would you like to find out about?

Provide children with opportunities to explain their thinking and to express and discuss their ideas with others. They may enjoy drawing, writing, making graphs or pictures of data, or simply talking. Provide science notebooks or clipboards and charts where children can record their observations.

Invite knowledge keepers and Elders to discuss science concepts from a First Nations, Métis, or Inuit perspective with your students. They may discuss topics such as Indigenous people's relationship to the land and the natural world, astronomy, traditional plant use, stories about animals, and more.

(Top L): Remember to place science books about what children can investigate right in the science discovery centre. (R) Children drip paint onto paper.

(Middle) Children's inquiries are about their class pet, Teddy the hamster. To answer the question, "Does Teddy have a heart?" the children listened carefully with a stethoscope loaned to the class by a parent who is a doctor.

(Bottom) A science discovery centre elicits wonder as children see metamorphosis occurring day by day.

Special-Interest Centres

Depending on the interests of children in your classroom, as well as your plans for the children's learning and the physical space available, you may choose to add some of these special-interest centres and experiences to your learning environment:

- manipulative centre
- cooking centre
- woodworking or carpentry centre
- writing centre
- snack centre
- temporary centres
- discovery bins
- field trips

Manipulative Centre

The manipulative centre, intended for the development of fine muscle control, may exist as a separate play centre or may be incorporated into other areas, such as the writing, mathematics, or science centres. Some teachers refer to it as the hands-on thinking centre or the take-apart centre.

Purposes

The manipulative centre

- develops children's fine muscle control
- develops eye-hand coordination
- develops perceptual motor abilities
- provides opportunities for cooperative play
- provides opportunities for imaginative play
- increases vocabulary
- promotes writing skills
- promotes patterning
- supports children's problem solving

Equipment

Equipment and materials at the manipulative centre could include

- small building toys (e.g., Lego, K'Nex, Tinkertoys), snap cubes, linking cubes, or other interlocking table blocks
- pegs and pegboards
- gears with interlocking plates and connectors
- beads for stringing
- lacing cards with strings
- puzzles (including floor puzzles)
- figurines with parts that fit together (e.g., Fisher-Price, Playmobile, Mr. Potato Head toys)
- sets of bolts and nuts
- pick-up sticks
- small alphabet blocks

(continued)

Manipulative Centre

	■ games such as dominoes, lotto match-ups, and so on ■ collections such as keys, bread-bag tags, pompoms, and polished stones ■ playdough or clay (may be set out at this centre or in the sensory area)
Special Considerations	Organize the various materials in clear labelled containers or baskets organized on shelves so children can easily select those they are interested in using, and can clean up easily and independently when they are finished playing. While some children will sort a collection on their own initiative, you can invite others to select a collection and to sort it by size, colour, shape, texture, and so on. Cutlery trays or recyclable fruit or vegetable trays work well for this purpose. Sorting and classifying are important science-related skills (outcomes identified in Cluster 0 of Kindergarten Science), especially if materials include tree products/parts and paper products.
Ideas to Try	Invite families to contribute manipulatives from home or from nature, such as buttons, unused keys, nuts and bolts, coins, tiny pompoms, bottle caps, seashells, seeds, river rocks, dried beans, and so on.
Extensions	Consider adding ■ writing materials, such as index cards, clipboards, and pencils ■ measuring tools, such as a balance scale or ruler

(Top L) Sorting pompoms using tongs or tweezers, and feeding bingo chips to a tennis ball with a hungry monster mouth are fun ways to work on eye-hand coordination. (Centre) Children create letters they know out of small manipulative blocks. (R) Polished stone and beach glass are interesting materials for children to examine and sort.

(Bottom) Ribbons and beads promote children's emerging skills in patterning, numeracy, and creativity, as well as fine motor control (a necessary skill for printing), while facilitating skills in observing, sorting, classifying, using new vocabulary, and so on.

Cooking Centre

Please see Appendix P for some simple recipes to try with your class.

It would be difficult to find a learning activity that teaches more concepts and creates more enjoyment for children than cooking. As children work side by side, they practise cooperation and sometimes patience, while each friend takes a turn to complete a task related to a common goal. For many children, shared cooking allows them to explore foods in a new way and to experience pride in their accomplishment. Cooking is "food science," and many science, numeracy, and literacy outcomes can be addressed through these learning experiences.

