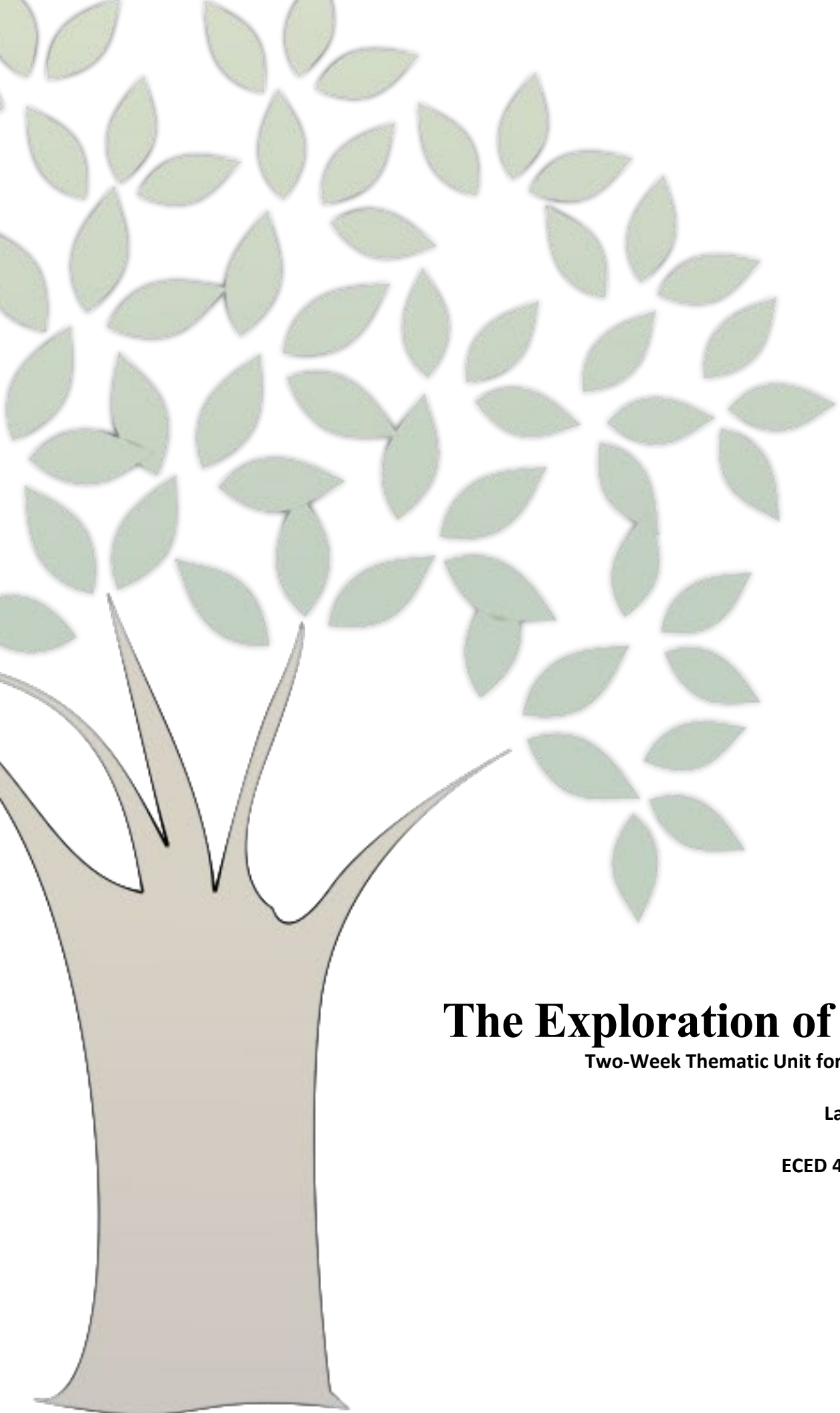

The Exploration of Wood

Two-Week Thematic Unit for Kindergarten

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ECED 4450 Spring 18

Table of Contents

Contents

Introduction and Rationale (a) 3

Standard/s Addressed, Goals, and Objectives for the Unit (b) 4

A Curriculum Web (c) 5

Title and Description of Learning Experiences (d) 6

- Overview 6
- Calendar 7
- Titles and Descriptions 10

Two Complete Lesson Plans (e) 19

- Complete Lesson Plan #1: 19
- Complete Lesson Plan #2: 28

Unit Evaluation Plan (f) 36

- Formative 36
- Summative 36

A Letter to Parents (g) 37

..... 37

List of References (h) 38

- Teachers 38
- Families 38
- Children 38

List of Resources Used in the Unit (i) 40

- Materials and supplies 40
- Print and non-print 40
- Technology resources 40
- Other 40

Feedback and Reflection (j) ..... **Error! Bookmark not defined.**

Introduction and Rationale (a)

This integrated learning segment is to study the properties of wood. For two weeks, students will get the opportunity to explore with their senses wood. They will get to explore what wood feels like, smells like, and feels like. The students will get to go more in depth with the topic of wood to find out its natural properties and uses.

This topic is age appropriate for kindergarten students because wood is all around them. It is on the playground in mulch or surrounding the playground in the form of trees. Almost every building is built with wood. The students also have wood bookshelves and tables within their classrooms. This unit is developmentally appropriate because the students will be using materials that they are familiar with and are safe to use for their age. This unit is developmentally appropriate because there will be supporting information such as books that are age level for the students to relate and make connections to.

This unit is inquiry based because it has the students being very explorative. The students will be participating in activities that let them explore with their senses. Based from what the students find out with their senses, they will get to conduct a variety of experiments to find out other properties that wood contain. This unit will also be supporting inquiry because it will be following the 5E's which are engage, explore, explain, elaborate, and evaluate (Yoon, 2006). The students will be engaged into a variety of activities that they will also get to explore. The students also will have the chance to explain and elaborate on their answers.

Standard/s Addressed, Goals, and Objectives for the Unit (b)

Standards addressed.

- Physical Science (Matter and Its Interactions). K.PS.1 1) Plan and conduct an investigation to describe and classify different kinds of materials including wood, plastic, metal, cloth, and paper by their observable properties (color, texture, hardness, and flexibility) and whether they are natural or human-made.

- Literacy- K.W.TTP.2 With prompting and support, use a combination of drawing, dictating, and/or writing to compose informative/explanatory texts.

-Math- K.CC.B.4 Understand the relationship between numbers and quantities; connect counting to cardinality. a. When counting objects, say the number names in the standard order, using one-to-one correspondence. b. Recognize that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted. c. Recognize that each successive number name refers to a quantity that is one greater.

Goals.

- For students to explore wood.
- For students to use their senses to describe the properties of wood.
- For the students to develop making predictions and to practice recording observations.
- For students to analyze why wood is used as a building material.

A Curriculum Web (c)

Title and Description of Learning Experiences (d)

Overview

This two-week unit is based around exploration. Below is the two-week plan that includes activities that the students will be participating in. Below will list the activities and plans for the two weeks in more detail. The main goal for this unit is for the students to explore with their senses to gain an understanding of how important wood is to humans. To start off this unit, the students will be engaged in an activity that allows them to explore wood materials using their senses. The students will go on nature walks, explore with sink and float, as well as experiment in building with wood and non-wood materials to look more in-depth at the properties of wood.

