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***Reimagining Walls***

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Toronto

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***Why this lesson?***

Walls can create a space for people to come together. If we do not commit conscious thought to narrate what it is to be a wall, they will continue to be seen as barriers. Yet walls are so much more; they are barriers to the elements, they are present in almost all places we care about, and they are the core supports for the built environments where humans live. It is for these reasons that we wish to construct a space in which walls are visible and valued. We feel that learning how walls are constructed is important to learn from an early age. This is a unit to create a student journey that builds an appreciation for walls.

**Unit Plan**

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| **Unit title** | Walls Protect Me | **Grade** | Kindergarten |
| **Unit Overview** | | | |
| This unit will be focusing on building and fostering a sense of gratitude and appreciation for walls and what they do for us. The main focus will be sensory processing (especially sight, sound, and touch) of habituated stimuli in the environment. Walls, like other forms of infrastructure become invisible to the senses quickly, as the mind rapidly habituates to them. This habituation prevents discovery of deeper meaning, insight, care and appreciation. This unit will give the students an opportunity to learn about walls, what they do, why they exist, and what they are made of.  Each lesson will focus on a new sensory or experiential learning activity. The unit is delivered in preparation for the culminating task, building a model wall with materials in the classroom. | | | |
| **Curriculum Expectations -** [**The Kindergarten Program (ontario.ca)**](https://files.ontario.ca/books/edu_the_kindergarten_program_english_aoda_web_oct7.pdf) | | | |
| ***Problem Solving and Innovating***  ***1.*** Communicate with others in a variety of ways, for a variety of purposes, and in a variety of contexts.  ***13.*** Use the processes and skills of an inquiry stance (i.e., questioning, planning, predicting, observing, and communicating).  ***14.*** Demonstrate an awareness of the natural and built environment through hands-on investigations, observations, questions, and representation of their findings.  ***Self-regulation and well-being***  ***4.*** Demonstrate an ability to use problem solving skills in a variety of contexts, including social contexts.  ***6.*** Demonstrate an awareness of their own health and well-being.  ***8.*** Develop movement skills and concepts as they use their growing bodies to move in a variety of ways and in a variety of contexts.  ***22.*** Communicate their thoughts and feelings, and their theories and ideas, through various art forms.  ***Belonging and Contributing***  ***22.*** Communicate their thoughts and feelings, and their theories and ideas, through various art forms.  ***28.*** Demonstrate an awareness of their surroundings.  ***29.*** Demonstrate an understanding of the natural world and the need to care for and respect the environment.  ***30.*** Demonstrate an awareness of themselves as dramatists, actors, dancers, artists, and musicians through engagement in the arts. | | | |
| **Learning Goals** | | **Success Criteria** | |
| 1. Experience various sensations related to the tangible value of walls and what walls do for us. 2. Build strength in imagination, and the use of imagination to develop sense and thinking-based ways of knowing objects around us. 3. Use sensory interpretation to develop place-based meaning. | | 1. Students form multiple artistic creations related to the tangible value of walls. 2. Students build an appreciation of the world around them with the use of their imaginations. 3. Students develop a greater sense of place with the use of sensory interpretation. | |
| **Final Task** | | | |
| Collaboratively building a cardboard house as a class. | | | |
| **Accommodations/Modifications** | | | |
| The students will have extra time to work on the activities if there is a need. All their modifications will also be taken into account during activities and when marking. | | | |
| **Assessment** | | | |
| Documentation and responding (in whatever form works for you) of student work, participation, and actions will be taking place throughout the entire unit. | | | |

**Lesson Frameworks:** *Please find the lesson outlines for each part of the unit below.*

**Lesson Sequence**

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| **Lesson 1** | The Elements & Me |
| **Lesson 2** | Seeing a Wall on the Inside |
| **Lesson 3** | Understanding My Relationship with the Wall |
| **Lesson 4** | Developing My Appreciation & Gratitude for the Wall |
| **Lesson 5** | Building a House |