Purposes

A cooking centre provides children with opportunities to

- feel accomplishment when completing a product, and then eating it
- experience social and language growth and develop self-regulation
- experience cognitive growth and become aware of the significance of words and numbers
- participate in role play
- experience competency while engaging in "adult" activities, such as cutting fruit into bite-size pieces using a plastic serrated knife
- participate in discussion of favourite foods, which helps teach perspective taking
- interpret stimulation of the senses of seeing, hearing, smelling, touching, and tasting (using the senses is at the heart of science)
- practise manual dexterity when they beat, pour, grate, knead, and so on
- practise following directions
- learn more about healthy food choices and cleanliness habits (When children use whole-grain flours, seeds, honey, wheat germ, molasses, and dried fruits in their cooking, they learn to enjoy healthy foods.)

Equipment

Equipment and materials at the cooking centre may include the following:

- If you do lots of cooking with children and have plenty of available storage, you may wish to ask families to contribute a personal bowl, measuring cup, wooden spoon, and set of measuring spoons, which can be kept at school for use at the cooking centre.
- Timers that signal when cooking time is up are very useful. Egg timers fascinate children. If necessary, a timer can be turned over several times.

Special Considerations

Before the first cooking session:

- If possible, take the children shopping for the ingredients in a recipe and make this part of the cooking preparation process.
- Print each recipe on large chart paper, or prepare rebus recipe cards to place along the table.
- Assemble all necessary utensils and ingredients.
- Make arrangements for the dishwashing and drying.

As you get started:

- Be mindful of children's food allergies or food restrictions when selecting recipes.
- Limit the number of children involved in a cooking session until all have learned how to use the centre.
- Encourage children to wash their hands carefully prior to cooking. In addition, wash all surfaces with hot soapy water to remove dirt and grease, and then sanitize them. Alternatively, cover all table surfaces with flip-chart paper for easy cleanup afterwards. Remember to wash all fruit and vegetables before beginning to cut them up.
- Cook foods to their proper temperatures.

(continued)

- In the early stages of operation, measure out the ingredients and provide the children with only the exact amounts of each item needed for the project. Later, children can have access to larger supplies and do their own measuring.
- Emphasize that cleanup is part of the cooking activity.
- Provide unbreakable equipment, and place it in work areas at the children's height.
- Keep the rules as simple as possible (e.g., Wash your hands and don't touch anything hot without adult supervision.).
- Be careful about food storage to minimize the chance for food spoilage.
- Always store and chill foods at their proper temperatures.

Ideas to Try

Production-line cooking (or one-cup or one-portion cooking) is an excellent way to introduce cooking to the Kindergarten classroom and to integrate many subject areas (mathematics, science, social studies, health education, and language arts). During production-line cooking, each child makes one portion or one serving of food; for example, each child makes one muffin ready for baking or one serving of fruit parfait. This type of cooking activity fosters children's ability to work independently and keeps their attention much longer than when they all have to wait for one child to finish stirring. Select easy recipes that provide opportunities for practising basic skills, such as measuring and stirring, before working as part of a larger group. Place ingredients on a table with entry from left to right. Place small mixing bowls for three or four children at the start of the line, followed by ingredients and recipe cards, mixing spoons, cookie sheet, and washing/rinsing water.

Extensions

Cooperative group cooking engages Kindergarten children in small work groups where they prepare the ingredients for, or different parts of, a single recipe. For example, to create enough salsa for the class, one small group washes and dices tomatoes, another group chops washed cilantro, the third group chops onions, and the fourth group prepares a simple marinade using lime juice, salt, pepper, and a small amount of sugar. This type of cooperative group work is most successful when children have had some prior experiences with cooperating and when they have already developed some basic simple cooking skills (such as knowing the difference between chopping and dicing, and being comfortable using a knife). Children who have a range of cooking experiences can be encouraged to support one another as they work on their respective tasks. Serve up the salsa with some corn chips for a healthy snack!