Calendar

Week 1 of 2

Schedule	Monday	Tuesday	Wednesday	Thursday	Friday
Arrival/ Mini Lessons	Have different materials made from wood that the students can explore while they arrive.	Gather wood materials and pictures that the students have brought in. Do sorting activity.		Read The Giving Tree	
Whole Group	Discuss that we will be talking about wood for a couple of weeks. Let the students go around and make observations on the different items of wood that is displayed around the classroom. The students will interact with a wooden xylophone. Bring students back to whole group create an anchor chart about the characteristics found.	Read Tell Me, Tree to give students some ideas about the uses of trees. Go more in depth with the uses of wood. Let the students brainstorm would wood is used for.	Revisit Tell Me, Tree. Have students go on a nature walk to see the different types of trees.	Discuss wood being a natural material and what would happen if we used it up. Connect back to the giving tree and help brainstorm ways that to act like the giving tree to give back to the environment.	Students will make predictions on what happens over time when wood is exposed to a variety of elements. Watch videos to see what happens to wood when it is exposed to different elements
Small Group	Have the students brainstorm in small groups about what wood comes from. Ask them what else is made from wood.	Writing activity- What would you use wood for? Introduce starting a class book about what all that is being learned about wood.	Have the students write what they find on the walk. Start a class book about wood. Let the students pick pages that they want to create for the book. The students can create pages about the trees they saw on the walk, write about the characteristics of wood, write about other objects that is made from wood, and then	Do an activity that can help preserve trees.	

			the uses of wood.		
Snack	Pretzels- converse with the child to compare the pretzel to the wood	Apples	Ants on a log- try to get students to make connections with the snack and the nature walk	Gummies	crackers
Free Play/Center Time	Outside time- tell students to look for wood while outside	Set up materials in the art center to work on the class book.	Build an outside play structure out of wood	Plant a tree during recess or adopt one online.	Outside time
Group Session	Whole group- Discuss what students observed outside. Add to the chart created earlier		Work on the class book	Work on the class book	
Closure	Send students home with a scavenger hunt activity		Send home activity- sorting materials		

** Complete lesson plan*

Week 2 of 2

Schedule	Monday	Tuesday	Wednesday	Thursday	Friday
Arrival/ Mini Lesson	Revisit with a discussion of what was learned last week.	Do a mini discussion on what makes things sink or float	Center time	Center time	Explore wood stations again
Whole Group	Lead into a discussion on how wood tells us a lot of things- for instance- the rings in a stump tells us how old the tree is.	Sink or float Students make predictions based off the characteristics on the anchor chart that they created on day one.	Sink and float continued Students will create boats out of wood material to see how actual boats float.	Revisit the uses of wood. Lead into a discussion on how wood is used as a building tool. Read *The Three Little Pigs.*	Work time for students
Small Group	Give students slivers of wood to count/ pictures of wood rings in pairs to help them practice counting. Get the students to make connections to numbers and age.		Create boats	Have the students pair up to create a structure made from different wood materials.	Let the students continue to work on their structures.
Snack	apples	Blue Jell-O with Goldfish	pears	Bananas	Pretzels
Free Play/Center Time	Add pick up sticks as an option for a center activity.	Center time- sink and float still available for revisit	Free Play	Center time	Free Play
Group Session			Test our boats to see if they float	Continued time to work on sculpture	Presentation of the sculptures
Departure/ Closure	Let the students work on the class book	Work on class book	Work on class book	Work on class book	Do whole group session to read the finished class book

** Complete lesson plan*

Titles and Descriptions

Week One:

Day One: Exploration of Wood- Lesson Plan One

For Day one, the activity is to introduce wood to the students. There will be different stations set up around that has different types of wood and different materials made from wood in the station. The students will go around to the stations and explore the different materials of wood with their senses. They will not use the sense of taste because that can become a safety issue. While the students are exploring the materials, they will be asked to make and record observations. After the students have had time to explore with the materials, they will come together as a whole group in the circle. The teacher will have an anchor chart ready to list what observations the students have found. After they have listed some observations the teacher will ask the students where wood comes from. The teacher will ask them what else is made from wood. For the closure of the day, the teacher will ask the students to see if they can find any wood items that are found in their house. This activity will include inquiry because the students will be exploring with all of their senses to better understand some properties of wood.

This activity was modified from Observable Properties of Matter. (n.d.). Retrieved from http://www.cpalms.org/Public/PreviewResourceLesson/Preview/46090. In this source, it covers a variety of materials, so it is adapted to discuss the properties of wood. This activity can integrate literacy by having students record the observations that they made about the different wood materials.

This activity will lead into day two by having some knowledge that the properties of wood have different uses. Day two will build because it will explore how the properties of wood are used in a variety of ways.

Day Two: Uses of Tree- What would you use would for

Day two will start out by the teacher gathering items and pictures that the students have brought in that revolve around wood. The teacher will then do a class discussion to see if they see any similarities with what the students observed on day one. After this discussion the teacher will have the students in circle to listen to *Tell Me, Tree* by Gail Gibbon to give students some ideas about the uses of trees. After reading the book, the teacher will go more in depth with the uses of wood. The teacher will then let the students do a writing activity that has the children think of what they would use wood for. After the students have time to complete this writing activity, the teacher will introduce a class project which is to create a book about what all is being learned about wood. Materials will be set up in the art center so that students can begin creating the class book.

This activity will integrate science, literacy, and art. It will integrate these three things because it has the students write something they have learned about the properties of wood as well as to draw pictures. The class book can be modified to for struggling learners to have sentence stems that they can follow to help create a page for the book.

This activity will build into day three by having students see where would naturally comes from. The students have been looking at the properties and uses of wood but not where it comes from. Looking into where wood comes from will lead into a discussion of how wood is a natural material.

Day Three: Wood and Nature

On day three, the class will revisit *Tell Me, Tree*. The class will then go on a nature walk to see the different types of trees. The nature walk will also let the students see where we get wood from. The students will take observations of what they find on the walk. After the walk, the class will talk about wood and the environment. Later in the day, the students can pick pages that they want to create for the book. This will promote inquiry because it will engage students. It will engage students because they will get to get out of the classroom to observe and explore wood in the environment.

The class book will be integrating art and literacy in the science topic of wood. The class book can be modified for English language learners as well as for struggling learners to provide sentence stems for ways that the book pages can be set up. The sentence stems will provide the students with a model of how to set up sentences.

Day three will build into Day four by showing the students that wood is natural. Natural materials may not last forever. Day four will let the students brainstorm into ways to preserve the wood. The students will get to think of ways that humans can give back to the environment to help preserve wood and trees.

