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|  **EED 480 PBL with 5E Framework**   |
|      | 1. Title: Perfect Playground Design, Kindergarten
2. *BIG IDEAWhy is a having a playground at school and in our community important?*

*What does every playground have and why?**Let's investigate how our playground is designed and decide which pieces we think would make the best, most amazing playground to play on.**Let's be engineers and design the best, most fun playground as a class.*1. JUSTIFICATION This lesson series . . . (STEAM and Social Studies Integration) TASKS: Brief description: We will A. We will explore the school playground and take pictures from the north, south, east, and west, identify the different parts of a playground from those pictures (i.e., slide, monkey bars, bridge, basketball court, foursquare courts, etc.) using the terms near/far, left/right, and behind/in front (e.g. the slide is to the left of the monkey bars)B. We will create a list of the different parts of a playground, and discuss why it’s important for everyone to have access to a playground, and what students would change to make it more fun/remove what isn’t very funC. Finally, we will split into groups to use construction paper, cardboard boxes, toilet paper roles, tape, and other materials to construct an individual part of our ideal playground.
2. STANDARDS: Grade Level and Subject Area: Kindergarten to 5th   Science, Social Studies, Language Arts, Mathematics and the Arts Standards

**NGSS (Next Generation Science Standards)** K-2-ETS1-1. Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.*Disciplinary Core Ideas* ET S1.B: Developing Possible Solutions: Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem’s solutions to other people. (K-2-ETS1-1)*Science and Engineering* *Practices* Ask questions based on observations to find more information about the natural and/or designed world(s). (K2-ETS1-1)*Crosscutting Concepts* The shape and stability of structures of natural and designed objects are related to their function(s). (K-2- ETS1-2)SOCIAL STUDIES K.4.1 Students compare and contrast the locations of people, places, and environments and describe their characteristics. Determine the relative locations of objects using the terms near/far, left/right, and behind/in front.ELA/Literacy W.2.8 Recall information from experiences or gather information from provided sources to answer a question. (K-2-ETS1-1),(K-2-ETS1-3)CCSS MATHEMATICS: MP.5 Use appropriate tools strategically. (K-2-ETS1-1),(K-2-ETS1-3) **V.** MEASURABLE OBJECTIVES  A. As student thinking drives this lesson, students work together in their group to agree on and create a part of the class playground. B.  As the culminating activity of this PBL students put all the parts of the playground together to create the ideal playground for our class.**VI** TOTAL TIME: Day 1: 40 minutesDay 2: 45 minutesDay 2: 40 minutes **VII**.   Social [Skills](http://www.csun.edu/~sb4310/PBL%20Handouts%20and%20Assessments_files/Social%20Skills%20and%20or%20Habits%20of%20Mind%20to%20Engage.docx) and or Habits of Mind to Engage/Assess to Promote Student Motivation and Success (Indicate which of SELs from the Placemat are relevant to your lesson)-Inquisitiveness, curiosity-Questioning-Ingenuity, originality, insightfulness, and creativity-Enjoyment of problem-solving-Empathic listening-Flexibility in thinking**VIII**. Level of Voice Appropriate for Each Day/Period of the PBL  ([Download chart](https://images.search.yahoo.com/search/images;_ylt=Awr9IkzYco9epq4AHhNXNyoA;_ylu=X3oDMTE0MjJtcjZyBGNvbG8DZ3ExBHBvcwMxBHZ0aWQDQjI5NDRfMQRzZWMDcGl2cw--?p=voice+level+chart&fr2=piv-web&fr=mcafee) appropriate for you grade level) **IX.** Materials ListCamera, projector, cardboard boxes, construction paper, toilet paper rolls, tape/glue, empty soda boxes, empty milk cartons, scissors, colored pencils, crayons, cake boards (to build on and connect with other groups’ parts)***AFTER INSTRUCTOR RESPONDS TO OUTLINE CONTINUE TO DEVELOP THE PBL USING THE FOLLOWING PLAN:***   NASA/BSCS 5-e FRAMEWORK**X**.        ENGAGING CONTEXT: Hook- Launch activityStudents gather to sit on the carpet and listen to me read *My Dream Playground* by Kate M. Becker. I will occasionally pause between pages to ask questions like “Who is the story about?” “What do you think she wants?” “Why do you think she wants a playground across from her house?” to check for comprehension. After, tell students we will be looking at our own playground at school, identifying what sort of areas we have in our playground as well as what makes up our apparatus and taking pictures to look at tomorrow. I will then take students outside to playground and take pictures.DIRECT INSTRUCTION: Forming groups 6 groups of 4 students.  Modified for class compositionAssigning rolesDescribing roles and tasks **Materials Manager/ Spy** **Tasks:**   Help get the materials for your group and take back any materials you do not use. Question following Three Before ME: Go to another team to answer your group’s question [or see what other groups are creating].**Checker's Tasks** - Make sure the to remind your team when they have 30 minutes left, 20 minutes left, and 10 minutes left. Help others complete their tasks. Let teacher know when group is finished building their part of the playground.**Recorder's Tasks:**  Helps and carefully observes group during the building and completes the Team analysis page.**Encourager/Observer' s Task -** Encourage the team to persevere and stay together while sharing materials and expressing ideas. Note, identify and record occurrence of team members' social skills and habits of mind. (**Observer** records individual performance on an observer checklist provided)(*Checklists and Rubrics provided for student goal setting and self-assessment; Peer Assessment (Team Performance Rubric) [Rate Your Mates] Content Assessment (poster))*EXPLORE Building Knowledge“We will use our inquiry skills of comparing and analyzing to decide what we like about our playground and what we would change. Then, we will take this information to design parts of our perfect playground.” This is supported by Koch, Chapter 3 Engaging Students in Science and Engineering Practices, pg. 68, “I try to use materials common in daily life and to create a scenario that invites students to explore them and come up with their own ideas. Often, too, I situate the activities in a personal context that is related to my own experience – a context I hope the students will recognize and share. It is always important to provide a rich context…so you are not pacing students through science activities just for their own sake. The experiences must be constructed in a way that makes a connection to a larger idea or personal story.”This PBL will be led over **3** Class Periods in **1** Week for approximately 40-45 minutes each day. EXPLAIN Students have the following opportunities for Showing and Sharing Knowledge from Group Work or Individual Work. Here is where NGSS Claims and Evidence is activated and measured. As students complete the launch, inquiry, culminating activity they share their prior knowledge, observations and questions about playgrounds, parts of an apparatus, and why it is important to have access to playgrounds at school and in the community. EXTEND/ELABORATE Students follow-up on their learning outcomes and are given opportunities to further develop and explain why each group chose to make those specific parts of a playground and why those parts are the most fun to them via group presentations. Students in the audience may have different opinions about what parts are the most fun, but as the teacher I will remind students that it is important to have a playground with lots of different activities because not everyone enjoys the same things as much as you. I will give the example of having only kickball courts and ask students if they think that everyone would love having only kickball courts for our playground and ask them why they think that. To further extend this topic, I will again ask students to explain why it’s important to have a playground at school and in the community, using the book *My Perfect Playground* to remind them that not everyone has access to playgrounds outside of school. I will ask them if they think that is fair, and what they think people could do in their communities to fix that problem so everyone can play and be healthy. There are several formative and summative ways to assess learning in this engaged learning PBL.  The first is in the individual grand discussion that show students’ original prior knowledge and/or questions they have about communities like that of the main character’s where there isn’t a perfect playground. The next is the grand discussion of what parts make the best playground possible.Another one is to create a poster as a class where we write ideas for how communities could make sure everyone has a playground to play on.The next being each group’s completed section of our perfect playground.Another being students will circle “Yes” or “No” emojis to respond to questions I will read aloud to the class to gauge if they understand the importance of playground access for everyone and the positive effect that safe, public playgrounds have on communities.The last being that students will fill out their participation self-assessments and the Recorder completing the Team analysis page and the Observer filling out the individual performance on the provided observer’s checklist. EVALUATE  Content Summative Assessment: Individual information detailing student learning takeaways from the Launch activityFormative Assessment of Non-Cognitive Factors: Self-Assessment Using the Habits of Mind Check Sheet and Write-up Form (Course Docs).**Self-Assessment #1: Yes/No (True or False)**