For a science-related learning activity, have a standard (control) recipe, and then have children vary an ingredient and compare results.

Children were thrilled to make smoothies together on a hot day near the end of the school year. Families asked for the recipe, which the children and their teacher worked on together, achieving important English languages arts and mathematics learning outcomes, and learning about how to represent, along the way.

(L) Using rebus card recipes, children make a variety of nutritious individual snacks that are baked in the school's staff room with the help of a volunteer. (R) Children make gingerbread cookies as an extension to hearing the story of *The Gingerbread Man* and learning about the different sounds the letter *G* can make.

Woodworking or Carpentry Centre

Woodworking can be an enormously satisfying activity for young children as they do real work with real tools.

Purposes

The woodworking or carpentry centre

- develops children's large and small muscle control
- develops children's eye-hand coordination
- provides opportunities for creative expression
- provides opportunities for problem solving
- provides a productive outlet for feelings of aggression or excess energy
- provides opportunities to learn about the physical properties of wood
- facilitates numeracy development as children are measuring, fitting items together, and so on
- introduces children to design technology

Equipment

Equipment and materials at the woodworking or carpentry centre could include

- a sturdy workbench with a vise
- real tools (not toys), such as small hammers, some with claws
- crosscut saws
- a small smoothing plane (for children who have some experience with tools)
- a rasp
- a hand drill or brace and bit
- C-clamps and vises
- small wooden spools
- rulers and a yardstick or metre stick
- ample supply of soft wood (e.g., pine), wood curls, and offcuts, often available from lumberyards free of charge
- nails of assorted sizes (look for those with larger heads to make hammering a little easier for children)
- wood glue and brushes

(continued)

Woodworking or Carpentry Centre

- storage space, such as shelving or pegboards
- a large tree stump or ceiling tiles (these are very easy to hammer into for beginning carpenters and can be used repeatedly)
- safety goggles
- sandpaper of various grades

Special Considerations

Risk management: Some teachers may be a little nervous about children using tools, but remember that while woodworking exposes children to graduated risk, there are many benefits. Through woodworking, children use mathematical problem-solving, fine motor, and social skills, while fostering creativity and imagination. Children who have not experienced the use of tools will benefit from your demonstration and close supervision and coaching as they get started. Your belief in children's competence and your scaffolding support contribute to children's success.

Ideas to Try

Like many loose parts from nature, tree stumps may be available free of charge. As you walk or drive through your neighbourhood or community, you may see a neighbour cutting down a tree. You can also check with city crews working in your area, with landscapers, at local nurseries, or at lumberyards.

Extensions

Children can measure as they work, using levels, metre sticks, or rulers. They can create a plan on graph paper before they begin to build, or draw their project once it is completed, learning there are different ways to represent ideas. Children also build an understanding of the processes related to design technology. This centre offers many links to the learning outcomes in Cluster 0 of Kindergarten Science.

Woodworking is not only a popular activity on its own, but can also enhance other classroom activities as children make signs for the block area, make boats to use at the water table, and so on.

Woodworking centres offer children another avenue for creativity and the chance to work with real tools as they use large and small muscles.

Writing Centre

The writing centre may exist as a separate centre or may be incorporated into other areas, such as the library or listening centre. The writing centre does not take the place of writing that also occurs in all your other centres. Children should be given the freedom and opportunity to write often. Children's curiosity about written language begins with an interest in drawing, making discoveries about paper, and using the writing utensils you provide for them to explore with and to develop their own ideas.

"As they write their earliest messages, children gradually begin to make links between speaking, reading and writing. They may discover that: What I say, I can write. And, what I write, I can read" (Clay, *How Very Young Children Explore Writing* 7).