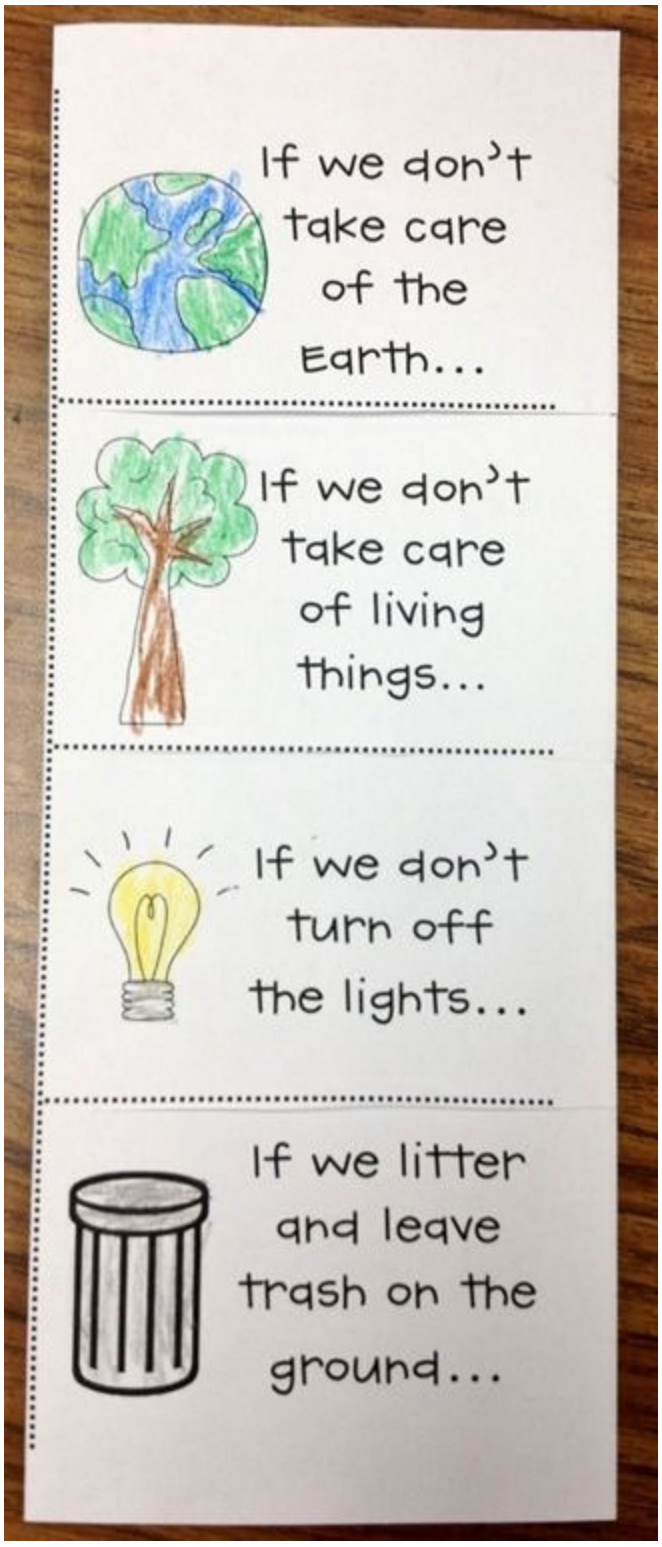
Day Four: What would happen if would is used up

Day four would start out with the question what would happen if wood is used up. After posing that question, let the students think about it but not to share any answers. After asking the question, the teacher will then read *The Giving Tree* by Shel Silverstein. After reading *The Giving Tree*, there will be discussion on the question asked at the beginning on the day. The students will brainstorm what would happen if wood was used up. The teacher would write the

responses down onto an anchor chart. The teacher will then give the students a flipbook to make. The flipbook will have an area of what would happen if wood is used up and the other section would have an area where the students can write or draw how they would preserve wood.

The flipbook came from C. (2017, May 12). Kim Sutton, An Earth Day Freebie, and Some Fun Ideas!! Retrieved from http://thefirstgradeparade.org/kim-sutton-earth-day-freebie-and-some/. The flipbook would be adapted to only include two sections: what would happen if wood is used up and how to preserve wood. This activity will involve inquiry because it will let students plan a way to preserve wood and then they can elaborate on their thinking with the class.

Day four will build into day five because a lot of what humans do affects the conditions of the environment. There are also natural elements that affect the conditions of the environment. For day five, the class will be exploring the effects natural elements have on wood. The students will make predictions and question why wood acts the way it does when exposed to elements such as water and fire.


If we don't take care of the Earth...
If we don't take care of living things...
If we don't turn off the lights...
If we litter and leave trash on the ground...

Day Five: Wood verses the Elements

Day five will begin with a discussion on what will happen when wood is exposed to different elements. The teacher will show several videos of what happens when wood is exposed to different elements such as water, wind, and fire. The students will watch videos of natural disasters as well. They will be asked why they think wood acts the way it does when exposed to different elements. The students will refer to the anchor chart that lists the properties of wood to help them answer the question. The students will also be asked to question why the property of strength did not help in most cases when exposed to the natural disasters.

This activity integrates the use of technology along with science. This activity promotes inquiry because of the teacher is using open-ended questions to get the students to think and analyze why the properties of wood were affected the way it is against different elements and forces.

Day five proposes new thinking on the properties of wood. Day six will start a new week. It will have the students go back to analyze wood in more detail. The students, while exploring wood will learn that wood tells a lot of information.

Week Two:

Day six: Counting Rings

Day six starts with a discussion on how wood tells us a lot of things. For instance, the rings in a stump tells us how old the tree is. The teacher will bring in a sliver of wood that shows the rings. The class will practice counting the number of rings in the sliver of wood. The teacher will show several examples of the rings on the smart board in case it is hard to count on the

actual piece of wood. After counting the rings, a center activity for the students to participate in is a game of pick up sticks.

This activity came from (n.d.). Retrieved from http://www.treetures.com/RingALing/RingTeacher.html. It will be adapted to fit more for kindergarteners. This source also mentions different tools that will not be used in the activity. This source does provide some questions to relate to the students. Another way this activity can be modified to help students that are struggling with counting to provide manipulative such as unifix cubes to help these students keep count of the number of rings. This activity promotes inquiry to let the students explore to find the age of wood. It also lets students connect wood to themselves in that they both age.

Day six will lead into day seven by letting the students continue to explore different elements of wood. Day seven will introduce the concept of sink or float with the students.

Day seven: Sink or Float

Day seven will include an exploration activity with the students regarding sink or float. The class will revisit the anchor chart made on day one about the different characteristics. The students will predict with different wood objects on whether it will sink, or float based from the characteristics they wrote on the anchor chart. The students will explain their thinking prior to testing the material out.

This activity is from Sink or Float? (n.d.). Retrieved from http://sciencenetlinks.com/lessons/sink-or-float/. This activity will be adapted to focus more on testing wood materials that sink or float. This activity will promote inquiry by letting the students

plan and make predictions about what materials will sink or float. The students will then get to test their predictions.

Day eight: Sink or Float Continued- Building Boats

Day eight will continue from day seven. The students will continue to explore with sink or float. For day eight, the students will think about how do boats float when boats are huge. The students will get to plan how to make their own boat out of wood to get it to float. The students will have time to build their boats and then test them later in the evening.

This activity is retrieved from Young, R. (n.d.). Activity Plan: Build a Boat that Floats! Retrieved from https://www.scholastic.com/teachers/articles/teaching-content/activity-plan-5-6-build-boat-floats/. This activity promotes inquiry by engaging the students in an activity where they can experiment to test if they can create a boat that floats.