**Lesson Frameworks**

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| **Lesson Title** | The Elements & Me | | | **Lesson no.** | 1 |
| **Curriculum Expectations** | | *PSI:* 1, 14  *SRWB:* 6, 8, 22  *BC:* 22, 28, 30 | | | |
| **Lesson Objectives** | | | | | |
| Interpreting sense-based information at a conscious level​.  Discussing how we prepare ourselves to go outside​.  Comparing touch-based sensory information (what is colder/hotter the wall or the window?). | | | | | |
| **Key Questions** | | | **Materials Required** | | |
| How do we dress for summer and winter? Why?  How do you feel when you are wearing your winter clothes indoors vs when you are not?  Can you feel the difference between the outside temperature and the classroom temperature? What do you feel? | | | Winter clothing that the students regularly bring to school | | |
| **Lesson Outline** | | | | | |
| Before beginning the discussion about what it is walls do for us, it is essential to first look at the elements. Students should already have a basic understanding of what hot and cold are, but it is a good idea to review and further develop this sense-based information on a conscious level.  Start by reviewing the difference between the clothing worn for the summer months and the winter months. What do the different types of clothing do for us? (Winter clothes keep us warm when it is cold and summer clothes help keep us cool when it is hot outside.)  Whatever the season, if the outdoors is easily accessible from the classroom, have the students step outside for a moment in the clothing they are wearing. Ask them what they feel and have them compare this feeling to when they are in the classroom. Repeat the same actions and questions, but this time have the students wear their winter clothing outside and inside of the classroom.  In addition, have the students touch the walls inside and outside of the classroom. What is the difference? (Outside the wall is hot/cold, but inside it is comfortable.) If the classroom has windows, have the students touch these to feel the difference between the window and the walls from the inside of the class. Why do they have different temperatures? (The wall is thicker/bigger than the windows.)  *\*If it is winter, have the students step outside without their winter clothing and then have them be inside the classroom with all their layers. Have them go outside with all their layers also.*  *If it is summer, ask the parents and/or guardians to have the students bring their winter clothing to class in advance. Have them wear their winter clothing inside and outside of the classroom, then go outside with their summer clothing.*  *\*\*If the outdoors is not easily accessible, we can have the students reflect upon their time outdoors that day (in the morning before class starts, during recess, during lunch).* | | | | | |

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| **Lesson Title** | Seeing a Wall on the Inside | | | **Lesson no.** | 2 |
| **Curriculum Expectations** | | *PSI:* 13, 14  *SRWB:* 4, 6, 8​  *BC:* 28, 29 | | | |
| **Lesson Objectives** | | | | | |
| Imagining what is on the inside of things, and how they stand up (for example, bones help bodies stand up and wood helps walls stand up).  Exploring through imagination and sensory input how walls are like us.  Recognizing the basic concepts of buildings (how they are held up, covered, and the stuff inside). | | | | | |
| **Key Questions** | | | **Materials Required** | | |
| What does it feel like?  What paths are there in me / walls?  How can we show our gratitude for walls that help us keep warm? | | | A blanket or coat/jacket from home (serves as a physical representation for understanding insulation) | | |
| **Lesson Outline** | | | | | |
| Guide students through an exploration of how things are made. The exploration will use sensory touch information of the student’s own body to both build body awareness, while at the same time allowing the student to metaphorically understand how other things are built.  The summative experience of the lesson is best represented as a sequence of 6 evocations:   |  |  |  | | --- | --- | --- | | What holds it up? | What covers it? | What’s on the inside? | | **1.** Me: bones | **3.** Me: skin | **5.** Me: veins | | **2.** Wall: wood | **4.** Wall: paint | **6.** Wall: insulation |   Guide the students through a series of exploratory sensory experiences based on the above prompts…  What holds it up:   1. Lead the students through a process to discover and think about their bones. Direct the students to feel their own shin bone, bringing awareness to its hardness. Build active experimentation of the shin bone while performing activities like standing up, sitting down, and jumping. 2. Guide the students to touch the wall and evoke student reflections on the hardness of the wall. Use metaphorical associations to help the students construct similarities between themselves and the wall, such as “It is hard on the inside so it can stand up.” “Remember the bone in your leg that helps you stand up? The wall has wood on the inside to helps it stand up!”   What covers it:   1. Direct the students to touch the skin on their own arms and especially their lower leg (the skin covering the shin bone). Evoke reflection on the feeling of the skin. “What does it feel like?” 2. Direct the students to touch the wall. Evoke reflection of the feeling of the wall’s texture “What does it feel like?” Explore the variety of things that cover the walls. Words may be used like paint, paper, board. Summarize prior to the final sequence: “We have bones covered by skin, and walls have wood covered by paint”   What’s on the inside:   1. Direct students to look at the veins on their wrists and inquire, “What are these colorful things?” Leveraging the visual information the students get by looking at their wrists, build a metaphor (veins are paths). Elicit the conceptualization of the word path in a number of body awareness-connected ways: 2. Take a deep breath in, let it out, take a deep breath in, let it out – elicit conscious awareness of the path air takes from outside the body to inside 3. A morsel of food, first its outside, then after I chew and swallow it - its on the inside – eliciting conscious awareness of the path from outside to inside 4. Elicit conversation around paths in walls. “What paths do walls have to let things in and out?” Expected answers are doors (people on a path), vents (air on a path). Introduce something special about walls. Walls have a blanket on the inside that keeps them warm called “insulation”. Insulation and the way it keeps us warm in the winter is discussed, concluding with an expression of gratitude for walls that keep us warm.   *\*If there is a desire, a row of tree-focused prompts may be added as an opportunity to build empathy and natural connection, in an outdoor learning environment.* | | | | | |