Purposes

The writing centre provides children with opportunities to

- develop fine motor skills
- practise and refine early writing and reading skills
- practise scribbling, copying, drawing, writing, and creative expression
- translate sound and thought into print (letter-sound correlation)
- support letter recognition
- strengthen connections between spoken and written language
- develop social skills through working together and sharing the writing centre
- create cards, posters, and signs that may be used to support play in other areas

Equipment

Equipment and materials at the writing centre may include

- lined and unlined paper of different shapes and sizes
- envelopes
- blank booklets of different shapes and sizes
- bookbinding materials (e.g., stapler, hole punch, paper clips, binder clamps)
- pencils, markers, and crayons
- rubber stamps and stamp pads
- pictures to inspire children's writing
- alphabet models, textured letters, and magnetic letters
- picture dictionaries
- files with high-frequency words or an adjacent word wall to showcase words currently important in your classroom (e.g., children's names, sight words, theme words)
- writing folders
- blank journals
- an old typewriter, a word processor, tablets, or other media devices
- samples of various kinds of writing, such as lists, greeting cards, bills, and postcards
- a recycling box and scrap box for used paper
- scissors
- cancelled stamps, Easter Seals, or other stamps children may apply to their envelopes
- glue sticks
- sticky notes of different sizes and colours
- small dry-erase boards and erasable pens or crayons
- file folders
- clipboards

Special Considerations

Some children will enjoy coming to the writing centre, but others may choose other types of play; therefore, remember to include writing materials in all play centres so that children can write to support their play, wherever they might be. The use of worksheets is not recommended at this or any other centre.

(Top L) Children explore writing using soft sand and twigs. (R) As children are currently exploring colours, words are colour coded and posted on the word wall at the centre to support children's writing.

(Middle L) Frequently used words and the alphabet support children's writing.

(Bottom) A child makes letters out of mini-marshmallows, toothpicks, and pipe cleaners.

Snack Centre

To support children's self-regulation, some teachers choose to set up a snack centre as one more option through which children can rotate during choice time.

Purposes	The snack centre provides children with opportunities to ■ meet their physical needs for food and drink during their busy day ■ foster language skills, social skills, and perspective taking while eating together
Equipment	Indirectly guide children at the snack table by setting up the number of chairs conducive to small-group interactions, perhaps four to six. Place garbage, recycling, or compost stations close by.
Special Considerations	Aim for self-service so that children can choose from the snack items using utensils such as tongs or spoons, or they can fetch their lunchboxes and bring them to the table when they are ready to eat. Treat your snack centre like any other learning centre, with clear behavioural expectations. Children should learn to wash their hands before eating their snack and clean up after themselves before moving on to the next learning activity. You will probably note that children who are friends will choose to sit together during snack time, but some children may need reminders to visit the snack centre if they are busy and engrossed in other learning. If the school is providing snacks, keep them simple and healthy. Remember to monitor children's progress through all the learning centres, including this one.
Ideas to Try	Be intentional in the way you set up this centre by supporting children's independence, providing opportunities for them to practise self-help skills and build their feelings of competence and confidence.

A snack centre can double as a place for children to practise numeracy, as they pour half a cup of milk, or take 10 of whichever foods appeal most to them, while working on one-to-one correspondence.

Temporary Special-Interest Centres

Intentional teachers often develop temporary special-interest play centres to support specific learning outcomes in different curricular areas, to help children prepare for an upcoming special event, or to take advantage of a seasonal opportunity, such as observing caterpillars hatching into butterflies or watching tadpoles transform into frogs.

Purposes	Consider setting up a space where you can develop a temporary special-interest centre that ■ supports a theme emerging from the evolving interests of children in the class ■ supports a specific topic related to Manitoba's Kindergarten curriculum ■ relates to an upcoming special event
Equipment	Special-interest centres can be developed when children exhibit curiosity about specific topics. As you notice the children's interest, you may decide to create a centre to support further learning.
Special Considerations	As an intentional teacher, you will want to determine what *basic concept* children should learn about this emerging theme and then determine the *curricular areas* in which this concept can be developed. You continue to think about important skills such as inquiry through observing and measuring.

Fundraising Theme Centre

In one classroom where children were planning a lemonade and cookie sale to raise money for a cause they had embraced, the teacher set up a theme centre where children could practise pouring and counting play money to make change. This centre was open for several days leading up to the actual sale.

Children practise pouring and making change before their sale.

Tadpole Observation Centre (Temporary Science-Discovery Centre)

In response to an emerging interest in frogs, families of one Kindergarten class helped to bring in frog eggs from nearby ponds. The growth cycle of tadpoles became a wonderful learning opportunity for children during their last weeks of Kindergarten. The children and their teacher generated a list of "frog" words they were learning about, and these were added to their word wall to help with their writing. The tadpoles were released back into the ponds near the end of school.

