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PBL on the Playground!

Presented by Cindy Sackett & April Nilsen

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Housekeeping

- Feel free to get up when you need to
- Chocolate energy on your tables
- Restrooms are outside the room
- There will be time for questions, but please let us know if you have questions along the way!
- Keep an open mind – we are all life long learners!
- Have FUN! Put yourself out there!

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Agenda

- Welcome & Introductions
- What we hope to achieve
- Defining PBL
- Best Practices
- The why's and how's of PBL
- Reflection

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Cindy Sackett

Director of Expanded Learning

- Project Director of 21st CCLC with 4 elementary sites (Cohorts 11 & 13)
- Project Director for After School STEM Academy running over 200 classrooms a year in 4th – 8th grade

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April Nilsen

Associate Director of Expanded Learning

- Project Director of 21st CCLC with 5 Elementary sites (Cohort 9 & 11)
  - Introduced STEM partnerships including Food $ense and Sqord
- MPA, focus in education policy

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Why are you here?

- You have run PBL projects in the past and are looking to re-engage.
- You have tried to run PBL projects and they didn't go well but you don't want to give up!
- You have never run PBL projects but it looks interesting so you want to learn more!

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Who is in the room?

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Table Talk

- What brought you to this session?
- What do you hope to get out of it?

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Outcomes

- **WHAT** is PBL
- **WHY** to incorporate PBL projects in expanded learning
- **HOW** to incorporate PBL projects in expanded learning
- **HOW** can you use PBL to help meet standards
- **HOW** to start a PBL project

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Zoom

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How does learning happen?

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Teacher- vs. Student-Centered Classrooms

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Comparison of Paradigms

Teacher Centered

- Knowledge is transmitted from teacher to student
- Students passively receive information
- Culture is competitive and individualistic

Student Centered

- Students construct knowledge through gathering information and integrating it with general skills of inquiry, communication, critical thinking and problem solving
- Students are actively involved
- Culture is cooperative, collaborative and supportive

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Comparison of Paradigms

Teacher Centered

- Emphasis is on right answers
- Instructor's role is to be the primary information giver
- Only students are viewed as learners

Student Centered

- Emphasis is on generating better questions and learning from errors
- Instructor's role is to coach and facilitate
- Instructors and students learn together

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Problem-Based Learning

- What the heck is this anyway??
- Let's name it!

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EQUALITY

EQUITY

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Problem-Based Learning

Confronting ill-structured, messy, real-world problems to develop systematic problem-solving skills and discipline-specific knowledge and skills

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Problem-Based Learning

PBL is an instructional method that challenges student to "learn to learn," working cooperatively in groups to seek solutions to real world problems.

PBL prepares students to think critically and analytically, and

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Common Features of PBL

- Learning is initiated by a problem
- Problems are based on complex, real-world situations
- All information needed to solve problem is not initially given
- Students identify, find, and use appropriate resources
- Students work in small groups

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PBL is not…

Unguided

Unstructured

Chaotic

Directionless

Slow

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WHY?

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"I skate to where the puck is going to be, not where it has been."

Wayne Gretzky

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Why implement PBL?

- Helps students to develop 21st Century skills
  - Critical Thinking
  - Communication
  - Collaboration
  - Creativity
- Creates leaders and provides students with a sense of ownership
- Builds an impactful after school program

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Additional Outcomes

- Students are more ENGAGED in learning
- Increases long-term retention of content
- Helps students perform as well as or better than traditional learners in high-stakes tests
- Improves problem-solving & collaboration skills
- Improves students' attitudes towards learning

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HOW?

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PBL: Try it Out!

- Lesson 1
- Lesson 1.5
- Lesson 2

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Lesson 1:
Planning for All Kids

- Step 1: Introduction/Problem Launch
- Step 2: Brainstorm What Student Know/Need to Know
- Step 3: Define the Problem

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Lesson 1:
Planning for All Kids

- Students will:
  - Be introduced to PBL and will understand that they will be actively involved in their learning.
  - Work with their teacher to identify the problem from the student letter.
  - Identify things they know about from the letter.
  - Identify what questions they need to answer before they can suggest how to change our school playground.