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| **Lesson Title** | Understanding My Relationship with the Wall | | | **Lesson no.** | 3 |
| **Curriculum Expectations** | | *PSI:* 1, 13, 14  *SRWB:* 4, 8, 22  *BC:* 22, 28, 29, 30 | | | |
| **Lesson Objectives** | | | | | |
| Experiencing relief from being hot or cold because the walls are there to protect them.​  Imagining what a wall does for us (provide us protection from the elements).​  Demonstrating body awareness of different states of being (responses of the body to hot, or cold). | | | | | |
| **Key Questions** | | | **Materials Required** | | |
| How do we dress for summer and winter? Why?  How do you feel when you are wearing your winter clothes indoors vs when you are not?  Can you feel the difference between the outside temperature and the classroom temperature? What do you feel? | | | Open space within the classroom | | |
| **Lesson Outline** | | | | | |
| To start this lesson, have the students reflect on the different seasons and what they each look and feel like. Furthermore, have them discuss what they do and how they spend their time indoors and outdoors each season. Go over the differences between the temperatures outside and inside during each season (air-conditioners and/or fans in the summer and heaters and/or blankets in the winter).  Play a version of “Red light, Green light” with the students.  When the students hear “hot/summer” they imagine that they are hot and fan themselves with their hands to cool themselves. When the students hear “cold/winter” they imagine that they are cold (*brrrrr*) and try to keep themselves warm by rubbing their arms and running on the spot. As soon as they hear “wall(s)”, the students stop their actions because the wall blocks the weather from entering. | | | | | |

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| **Lesson Title** | Developing My Appreciation & Gratitude for the Wall | | | **Lesson no.** | 4 |
| **Curriculum Expectations** | | *PSI:* 1  *SRWB:* 4, 22  *BC:* 22, 28, 29, 30 | | | |
| **Lesson Objectives** | | | | | |
| Explaining concepts of gratitude and appreciation​.  Illustrating concepts of gratitude and appreciation​.  Expressing personalized versions of the feelings gratitude and appreciation. | | | | | |
| **Key Questions** | | | **Materials Required** | | |
| What is gratitude? What is appreciation? How do these look like?​  How can you thank the wall for what it does for us? | | | The milkshake-mix boxes (can be acquired from any fast-food chains that serve milkshakes) that will be used to create the house for final task ​  Markers, Crayons, Pencil Crayons  Construction Paper, Tissue Paper  Glue Sticks | | |
| **Lesson Outline** | | | | | |
| To begin, go over what gratitude (being thankful for walls) and appreciation (recognize the value of a wall) mean by building on the previous lesson. Once these terms have been explained to the students, provide them with a couple of examples for each and then have them share what gratitude and appreciation mean for them (in general, and specifically when speaking about a wall). How do these look like to give and receive?  Take out the markers, crayons, and/or pencil crayons (it is possible to use paint if it is available) and hand out a box (brick) to each student. Also provide the students with constructions paper and/or tissue paper for decorating their bricks. Depending on the space available in the classroom, the number of boxes, and what works best for the class, have the student draw their images one at a time or in groups. If there are more boxes then there are students, have the students pair-up, or work in small groups, and work on additional boxes or leave these blank.  The students will draw two images: a wall that is taking care of them, and how they feel for the walls/how they want to thank the walls for taking care of them.  When everyone is finished, have the students share their drawings to their friends and/or the entire class.​  *\*If cost savings are needed, the construction paper can be replaced with a low-cost roll of paper cut to the size of the boxes.*  *\*\*The students should be encouraged to be creative so that they can foster and grow their imaginations.* | | | | | |