A boy observes tadpoles with a magnifying glass.

Clipboards and charts help focus children's attention on what they are observing.

Discovery Bins

Discovery bins, as their name suggests, encourage discovery, exploration, and investigation, and are often especially fun for children when exploring mathematics and science concepts.

Purposes

Discovery bins can promote

- fine motor development
- creative expression
- literacy and numeracy skills

Equipment

Discovery bins feature a variety of materials, and you may wish to include an example of how the materials might be used. The activities are open ended, and there is no right or wrong way to interact with the materials.

Vignette: Discovery Bins

One teacher shared that in her class, the children spend the first 30 minutes of the day (more or less, depending on student engagement) exploring their discovery bins:

Children are invited to make pattern discoveries.

Exploring discovery bins is such a pleasant way to start the day—the students are so eager to work with the materials that they rush to do their morning jobs and head straight for the tables! For example, on the first day of pattern discovery, the bins included a variety of materials as well as examples of patterns. Later in the week, I provided strips of paper, and encouraged students to describe their patterns using letters, numbers, symbols, and so on. The old keys included in the bins were fascinating to the students. They loved examining the keys and had many questions about where they came from. When I told them they were found in the drawer of a captain's desk from an old naval ship in Scotland, they were even more interested!

(L) Children are invited to make pattern discoveries. (R) Discovery bins containing items such as paint samples, foam board, paper trimmers, and glue lead to many engaging sessions as the children create their own mosaics.

Egg-carton 10-frames, cubes, and paper to print number sentences showed me how capable my students were of creating and representing equations. I was shocked! Later in the week, I added dice and spinners to generate numbers for equations.

So what do I do while my students are engaged with discovery bins?

- I circulate around the room and observe.
- I ask questions to encourage children to investigate further, become more involved with the materials, and challenge them to take their learning to the next level.
- I make assessment notes in children's Evernote folders (an application that allows me to store and share children's work and accomplishments with families digitally).
- I take photographs of what children have created and post them on our classroom Facebook page, Twitter account, and Instagram.
- I encourage children to use their tablets to photograph their work. We are just learning how to make photo collages on our tablets and use Instagram, so that is an exciting new way to share what we are doing with discovery bins.

(L) Part-whole thinking. (Centre) Float and sink discovery.
(R) Alphabet discovery.

Field Trips

Field trips can often build upon children's interests, spark inquiries, and offer you and your students the chance to go deeper and further in your learning. Field trips should be developmentally appropriate and allow some choice and play as part of the experience.

Purposes

Field trips

- give participants pleasure in going somewhere together as a group and being able to talk, discover, and share the learning
- contribute naturally to oral language development
- provide stimulation and motivation before introducing a topic or as a follow-up to learning (e.g., zoo, farm, bakery, grocery store)
- satisfy the curiosity that has developed at a centre of interest (e.g., farm, creamery, hatchery)
- provide opportunities to launch a project, inspire the transformation of a learning centre, or provide a culminating activity following a unit or centre-of-interest project
- provide opportunities to practise social behaviour (e.g., a visit to a personal care home)
- provide experiences that some children may not have had (e.g., boat, train, bus, museum, airport, supermarket, pumpkin farm)
- provide cross-cultural experiences
- build connections between children, your school, and the many resources in your local community

Special Considerations

The success of the field trip will depend on careful planning. If possible, preview the area to be visited to make certain that the facilities are adequate.

- Is there a safe place for arrival?
- Are toilet facilities available?
- If any children in your classroom have mobility challenges, is the destination accessible?
- How many people will be required to supervise the children?
- Is there someone who can be placed in charge if you are suddenly incapacitated or must go with a child if an emergency develops?
- What expenses are involved?
- Can travelling at peak periods be avoided?
- Are you using public transit?
- If bus tickets are to be bought, can all children experience purchasing their own tickets or should one person buy them all? (In Winnipeg, children five years of age and younger ride free when accompanied by a fare-paying adult.)
- Will there be an opportunity to obey traffic signals?
- What signals will be used to indicate where the group is assembling?
- Should space be reserved?
- What might the children learn?