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Problem Statement

Not all playgrounds are *accessible* to people with different abilities or special needs. Our 8th grade friend would like us to redesign the playground so kids like their best friend can have fun too. How can we change our playground environment to make it more fun and accessible to all kids?

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Lesson 1.5:
Playground Accessibility

- Step 4: Gather Information
- Step 5: Share Information

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Lesson 1.5:
Playground Accessibility

accessible (*adjective*):

able to be used

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Lesson 1.5:
Playground Accessibility

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Lesson 2:
Brainstorming

- Step 4: Gather Information
- Step 5: Share Information
- Step 4: Gather Information
- Step 6: Generate Possible Solutions

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Lesson 2:
Brainstorming

Generate Possible Solutions

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Debrief

- What did we learn today?

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You have ideas…
WHAT next?

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Reflection

- What parts can you take back to your program?
- Anything stand out that you hadn't thought of before?
- Any AHA! moments?

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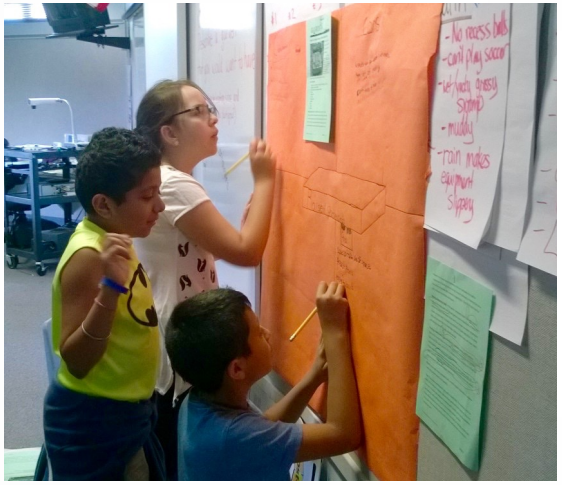

Instructor feedback

"The students were working in teams and taking control of their own learning by holding other students accountable. The students took ownership of the project itself. They wanted to see their school improve so they were vested in the activity."

"Even though students were frustrated and challenged with the process, they felt proud of their work and the end results."

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Thank You!

Additional follow-up? Contact us!

Cindy: **cindy@wabsalliance.org**

April: **april@wabsalliance.org**

www.wabsalliance.org

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2017 Problem-Based Learning Curriculum

21st Century Community Learning Centers

Grades 3-6
PBL on the Playground

Written by Cait Lang, MPH
WABS C21 Curriculum Development Specialist

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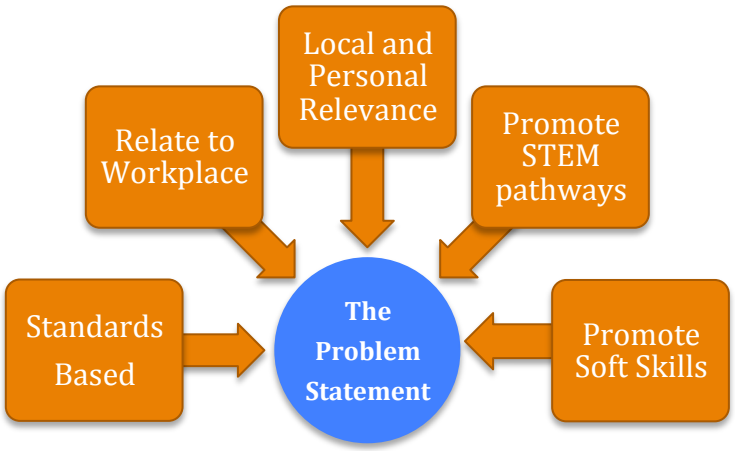
PBL Unit Overview: PBL on the Playground



How can we change our school's playground to make it more fun to play on and more accessible for all kids?