Day eight builds into day nine because day nine will also have students building with the wood materials. Day nine, however explores the more structural and strength properties of wood.

Day nine: Planning to build a structure

Day nine begins by the class revisiting the uses and properties of wood. The class will then move to sit on the carpet to listen to the story of *The Three Little Pigs.* After reading the book, the teacher will explain that they are going to be building sculptures or houses like the three little pigs did in the story. Day nine focuses on the planning stages of designing a sculpture. The students will draw out their plans for their sculpture. Then the students will use a variety of

wood materials or nonwood materials to build their sculpture. The students will compare the different materials to show why wood represents strength.

This activity is retrieved from Caughey, S. (2017, May 31). Building Sculptures. Retrieved from http://purpletwig.blogspot.com/2017/05/building-sculptures.html It will be adapted to mainly get the students to build the sculpture instead of decorating. This activity promotes inquiry because it lets students engage in an activity where they can explore the properties of wood to see why wood is used as a building material. It will be adapted to help students with low motor skills let the teacher help them glue the structure together.

Day nine builds into day ten because it is a continuation process. In day ten, the students will be finishing up building their sculptures. Day ten also includes the wrap up of the entire unit.

Day ten: Building their Sculpture Continued

In Day Ten, the students will finish building their structure. They will question the similarities that their sculptures have with the story of *The Three Little Pigs.* After the students have built their sculptures, they will display them. To close the day, the teacher will read the class book that was created all unit to describe wood and all of its components.

The activity of reading the finished book will be adapted for students that have visual or hearing impairments to have them sitting closer to the front of the rug.

Two Complete Lesson Plans (e)

Complete Lesson Plan #1:

Lesson Plan template

RESIDENCY I & RESIDENCY II

data point 2 & data point 3

Lesson Title: Exploration of Wood | Grade/Level: Kindergarten | Date/Learning Experience #: April 25, 2018

Curriculum Standards	Essential Question
State Curriculum Standards – Underline your language/vocabulary words Science: K.PS.1 1) Plan and conduct an investigation to describe and classify different kinds of materials including wood, plastic, metal, cloth, and paper by their observable properties (color, texture, hardness, and flexibility) and whether they are natural or human-made.	What question(s) or big idea(s) related to this lesson drives your instruction? Students should be able to answer this question by the end of the lesson. Question: How are observations helpful in understanding a new material? Goal: For students to use their senses to record observations of the properties of wood.

Lesson Objective(s) – Student Learning Outcome(s) for this learning experience
Objectives use active verbs, are measureable (if applicable), and link to standards. Consider using Bloom's Taxonomy or Webb's Depth of Knowledge. The student will observe different wood materials using four of their five senses. The students will record observations using their senses by writing or drawling in a chart.

Knowing Your Learners
Describe pre-requisite skills students already know that will help them meet the lesson objective(s). What is your evidence that students need this/these skills(s)? This may include pre-assessment data; student personal, cultural or community assets you have gathered and observations you have made concerning your students. The learners at University School have had experience of exploring some properties of wood. For this learning experience, the learners will need to know what it means to observe in the first place. They will need to know how to observe. In this lesson, the learners will need to know some writing skills to fill out an observation sheet and a KWL chart.

Assessment/Evaluation	
How will students demonstrate understanding of lesson objective(s)? Informal: How will you monitor student progress towards lesson objectives as you are teaching? (formative assessment) For the informal assessment, I will use a checklist. This checklist will examine the observations sheets to see if the students were able to use their senses to describe wood. It will see if the students were able to put down the observations in the chart.	Assessment Modifications What modifications will you make on assessments/evaluations for students with diverse and/or special needs (i.e. students with IEP or 504, struggling learners, advanced learners) and will these modifications be

Formal: What evidence (formative and/or summative) will you collect and how will you document student learning/mastery of lesson objective(s)? A summative assessment is not needed for every lesson, however, it is required for every lesson submitted for CAEP data collection points (e.g., 3000 courses – ECED 3210, READ 3100, SPED 3300, PEXS xxxx; 4000 courses – ECED 4680, CUAI 4241, SPED 4710, PEXS xxxx, ECED 4780, CUAI 4391, SPED 4850, PEXS xxxx). For the formal assessment, I will be using a KWL chart. The KWL chart is a chart that is split into three sections. The first is what you already know. The middle section is what would you like to know. What you learned is the last section. Academic Feedback: The feedback can be both oral and/or written. What strategy/ies will you suggest to move student learning forward? How will feedback promote student understanding of the learning objective? For academic feedback, the teacher will give oral feedback to the students while they are explaining their observations. If the students observed something that I had not thought of when saying what they found using their senses I will ask them to elaborate to see if I can make connections to what they are talking about. The teacher will give written feedback on the students KWL charts to help answer questions on what the students want to learn. This feedback will fix any misconceptions under the section of what the students know as well as to provide answers to questions that the students wanted to learn that may not be answered.	within/for small groups or individuals? For special needs students and struggling students I would provide sentence stems to help them find ways to word their knowledge in the KWL chart.

Theory/Rationale for Assessment/Evaluation: I am administering/giving/collecting _____ because my students need_____. This is appropriate because _____. Provide citation (APA, 6th edition) for theory and/or research.

I am administering a KWL chart because my students need to describe what they already know about a topic to let teachers better plan for the activities. This is appropriate because KWL charts, "let students create interest," on a subject which will help the teacher plan activities better suited for the students' interests (Morrow, 2011).

Academic Language Demands

Function and Product of the Lesson The function is the verb, usually a Blooms verb (e.g., analyze, interpret, recount), that guides the language objective of the lesson. This includes a product that students will either write, say, present, or do that involves Academic Language (e.g. essay, present, recount).
The function of this lesson is to explore and observe the wood material by using the students' senses. The product of this lesson is to have the students say in a discussion of what they observed about the wood material.
Academic Vocabulary What specialized terms and phrases do students need to understand and use to complete the function? These may include terms underlined from the state curriculum standard(s).

- Explore- to examine.
- Observe- to watch carefully.

Content Vocabulary What are the key vocabulary words, symbols, or sounds in this lesson? These may include terms underlined from the state curriculum standard(s).

- Wood- hard material that forms from a tree.
- Stick- thin piece of wood.
- Natural Material- material that can come from plants, animals, or the ground
- Senses- areas of the body that can take in information. The senses are taste, touch, sight, hearing, and smell.
- Texture- the feel, appearance, or consistency of a substance or surface.
- Magnifying Glass- a lens to enlarge an image to see more details.

Syntax and/or Discourse (not Early Childhood)
Syntax What are the specific ways or conventions for organizing symbols (e.g., linear, horizontal, words (grammar), phrases, or graphics that students need to know to be able to do what you are asking?

Discourse What are the specific ways in which members of a discipline (e.g., scientist, historian, etc.) talk, write, and communicate knowledge that students need to know to be able to do what you are asking (e.g., essays, presentations, performance, journal, debate, historical account, signal)?