Children can assimilate only so much on each visit, so expectations should be developmentally appropriate. Consider carefully whether the same learning outcome(s) can be achieved by inviting a guest speaker to visit your classroom as an alternative to taking a group of children on a long trip.

Does the field trip build on learning in which children are already involved? For example, does a visit to an animal hospital build naturally on the children's interest in pets or is it an isolated and unconnected destination chosen for the sake of going somewhere in the final weeks of school?

(continued)

Field Trips

Through discussion in class, books you have read together, and learning opportunities during choice time or teacher-guided times, the children should be well-prepared for what they may see on a field trip and how they will be transported and assembled. Alert them to observe special features, and have them report on their experiences after the event. The children should become familiar with the vocabulary they will need en route.

Several well-planned short trips are likely to be of more benefit to young children than one long, tiring excursion. There are many interesting destinations to visit within walking distance from most schools. A valuable goal for a field trip is to give children the chance to explore their own community and to talk about those experiences together afterwards.

Destinations

You may wish to plan a field trip

- around a city block to see and record the types of homes, growing things, birds, and people you see along the way (remember to bring a digital camera and clipboards)
- to the zoo to see certain animals in particular, but with free time for other explorations
- to a farm
  (A visit to a farm can be one of the most satisfying trips for city children, but requires detailed advance preparation. On one very successful trip, children were able to handle baby animals, ride on a wagon attached to a tractor, sit on farm machinery, and eat their lunch in the hayloft. During the afternoon group activities, all students, in turn, shared experiences such as
  - watching the farmer milk a cow by hand and seeing a calf fed
  - going into the dairy barn to watch milking by machine
  - watching the farmer drive a combine one round of a field
  - going into the honey house to watch the honey extractor and to taste honey on crackers

  Most parents were so impressed with the excitement and the learning generated by this trip that they wanted assurance that it would become an annual event so their younger children would get the same opportunity to see a farm in operation.)
- to local entertainment events, such as Kidfest: The Winnipeg International Children's Festival
  (Many organizations that offer evening performances will put on a matinee if their show is suitable for children and they can be assured of an audience.)
- to a bakery, ice-cream parlour, or some simple local industry that children can understand
- to a personal care home
  (Many residents in these homes miss seeing children, and arrangements can sometimes be made with the directors for regular monthly visits. Children usually present a program of their games, finger plays, choral speaking, songs, dances, and so on. In return, a few of the residents can be involved as volunteers in a Kindergarten classroom—for example, reading to children in small groups.)
- to another classroom, a library, grain elevator, post office, local park, building site, police station, hatchery, doctor's office, veterinary office, fire hall, or hair salon
- to a child's home to see a new baby, pet, tree house, or garden (pre-arranged with the family)

(continued)

Field Trips

- to a pet store to buy a class pet
- to a grocery store to purchase the ingredients for a cooking activity
- to a nursery school or a child care centre where Kindergarten children can share with younger children something about what they will learn once they, too, can attend school
- to a forest or nature park, such as Living Prairie Museum, Oak Hammock Marsh, or Sandilands Forest Discovery Centre
- to a parent's workplace (as appropriate), such as the destinations mentioned above (In one classroom where children were especially interested in tall buildings, the teacher organized a trip by Winnipeg public transit to Portage Ave. and Main St. to see the Richardson building where one child's mother worked. The chance to count the 34 storeys and to draw the building on their clipboards was topped only by the experience of taking the elevators up to the mother's office, where the children were amazed by the view of the city! On returning to school, the children talked freely, developing and practising their new vocabulary and writing about what they saw.)