Problem Launch

Week 1: Teacher presents a letter from Middle School Student, which introduces the problem to the class.

Brainstorm: Know and Need to Know

Week 1: Students explore the meaning of accessibility and what it means to be accessible to all kids.

Define the Problem

Week 1: Students analyze the Middle School Student letter to define the problem.

Gather Information

Week 2-3: Students study how designers create playgrounds to be more fun and accessible to all kids, explore best practices, and research school playgrounds.

Share Information

Week 2-3: Students share accessibility information, playground elements and best practices with the class.

Generate Possible Solutions

Week 2-3: Analyze the information and brainstorm changes to their school playground that would support student accessibility and fun.

Best-Fit Solution

Week 3-4: Students decide which changes they would make to their playground and create a model to showcase their improvements.

Present Solution

Week 4: Present proposal and model to peers and school officials.

Debrief the Problem

Week 4: Class Discussion and Reflection

Table of Contents

Week 4

Appendix

What is Problem-Based Learning?

Problem-based learning (PBL) is focused, experimental learning organized around the investigation and resolution of messy and real-world problems. The Final Project will allow you to organize your lesson in a problem solving environment where students engage in learning in relevant and connected ways. Teachers function as coaches to guide student inquiry and facilitate learning to deeper levels of understanding for students.

Research indicates that PBL is a superior pedagogy for promoting student engagement in the learning process. Torp and Sage (2002)[1] broaden the impact of this pedagogy and confirm that it increases motivation, makes learning relevant to the real-world, promotes higher order thinking and self-regulated learning in students.

Generally, the teacher will present the problematic situation. The problem is ill-structured and messy (multiple sub-problems), not easily solved and **does not result in one right answer**. Students engage in active problem solving, and teachers guide and coach. A collaborative environment provides for the sharing of information within and between groups as they work to resolve - some may test and re-resolve - their problems. Authentic assessment complements the problem solving process.

1 Torp, L., & Sage, S. (2002) Problems as Possibilities: Problem Based Learning for k16 Education (2nd ed.). Alexandria, VA: Association for Supervision and Curriculum Development

What You Need to Know Before Teaching a PBL Unit

PBL is FUN!

PBL teaches students how to problem solve through a fun, collaborative, and creative process.

PBL is messy. And that's okay!

There are no right or wrong answers. In fact, there are often many amazing ways to solve the same problem. Not only is this a great way to demonstrate different approaches to the problem, it's a good life lesson.

You're encouraged to try it out!

It can be very helpful to try the activities yourself—before your students work through the problem. This can help you understand the challenges your students might face.

Tips and Tricks for Teaching a PBL Unit

Ask Probing Questions

PBL is about guiding students to ask questions and find solutions to complicated problems. Use observations and probing questions to guide students through the learning process rather than give them discreet answers.

Set Expectations

Explain to students that everyone's input is vital to the class' solving the problem. Giving kids a sense of ownership over their learning will help them to actively participate in ALL activities.

Facilitate Teamwork

Being able to work well in teams is an important skill for any profession. You may want to assign team roles to help students if they struggle with teamwork. Possible roles include: the recorder, the materials gatherer, the tester, and the presenter.

The Problem & Essential Questions

The **problem statement** serves as the class' North Star throughout the PBL unit. It is an authentic, real-world and messy problem with a clear connection to kids lives. It should be framed to allow for multiple solutions and solution strategies.

PROBLEM STATEMENT:

Not all playgrounds are ***accessible*** to people with different abilities or special needs. Our 8th Grade friend would like us to redesign the playground so kids like their best friend can have fun too. How can we change our playground environment to make it more fun and accessible to all kids?