Language Supports What general instruction will you provide to help students in the whole class (e.g., word walls, learning partners, guided notes) learn the discourse/syntax? What focused instruction (e.g., Venn diagrams, graphic organizers, outlines, student examples, sentence stems) will you provide to help students learn the discourse/syntax (can be completed in small groups)? What individual instruction that targets the needs of an individual student(s) will you provide to help that student(s) learn the discourse/syntax? What opportunities will you provide for students to practice language/vocabulary and develop fluency? What tools (e.g., EQ or vocabulary board, Venn diagram, anchor chart, vocabulary cards, graphic organizer, peer support, sentence stems, pictures, table, chart, thinking map, modeling, sort, song, body movements, games) will you use to help students meet the language demands?

To help the whole class learn about the properties of wood, they will be completing a KWL Chart. The KWL chart will give the students and teacher information on what they know on the subject, what they want to know and what they learned.

General Supports – Strategies used to support the whole class and may be used to support more than one demand (e.g., Venn diagram, learning partners, word wall, anchor chart, vocabulary cards, graphic organizer, sentence stems, pictures, table, chart, thinking map, modeling, sort, song, body movements, games). These strategies can cross disciplines and be used in a variety of lessons.

For general supports, the students will create their very own words vocabulary cards about wood and ways to describe objects. Creating the vocabulary cards will let the students have a physical copy of the words that they can keep to use as a reference.

Targeted Supports – Strategies that focus toward a specific language demand (e.g., Venn diagrams, graphic organizers, outlines, examples, sentence stems). These may be addressed during small groups. These can be general supports that are modified for specific students or groups of students.

For targeted supports, the teacher will provide multiple examples on what to observe when going on the exploration.

Individual Supports – Supports used to target the specific needs of an individual student (e.g., ELL, student with autism, struggling reader or writer, student with significant language delays). These students may or may not have been formally identified and may or may not have an IEP or 504 plan.

For individual supports, students that are English language learners or struggling writers will be given sentence stems to help them record what they observe when exploring with the wood material.

Language Theory/Rationale: I am _____ because my students need_____. This is appropriate because _____. Provide citation (APA, 6th edition) for learning theory and/or research.

I am using vocabulary cards because my students need to have the words in print. This is appropriate because vocabulary cards are, "based on a child's expressed interests in situations at home and in school" (Morrow, 2011).

Instruction – When designing your instruction, consider when you will implement formal and informal assessments/evaluations, when you will provide feedback, and when you will teach academic language. Therefore, this section should include aspects written above.

Lesson Part	Description of Activities and Instruction (Teacher Does)	Description of Activities and Instruction (Students Do)	Meeting Individual & Group Needs /Learning Styles Plans instruction to meet the needs of individual students. Adaptations are tied to learning objectives. Specific individual or group learning includes requirements in IEP or 504 plans.
Set/Motivator: Restate and address your Essential	The teacher will call the students to sit on the rug to listen to My Five Senses by Aliki. The teacher will explain, "Today	The students will sit on the rug. They will listen to the teacher read My Five Senses by Aliki. The students will	1. Students will set

Question. How do you engage student interest in the content of the lesson? How does this relate to previous learning? Use knowledge of students' academic, social, and cultural characteristics.	we are going to be using four of our senses to do something called observing. Friends, we are going to explore a material. I want you all to make observations based off of what you see, hear, smell, and feel with this new material.	listen to the teacher explain that they will be using their senses to make observations on a new material.	closer to the book if they have visual or hearing impairments. 2. The teacher will include cards to describe the senses in the book in different languages to help relate to English Language Learners.
Instructional Procedures/Learning Tasks: Provide specific step-by-step details of lesson content aligned with objectives, utilizing a variety of teaching strategies.	1. The teacher will send the students back to their desks. 2. The teacher will hand out the KWL Chart and have the students fill out the K and the W section. 3. The teacher will set up stations around the room that have different wood materials in each station while the students are filling out the chart. 4. The teacher will hand out a senses observation sheet to the students. 5. The teacher will lay out tools such as magnifying glasses to let the students observe the materials. 6. The teacher will let the students explore the materials. 7. The teacher will tell the students to examine the material by using their senses. 8. The teacher will call the students back to a whole group on the carpet. 9. The teacher will ask students to elaborate their observations found from each of the senses.	1. The students will be sent back to their desks. 2. The students will receive a KWL chart. 3. The students will be instructed to fill out the K and the W section of the chart. 4. The students will be given an observation sheet that lists four of the five main senses. 5. The students will have the choice to pick up and use tools such as magnifying glasses. 6. The students will explore the different stations of wood around the classroom. 7. The students will come back to whole group after exploring to share their observations. 8. The students will elaborate their observations of wood found from their senses. 9. The students will help the teacher fill out the anchor chart for the observations. 10. The students will explain what properties wood has	1. Students that are struggling writers or English language learners will receive sentence stems to help them fill out the KWL and observation chart. 2. Students that have visual or hearing impairments will fill out the other senses in the chart in more depth.

	10. The teacher will record the observations that the students found out onto an anchor chart. 11. The teacher will ask the students to explain what properties wood has based from the students' observations.	based from their observations.	
Questions and/or activities for higher order thinking: These are open-ended and cannot be answered by yes or no. These can be asked at various points throughout the lesson and guide rather than direct student thinking.	Examine the material using your senses to discover some properties. Elaborate the observations you made on the pieces of wood. Explain what properties wood has based from your observations.		To help answer these questions, the students can be put into pairs or groups to compare answers and thoughts before coming up for a final answer to these questions.
Closure: Makes clear connections to real-world situations and requires students to reflect on and apply their learning through verbal or written expression.	The teacher will explain the main points from the observations that was recorded onto the anchor chart. The teacher will tell the students to get with a buddy to do think, pair, share. The teacher will let some students share one observation they made or one property of wood that they found out.	The students will listen to the teacher explain the anchor chart. The students will pair up to participate in think, pair, share. The students will share one observation that they made or one property of wood that they found out.	Students will be given time to reflect on the observations that they made on the material of wood.

Material/Resources/Technology: What do you need for this lesson? Identify the specific materials, resources and instructional technologies that you will use. How will you model these technologies to engage students and add value to and improve their learning?
Wood materials- sticks, twigs, slices of wood.
Popsicle sticks
dowel rods
My Five Senses- Aliki

Co-Teaching Strategies Used: (highlight and explain all that apply): One Teach, One Observe; One Teach, One Assist; Station Teaching; Parallel Teaching; Supplemental Teaching; Alternative (Differentiated); Team Teaching
The co-teaching strategy for this lesson is one teach, one observe. One teach, one observe will be beneficial because the observing teacher can record notes on what the students say.

Instruction Theory/Rationale: I am _____ because my students need_____. This is appropriate because _____. Provide citation (APA, 6th edition) for learning theory and/or research.

I am using think, pair, share because my students need to interact and reflect from their peers. This is appropriate because the retelling process of think, pair, share, "helps students engage in holistic comprehension and organization of thought" with others (Morrow, 2011).

Meeting Individual & Group Needs Theory/Rationale: I am _____ because my students need_____. This is appropriate because _____. Provide citation (APA, 6th edition) for learning theory and/or research.
I am using student-student dialogue because my students need to share their thoughts on what they observed with the class. This is appropriate because student- student dialogue, "ensures that all students will participate in sharing" (Van De Walle, 2014).