Extensions

- **Literacy extensions:** Plan to send letters of thanks to people who helped on a field trip, and have the children draw or paint a picture of something they enjoyed on the trip. The letters could be developed as experience charts, which may then be sent to the people concerned. Occasionally, the recipients display such charts along with the pictures the children painted or drew, and may be the means of creating community interest in further field experiences for the children.
- **Physical education/health education extensions:** In advance of your field trip, you can practise school bus safety and address the following learning outcome when you help prepare children to ride the bus to their destination: Identify safety symbols, hazards, and risks in everyday living (K.3.K.B.1). At your circle or opening meeting, have children look at pictures of school bus safety. Have them identify the safety rules by showing thumbs up if it is a safety rule, or thumbs down if it is not a safety rule. During free play, you can help simulate a bus trip in class using chairs as bus seats. Observe children as they participate in the bus safety activity. Do they sit down and remain seated in the "bus"? demonstrate polite and respectful behaviour? keep their voices down? remain outside the bus danger zone?

Field Trips

When communicating about field trips with parents who are EAL learners, consider using an interpreter to convey pertinent information, especially as it relates to informed parental consent and completion of consent forms.

Field trips may cause anxiety for some children. Providing pictures and images to EAL learners prior to a field trip may help reduce anxiety and provide some vocabulary that will help prepare the children to meet their learning goals during the trip.

As appropriate, consider trips to culture camps and points of interest with a First Nations, Métis, or Inuit focus. (Search the Manitoba Historical Society website for destination ideas.)

Vignette: An Inquiry about Maps

In an inquiry about maps, children learned that maps are abstract representations of their world. During a simple field trip—a walk through the neighbourhood around their school—children took photographs of interesting features along the way. As the children walked, their teacher helped them to notice the traffic signs they passed along the way, such as stop signs, traffic lights, crosswalks, and railroad crossings. They took photos of some of these, too. This mindfulness of the signs they passed helped to address the physical education/health education learning outcome, Identify safety symbols, hazards, and risks in everyday living (K.3.K.B.1), as well as safe travel, starting and stopping, rules, and safe play.

Later, the children used the photos from their walk to remind themselves of what they saw as they transferred that knowledge to maps of their neighbourhood. The map-making inquiry helped children to transform what they knew and had experienced into personal understanding and to define their own relationship to the community that surrounds "their" school (McCann).

As the children made their maps, they certainly gave their maps form, meaning, and personal insight, supporting the observation that children give shape to their experience (Malaguzzi, as cited in McCann 18). They communicated their points of view through their drawings and conversations with their peers during their walks and as they drew. These maps were not preconceived by their teacher; rather, children had the power to shape their own maps in ways personally meaningful to them. Once the maps were posted, children enjoyed looking at each other's maps, commenting on features their friends included, which might be the same as or different from the features that appeared in their own maps.

(Top and Bottom R) Children draw their maps using photos of their neighbourhood walk to remind them of what they saw.

(L) Children's maps and writing are displayed with the books that inspired them.

Learning Occurs Everywhere

While this chapter provides many ideas for learning centres you can set up in your classroom, learning also occurs in settings that are not marked out on the teacher's floor plan. According to Greenman, "it is important that embedded in the [Kindergarten] program culture is the understanding of the broader conception of language, art, math, science, and other topic areas: language (and math, science, art, etc.) is everywhere and inherent in nearly all activities" (222).

Vignette: Sorting Winter Boots

One teacher shared the rich learning that occurred early in the winter, as children began to sort and match the jumble of winter boots in the hallway outside their classroom door. Children categorized and classified boots by gender, colour, and size, counted by 2s once they had matched all the boots, sequenced boots from smallest to largest, and created a sign to remind each other to line up boots neatly before coming into the class. The spontaneous learning that occurred was neither on the schedule nor on the floor plan, but children were highly engaged in their self-initiated learning.

Vignette: Tree Discovery

In one Kindergarten classroom with large windows looking out into the green space, children noticed one tree growing by itself in their direct field of view. They were intrigued by the changes they noticed happening to "their" tree and became very possessive and protective of it. The tree outside their classroom window became an incredibly rich and always changing nexus for children to explore and discover, demonstrating that learning is not limited to a space organized by a teacher.

The teacher responded to the children's interest in this particular tree by addressing learning outcomes in science, education for sustainable development, arts education, and English language arts. She encouraged the children's observation skills and recorded their responses about how their tree was changing through the seasons. Taking photographs of her class of children in front of their tree through the seasons helped children mark the passing of time in a meaningful way.