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| Everyone deserves to have access to a public playground. | Are You Sparking All the Plugs for Author Success? | Pin on Smileys |
| There should be a playground in every school. | Are You Sparking All the Plugs for Author Success? | Pin on Smileys |
| Playgrounds make people unhealthy. | Are You Sparking All the Plugs for Author Success? | Pin on Smileys |
| Having a safe playground makes everyone in the community healthier. | Are You Sparking All the Plugs for Author Success? | Pin on Smileys |
| Everyone likes the same things as me. | Are You Sparking All the Plugs for Author Success? | Pin on Smileys |
| A playground should have different parts so there is something for everyone. | Are You Sparking All the Plugs for Author Success? | Pin on Smileys |

Name: \_\_\_\_\_\_\_\_\_\_\_ Total: \_\_/6**Team Analysis Page**

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| Everyone worked well together | Yes No Indifference Three Different Faces Stock Vector (Royalty ... | Except: |
| Everyone was kind and respectful | Yes No Indifference Three Different Faces Stock Vector (Royalty ... | Except: |
| Everyone helped to make the playground | Yes No Indifference Three Different Faces Stock Vector (Royalty ... | Except:  |

**Observer Checklist:**\_\_\_\_ 1. My group was on task \_\_\_\_ 2. My group listened to each other\_\_\_\_ 3. My group shared\_\_\_\_ 4. My group was kind**XI.** Children's Literature that Supports the PBL: *My Dream Playground* by Kate M. Becker**XII**. Criteria to Assess the Value of Your PBL: 1. Does it include a driving question in any of the identified disciplines?2. Does it include any new STEAM vocabulary words?3. Does it propose the development of a project--students/unit plan?4. Does it assure that students show evidence that all team members were involved? 5. Have you inserted a comment when submitting that shows evidence that you reviewed Koch chapters to assist in the NGSS aspects of the PBL?   |