Management/Safety Issues

Management Issues: Explanation of processes and/or procedures, transitions from one activity to another, strategies for gaining attention, motivating students to engage in the lesson and focus on learning (e.g. work boards, posted procedures, modeling, positive feedback, redirection).
For this lesson, a management issue is to provide multiple and a variety of the materials for students to explore. Including multiple of the same material will help with a management issue of sharing the materials between the students. Another management issue is that some materials such as sticks may resemble swords for the children. One idea to help with these management issues is to do a mini lesson on what behavior is appropriate during the exploration time.

Safety Issues: Are there any safety issues that need to be considered when teaching this lesson (e.g., outdoor activities, lab experiments, equipment use)? Expectations are explicitly outlined and are included as part of the instructional process.

For this lesson, the students will be exploring different materials made from wood. Some of these materials are natural so the students may get splinters or cuts if they handle the objects too rough. Another safety issue is that the students will be told to use their senses to explore the objects which may cause them to use their sense of taste even though they will be told only to focus on what they feel, hear, see, and smell.

References

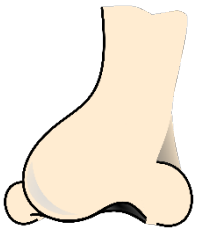
Morrow, L. M. (2011). Literacy development in the early years: Helping children read and write (7th ed.). Boston, MA: Pearson.

Van de Walle, J. A., Lovin, L. H., Karp, K. S., & Bay-Williams, J. M. (2014). *Teaching student-centered mathematics: Developmentally appropriate instruction for grades pre-k-2* (2nd ed.). Boston, MA: Pearson.

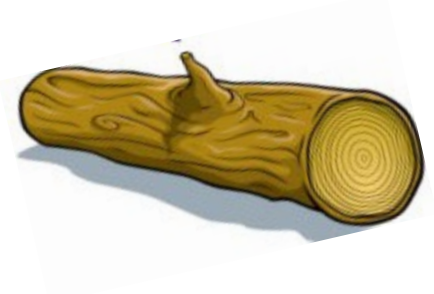
Name:_____

Date:_____

Topic:_____

What I see 	
What I feel 	
What I hear 	
What I smell 	

K- What do I know	W- What do I want to know	L- What Have I learned



Name:	Observation from touch	Observation from sight	Observation from smell	Observation from hearing	Comments

Complete Lesson Plan #2: Building Structures

RESIDENCY I & RESIDENCY II

DATA POINT 2 & DATA POINT 3

Lesson Title: **Grade/Level:** Kindergarten **Date/Learning Experience #:**

Curriculum Standards	Essential Question
State Curriculum Standards – Underline your language/vocabulary words Science K.PS1: Matter and Its Interactions 1) Plan and conduct an investigation to describe and classify different kinds of materials including wood, ~~plastic, metal, cloth, and paper~~ by their observable properties (~~color, texture~~, hardness, and flexibility) ~~and whether they are natural or human-made.~~ K.W.TTP.2 With prompting and support, use a combination of drawing, dictating, and/or writing to compose informative/explanatory texts.	*What question(s) or big idea(s) related to this lesson drives your instruction? Students should be able to answer this question by the end of the lesson.* Goal: For students to understand that wood has different properties such as strength. Question: How can the different properties of wood be used to understand how structures are built? Why is wood a good material to build with?

Lesson Objective(s) – Student Learning Outcome(s) for this learning experience
Objectives use active verbs, are measureable (if applicable), and link to standards. Consider using Bloom's Taxonomy or Webb's Depth of Knowledge. The students will plan an experiment to describe the properties of wood by drawing their plan. The students will analyze their sculpture to the sculptures in The Three Little Pigs by writing complete sentences with 85% accuracy.

Knowing Your Learners
Describe pre-requisite skills students already know that will help them meet the lesson objective(s). What is your evidence that students need this/these skills(s)? This may include pre-assessment data; student personal, cultural or community assets you have gathered and observations you have made concerning your students. These students will have been studying the properties of wood for the past week. They should have a concept and understanding that wood has a variety of different properties. Students will need to learn skills about working with the different properties of wood to have a better understanding of the world around them. Some of these students may become future engineers.

Assessment/Evaluation	
How will students demonstrate understanding of lesson objective(s)? **Informal***: How will you monitor student progress towards lesson objectives as you are teaching? (formative assessment)* The teacher will collect a work sample to see if the students were able to draw a picture of their sculpture for their experiment. This work sample will show the students ability to draw and write	**Assessment Modifications** *What modifications will you make on assessments/evaluations for students with diverse and/or special needs (i.e. students with IEP or 504, struggling learners,*

a plan as well as to see how the students are able to implement their plans. The teacher will collect anecdotal notes on the students to add along with the work sample.

Formal: *What evidence (formative and/or summative) will you collect and how will you document student learning/mastery of lesson objective(s)? A summative assessment is not needed for every lesson, however, it is required for every lesson submitted for CAEP data collection points (e.g., 3000 courses – ECED 3210, READ 3100, SPED 3300, PEXS xxxx; 4000 courses – ECED 4680, CUAI 4241, SPED 4710, PEXS xxxx, ECED 4780, CUAI 4391, SPED 4850, PEXS xxxx).*
The formal assessment will be a checklist to analyze the students planning of the sculpture and the comparison of the sculpture to the Three Little Pigs. The checklist will see if the students were able to draw the sculpture, build the sculpture, as well as to explain their sculpture.

Academic Feedback: *The feedback can be both oral and/or written. What strategy/ies will you suggest to move student learning forward? How will feedback promote student understanding of the learning objective?*
For academic feedback, I will walk around to each student to get them to explain to me their plan for the sculpture. I will also ask questions about their plan such as, "How did this relate to The Three Little Pigs?" I will record what the students said unto an index card and tape it to the student's plan that I will take up for a work sample.

advanced learners) and will these modifications be within/for small groups or individuals?
For assessment modifications, I will provide the students with plenty of time to complete their work. I will provide assistance to students that may have trouble writing or reading in the form of sentence stems.
For advanced students I would have them write more sentences to explain their ideas.

Theory/Rationale for Assessment/Evaluation: *I am administering/giving/collecting _____ because my students need_____. This is appropriate because _____. Provide citation (APA, 6th edition) for theory and/or research.*
I am administering a checklist because my students need to focus on the activity instead of a test. This is appropriate because checklists are, "designed to determine whether goals set forth have been accomplished" (Morrow, 2011).