As the weeks and months of school went by, children gathered under the shade of the tree for group story time; one friend whispered secrets to a friend under its protection; small groups relaxed under it to listen to its leaves rustling; and individuals reflected and daydreamed under its canopy. Children played tag around the tree and used its trunk as their "home-free" spot. They watched, counted, and graphed the winter birds that visited the tree to eat the seeds from the feeders the children made and their teacher hung.

The children and their teacher took the bin of crayons outside to make bark rubbings from their tree, talking about the smell of the tree bark and its texture, as well as what colours they saw: brown and black, but also yellow and green. Later, they created a tree in their classroom, using their own crayon rubbings to build it. The teacher used this opportunity to introduce some new "tree" vocabulary,

such as *branches, crown, trunk, roots,* and so on. As spring arrived, children rejoiced to see the buds emerging on their tree. To celebrate, they read Shel Silverstein's *The Giving Tree,* sitting in a circle around the tree trunk. When the children noticed caterpillars on the tree, they created their own caterpillars out of egg cartons, and added these to their tree model.

(Top L) The tree in bud early in spring. (R) Children were photographed in front of their tree in fall and winter.

(Middle L) A tree-discovery bin was added to the classroom environment to help children further explore their interest. (R) Children built a tree of their bark rubbings.

(Bottom L) During group time, children collaborated through interactive writing to create a list of tree attributes and seasonal changes and to illustrate them. (R) Children showed how they could transfer and apply their prior knowledge when they added their own labels to a tree poster in another part of the classroom.

Reflection: Redesigning a Learning Centre

Think about one learning centre in your current classroom that you might like to redesign.

- What are you dissatisfied with in its current incarnation?
- What changes could you make to create a more child-directed learning centre?
- What changes could you make to create a tighter connection between home and school?
- What changes could you make to respond to children's own inquiries?

Summary

This chapter presented many ideas for learning centres that teachers may add to their classrooms to create playful sites for learning by individuals and small groups. This learning crosses all developmental domains and all Kindergarten curriculum outcomes. Chapters 7 to 9 will help you to integrate children's learning in your various learning centres and through teacher-guided focused experiential learning, with an intentional focus on curriculum outcomes.

Continue Your Learning

To learn more about cooking with children, look for these resources:

- Colker, Laura J. *The Cooking Book Fostering Young Children's Learning and Delight.* Washington, DC: National Association for the Education of Young Children, 2005.
- Dairy Farmers of Manitoba. *Teachers.* <www.milk.mb.ca/Teachers/> (17 Oct. 2014).
  This website provides an overview of Manitoba curriculum outcomes that are supported by the instructional activities in the nutrition education manuals available from Dairy Farmers of Manitoba. On this website, you may find some food-related resources such as posters, picture cards, and puzzles.
- Weitch, Beverly, and Thelma Harms. *Cook and Learn: Pictorial Single Portion Recipes: A Child's Cookbook.* Menlo Park, CA: Addison-Wesley, 1981.
  This publication is long out of print, but is still a favourite of many Kindergarten teachers. You may find it in libraries or online.

For more information about diversity, see:

- Burman, Alka. *Honouring Diversity in Early Childhood Materials.* 27 Aug. 2011. Child Development Resource Connection Peel (CDRCP). <www.cdrcp.com/pdf/Anti%20Bias%20Resource%20Booklet.pdf> (20 Oct. 2014).
  To help you reflect on how you honour children's diversity within your own classroom, also see Burman's related checklist *Honouring Diversity in Early Learning Environments*, available on the CDRCP website at <www.cdrcp.com/pdf/Honoring%20Diversity%20checklist.pdf> (20 Oct. 2014).

- Child Australia, Professional Support Coordinator. *Cultural Connections Booklet.* <http://childaustralia.org.au/Resources/Cultural-Connections-Handbook.aspx> (20 Oct. 2014).

For more information about play, see:

- National Association for the Education of Young Children. *Play and Children's Learning.* <www.naeyc.org/play/> (17 Oct. 2014).

For field trip destinations with a First Nations, Métis, Inuit, or other historical focus, see the following website:

- Manitoba Historial Society. Home Page. <www.mhs.mb.ca/> (20 Oct. 2014).