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| **Lesson Title** | Building a House | | | **Lesson no.** | 5 |
| **Curriculum Expectations** | | *PSI:* 1  *SRWB:* 4, 22  *BC:* 28, 29 | | | |
| **Lesson Objectives** | | | | | |
| Experimenting to discover how things are built of many pieces.  Cooperating to accomplish a task with many student peers (building a block house).  Constructing a complex structure in a guided-team exercise. | | | | | |
| **Key Questions** | | | **Materials Required** | | |
| How do you feel in the house you built?  What do you like about your house?  How many bricks did it take to build the house? Is it easier to build a house with the whole class or by yourself? | | | Elmer’s Glue (Mortar)​  Decorated milkshake-mix boxes from lesson 4 (blocks for the walls)​ I did not understand what you had written in the powerpoint here  Cotton roll / or other light material to place into blocks (Insulation) | | |
| **Lesson Outline** | | | | | |
| Orchestrate a collaborative student effort for building a cardboard block house in the classroom.  Preparation: Planning house location:   1. Consider size dimensions – where will the cardboard block house be built in the classroom? If space is challenging, it may be easier to first physically lay out boxes to determine the range of acceptable options for best fit in the classroom. 2. Space can be saved in a variety of ways. A 3-wall house can be built if the house is constructed against one wall. A 2-wall house can be built if the house is built into a corner. Walls should be built to be taller than the tallest student to give a feel of complete immersion for young people in the house. A ceiling should be considered optional, with consideration paid to lighting needs in the space. If a ceiling is desired, consider a semi-transparent fabric or cardboard with holes in it. 3. The simplest design, is simply 2 walls in the corner of the room, block stacked 4 high and one column left empty to serve as the door. If this design is done it is suggested to have the door (the empty column) be adjacent to the wall. This will provide the greatest level of immersion / separation from the room space and cultivate the feeling of exploration, adventure and being in a new place upon entering the house.   Insulating my block:  Direct the students to insulate their blocks. This can be done physically with old newspaper, or other old materials. This may also be done in imagination, asking the class to imagine themselves putting a favourite blanket into their block.  Planning the house:  The students experiment how to build the house in the planned spot through an exploratory process of block stacking tasks. If needed, actively guide the process such that the final product is more meaningful for future use and play within the classroom. The stack of blocks is then disassembled so it can be built in a sturdy way.  Building the house:  Take a guiding role in empowering students to reassemble their block house “with mortar”. The mortar can be made with Elmer’s glue, tape circles, or other appropriate binding agents.  Reflecting on the house:  A break may be important after the house is built to ensure the “mortar” has time to cure. The students will be able to enter the house one at a time or in small, size-appropriate groups to have a reflective moment on the class’s creation. | | | | | |

***Concluding Remarks***

Why is a lesson like this important?​

This lesson was constructed as a collaboration of two graduate students in education. We made this lesson for many reasons.

From a big picture level, we know the importance of building science and construction methods to the mitigation of climate change. Buildings are the top consumer of energy resources and as a result are a leading cause of climate change. The Canada Green Building Council estimates that “Green infrastructure investments are expected to create an estimated 147,000 job openings for skilled tradespeople over the next 15 years in the Toronto region alone.[[1]](#footnote-1)”

The work that needs to be done to ensure a livable future is the insulation and durable retrofitting of >95% of buildings in Canada. Concepts introduced in this unit plan, like insulation, are a kindergarten-level introduction to the concept of Passive House – the top certification for energy efficient housing. Insulation is explicitly important as insulation directly affects the top three primary energy consuming features of buildings. These are heating, cooling, and hot water (insulation for walls and hot water tanks).

At a small picture level, we wanted to build a focus on situational awareness, gratitude, and experiencing the world around us. A common way to perceive infrastructure is the constructs and systems of everyday society that are rendered invisible by a mind working to build heuristics and shortcuts. Only when something is out of the ordinary do we take notice of infrastructure. For example, we notice roads with pot holes more than well-paved roads. Infrastructure that looks “normal” is extremely effective at eluding conscious thought. Visible or invisible, the importance of massive retrofits for all buildings in Canada cannot be overstated.

By demonstrating gratitude for walls, we develop a feeling of care, nurturance, and reciprocity to walls. As walls protect us, we need to curate the needs of walls. By envisioning walls in a more human and livable way, we empower youth to get excited about participating in this future economy.

1. Canada Green Building Council. (2023, April 2). Trading UP – Ontario. Canada Green Building Council. <https://www.cagbc.org/news-resources/research-and-reports/trading-up-ontario/> [↑](#footnote-ref-1)