Academic Language Demands

Function and Product of the Lesson *The function is the verb, usually a Blooms verb (e.g., analyze, interpret, recount), that guides the language objective of the lesson. This includes a product that students will either write, say, present, or do that involves Academic Language (e.g. essay, present, recount).*
The function of this lesson is for students to analyze the properties of wood when creating a sculpture. The product of this lesson is for students to write and draw a plan to show how to create the sculpture/
Academic Vocabulary *What specialized terms and phrases do students need to understand and use to complete the function? These may include terms underlined from the state curriculum standard(s).*

- Construct- to build
- Experiment- a procedure to discover something

Content Vocabulary *What are the key vocabulary words, symbols, or sounds in this lesson? These may include terms underlined from the state curriculum standard(s).*

- Structure- a building

~~**Syntax and/or Discourse (not Early Childhood)**~~
~~Syntax *What are the specific ways or conventions for organizing symbols (e.g., linear, horizontal, words (grammar), phrases, or graphics that students need to know to be able to do what you are asking*?~~
~~Discourse *What are the specific ways in which members of a discipline (e.g., scientist, historian, etc.) talk, write, and communicate knowledge that students need to know to be able to do what you are asking (e.g., essays, presentations, performance, journal, debate, historical account, signal)?*~~

Language Supports *What general instruction will you provide to help students in the whole class (e.g., word walls, learning partners, guided notes) learn the discourse/syntax? What focused instruction (e.g., Venn diagrams, graphic organizers, outlines, student examples, sentence stems) will you provide to help students learn the discourse/syntax (can be completed in small groups)? What individual instruction that targets the needs of an individual student(s) will you provide to help that student(s) learn the*

discourse/syntax? What opportunities will you provide for students to practice language/vocabulary and develop fluency? What tools (e.g., EQ or vocabulary board, Venn diagram, anchor chart, vocabulary cards, graphic organizer, peer support, sentence stems, pictures, table, chart, thinking map, modeling, sort, song, body movements, games) will you use to help students meet the language demands?

Language supports that the students will have will include vocabulary cards, Venn diagrams, and sentence stems.

General Supports – *Strategies used to support the whole class and may be used to support more than one demand (e.g., Venn diagram, learning partners, word wall, anchor chart, vocabulary cards, graphic organizer, sentence stems, pictures, table, chart, thinking map, modeling, sort, song, body movements, games). These strategies can cross disciplines and be used in a variety of lessons.*

For general supports, the teacher will create a class anchor chart that shows the properties of wood that the class has previously covered. This will help students to have a reference when analyzing their sculptures.

Targeted Supports – *Strategies that focus toward a specific language demand (e.g., Venn diagrams, graphic organizers, outlines, examples, sentence stems). These may be addressed during small groups. These can be general supports that are modified for specific students or groups of students.*

For targeted supports, the teacher will give the students a Venn diagram to compare their structure to the structures in the Three Little Pigs. They will write a few words about their structure compared to the materials in The Three Little pigs like in the middle circle some students could write sticks.

Individual Supports – *Supports used to target the specific needs of an individual student (e.g., ELL, student with autism, struggling reader or writer, student with significant language delays). These students may or may not have been formally identified and may or may not have an IEP or 504 plan.*

For individual supports, students will receive sentence stems. These sentence stems will help struggling writers to fill out their comparisons of their sculptures to the three little pigs.

Language Theory/Rationale: *I am because my students need . This is appropriate because . Provide citation (APA, 6th edition) for learning theory and/or research.*

Instruction – When designing your instruction, consider when you will implement formal and informal assessments/evaluations, when you will provide feedback, and when you will teach academic language. Therefore, this section should include aspects written above.

Lesson Part	Description of Activities and Instruction (Teacher Does)	Description of Activities and Instruction (Students Do)	Meeting Individual & Group Needs /Learning Styles *Plans instruction to meet the needs of individual students. Adaptations are tied to learning objectives. Specific individual or group learning includes requirements in IEP or 504 plans.*
Set/Motivator: *Restate and address your Essential Question. How do you engage student interest in the content of the lesson? How does this relate to previous learning? Use knowledge of students' academic, social, and cultural characteristics.*	The teacher will have the students move to the carpet to listen to *The Three Little Pigs*. After reading the story of the Three Little Pigs, the teacher will explain that, "Since we have been going over the topic of wood, today we will be doing an experiment to create a structure like the three little pigs did." The	The students will be sitting at the rug listening to *The Three Little Pigs.* The students will listen to the teacher explain that the students will be planning and building a structure like the pigs did in the Three Little Pigs.	1. Students with visual or hearing impairments will be moved to the front of the carpet to

	teacher will list the different materials that the children are able to use up on the board. The teacher will tell the students, "I want you all to plan to build a structure to face the big bad wolf. Can you remember the properties of wood that we have been discussing this week?" The teacher will point to an anchor chart that the class created earlier in the week to list the properties of wood. The teacher will give students time to think about this question. The teacher will call on the students to list some of the properties that wood has. The teacher will create an anchor chart of the properties of the wood.		listen to the story.
Instructional Procedures/Learning Tasks: *Provide specific step-by-step details of lesson content aligned with objectives, utilizing a variety of teaching strategies.*	1. The teacher will send the students back to their desks. 2. The teacher will give the students a Venn diagram along with a piece of paper to plan their sculpture by drawing it. The Venn diagram will be used to assist the students in comparing their sculpture to The Three Little Pigs. 3. The teacher will have the students write down one sentence to explain their plan for their sculpture. 4. The teacher will walk around to the students after they have had time to plan. The teacher will check the students' progress by recording	1. The students will walk back to their seats. 2. The students will plan a design for a structure by drawing a picture of their sculpture. 3. After the students draw a picture of their sculpture, they will write one sentence to explain their plan. 4. While the students are working, the teacher will come around to check and question the work. 5. The students will then be able to get their materials to start constructing their sculpture.	1. Students with low fine motor movements will have assistance from the teacher or their peers to help glue their sculptures together. 2. Students that have trouble writing or are ELL's will be given sentence stems to help them

	anecdotal notes that will be put with the child's work sample. 5. Once the teacher has checked the students' progress, the teacher will send the students by tables to go grab their materials for their project. 6. The teacher will give the students time to explore and create their sculpture. 7. The teacher will let the students work with both wood and nonwood materials to compare why wood is used as a building material. 8. The teacher will ask the students why they think that wood is a building material. 9. The teacher will display the sculptures when the students are finished. 10. The teacher will remind the class to finish the Venn diagram comparison. 11. The teacher will call on the students that have finished with their projects to clean up. 12. While the students are cleaning up, the teacher will use the checklist to see if the students were able to complete all the components to the project.	6. The students will construct their sculpture. 7. The students will tell the teacher when they are done so that the teacher can display the sculpture. 8. The students will then clean up their materials. 9. The students will fill out the Venn diagram if they had not yet finished it. 10. While the students finish wrapping up the Venn diagram, the teacher will be looking and checking off their work.	analyze the text.

Questions and/or activities for higher order thinking: *These are open-ended and cannot be answered by yes or no. These can be asked at various points throughout the lesson and guide rather than direct student thinking.*	Analyze the similarities of the properties that wood have with the structures that the Three Little Pigs built. Construct a wood sculpture using appropriate wood materials based from their properties.		To help with the analysis, students may be put into groups to discuss their sculptures. The groups will help the students scaffold ideas off of each other.
Closure: *Makes clear connections to real-world situations and requires students to reflect on and apply their learning through verbal or written expression.*	The teacher will display the finished sculptures around the room. The teacher will let the students walk around to see the different sculptures. After giving the students time to participate in the gallery walk, the teacher will close out the lesson with think, pair, share. The teacher will give students time to think about how their planning and creating the sculpture related to the three little pigs. The teacher will then have students pair up to discuss the thoughts. Last the teacher will call on a few students to share their thoughts.	The students will get to have their sculptures displayed around the classroom. The students will get to do a gallery walk to look at everyone's sculptures. After the gallery walk, the students will participate in think, pair, share to reflect on the project. The students will get to think and converse with a pair for a few minutes before the teacher calls on a few students to share their reflections.	The students will be given time to reflect on the whole experience. They will also be given a partner to reflect from.

Material/Resources/Technology: *What do you need for this lesson? Identify the specific materials, resources and instructional technologies that you will use. How will you model these technologies to engage students and add value to and improve their learning?*
Different types of wood scraps
Tooth picks
Popsicle sticks
Glue
Dowel rods
twigs
Paint- not necessary
Pipe cleaners
straws

Co-Teaching Strategies Used: *(highlight and explain all that apply): One Teach, One Observe; One Teach, One Assist; Station Teaching; Parallel Teaching; Supplemental Teaching; Alternative (Differentiated); Team Teaching*
One teach- One Assist will be used for this lesson. While one teacher is teaching or helping some groups, the other teacher will be assisting. It will be very beneficial to have an assisting teacher due to all the materials that the students will be using.

Instruction Theory/Rationale: *I am because my students need . This is appropriate because . Provide citation (APA, 6th edition) for learning theory and/or research.*

I am using the five E's of inquiry because my students need to explore with hands on materials. This is appropriate because the 5 E's, "allow children time to explore specific concepts and questions" (Yoon, 2006).

Meeting Individual & Group Needs Theory/Rationale: *I am _____ because my students need_____. This is appropriate because . Provide citation (APA, 6th edition) for learning theory and/or research.*

I am using think, pair, share because my students time to reflect on questions asked from the teacher. This is appropriate because, "think, pair, share involves teacher-posed questions, which students are asked to think about before answering" (Morrow, 2011).

Management/Safety Issues

Management Issues: *Explanation of processes and/or procedures, transitions from one activity to another, strategies for gaining attention, motivating students to engage in the lesson and focus on learning (e.g. work boards, posted procedures, modeling, positive feedback, redirection).*
A management issue would be that all the materials could be play things or could be used in other ways than building the structure. One other management issue is that were the students will be working in pairs, they might talk and converse instead of work on building the sculpture. The teacher can create I can lists to keep the students on track for building their sculpture.

Safety Issues: *Are there any safety issues that need to be considered when teaching this lesson (e.g., outdoor activities, lab experiments, equipment use)? Expectations are explicitly outlined and are included as part of the instructional process.*
The students will be using different kinds of wood which could lead the students into getting some splinters. There are also safety issues with transitions to and from the carpet and well as getting up to get materials, so the teacher will call students to get up from the carpet as well as to get materials a few at a time.

References

Caughey, S. (2017, May 31). Building Sculptures. Retrieved March 28, 2018, from

http://purpletwig.blogspot.com/2017/05/building-sculptures.html

Morrow, L. M. (2011). Literacy development in the early years: Helping children read and write (7th ed.). Boston, MA: Pearson.

Yoon, J. (2006, June). *Teaching Young Children Science: Three Key Points* [PDF].

Name:	Able to draw the sculpture	Write a complete sentence about the sculpture	Able to compare to the text	Able to build the structure

Unit Evaluation Plan (f)

Formative

In this two-week unit plan, there will be several formative assessments. These assessments include anecdotal notes, checklists, KWL charts.

- Anecdotal notes will be used during the natural walk. This way the class can make verbal observations while on the walk that the teacher can record to preview back during the discussion after the walk.
- Checklists will be used to see if students are able to use skills such as their senses to describe elements of wood.
- These assessments will be modified to meet the needs of the diverse learners in the class. Sentence stems and extra time will be used to help English language learners and struggling learners.

Summative

- For this two-week unit plan, the summative assessment will be a documentation panel. The documentation panel will display what all has been covered in this two-week period. The panel will display work samples, other assessments, and summaries to describe the activities that the students have been engaged in.
- One other summative plan would be to finish the KWL chart. The section to complete is the what has been learned section. This will summarize the whole unit.

A Letter to Parents (g)

Dear Families;

For the next two weeks in our kindergarten class we will be covering a unit that is all about the exploration of wood. Our class will be discovering the properties of wood by using their wonderful senses. They will also be exploring the uses of woods such as it being a survival tool as well as a building material. These are just some of the topics your child will be exploring over the next two weeks. I need your help for this unit as well. I will be including two activities that go along with this unit. It would be much appreciated if you, the families of our class, could get involved with this learning experience.

For the first activity to start off this unit, could you help your student do a scavenger hunt to locate materials inside or outside of your house that have elements of wood. If the items are small and you wouldn't care, it would be nice to have our students bring some of these materials to our classroom. If the materials cannot be sent to the classroom, could you help your students take pictures of the wood objects to bring into class.

For the second activity, I will be sending home a variety of wood materials. In this activity, could you help your student sort the materials into different categories. It would be much appreciated if you could document in some way the way that your student sorted the objects!

Thank you, families for all that you do to help support our class! If there are any questions do not hesitate to contact me at wardlr@etsu.edu or to call 4237277334.

Thanks!

Ms. Layken Ward

List of References (h)

Teachers

- Kindergarten Wood and Paper Unit. (2013, June 19). Retrieved from https://prezi.com/nrlr9imwqqsh/kindergarten-wood-and-paper-unit/
- Promoting excellence and innovation in science teaching and learning for all. (n.d.). Retrieved from http://www.nsta.org/
- Observable Properties of Matter. (n.d.). Retrieved from http://www.cpalms.org/Public/PreviewResourceLesson/Preview/46090
- Young, R. (n.d.). Activity Plan: Build a Boat that Floats! Retrieved from https://www.scholastic.com/teachers/articles/teaching-content/activity-plan-5-6-build-boat-floats/
- *The properties of materials and their everyday issues* [PDF]. (n.d.).

Families

- Woodford, C. (2017, November 12). Wood - An introduction to its structure, properties, and uses. Retrieved from http://www.explainthatstuff.com/wood.html
- Young, A. (n.d.). Best Books to Get Kids Observing and Predicting. Retrieved from http://www.savvysource.com/parenting/13309-Best-Books-to-Get-Kids-Observing-and-Predicting

Children

- KS2 Bitesize Science - Material properties, Page 7: Read. (n.d.). Retrieved from http://www.bbc.co.uk/bitesize/ks2/science/materials/material_properties/read/7/

- C. (2015, June 16). Wood, Water, and Properties: Crash Course Kids #15.1. Retrieved from https://www.youtube.com/watch?v=YCQXDegwnoE

List of Resources Used in the Unit (i)

Materials and supplies

- Wood Scraps- stumps, sticks, twigs
- Popsicle sticks
- Pipe cleaners
- Paper
- Construction paper
- Cardstock
- Pick up sticks
- Glue
- Tape
- Plastic tubs/bowls
- Water
- Small tree

Print and non-print

- The Giving Tree- Shel Silverstein
- Tell Me, Tree
- My Five Senses- Aliki

Technology resources

- Smart Board to watch videos on wood being exposed to different elements.

Other