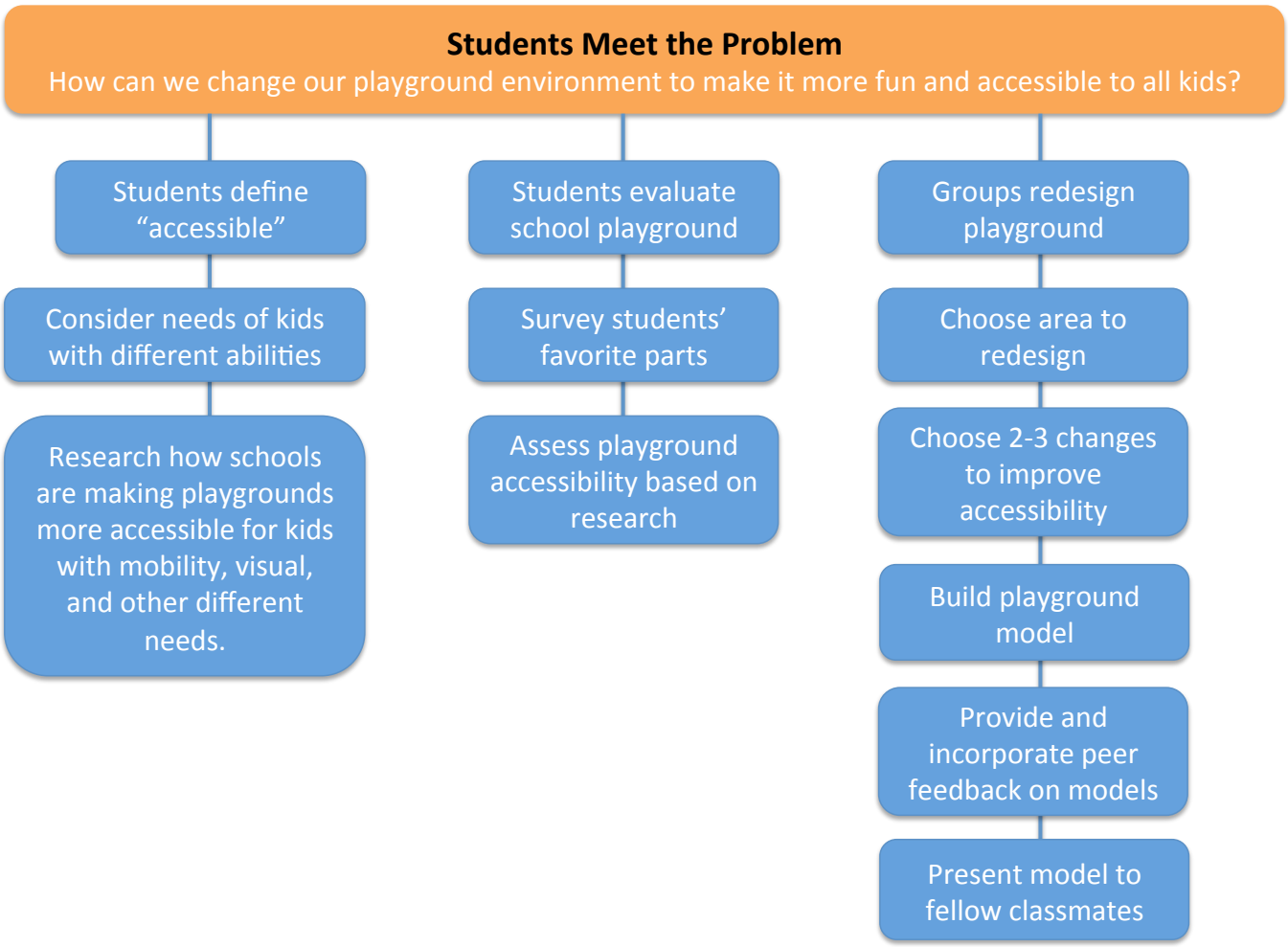
The problem will be indirectly addressed in the **"Meet the Problem Document"** — a letter from a middle school student who used to attend the elementary school. The teacher will guide students towards identifying the problem from the letter. If necessary, the teacher will propose her/his interpretation of the problem to students and allow them to confirm that this is the problem they are meant to address.

Essential questions serve as an overarching framework by which the teacher supports students through the process of solving the problem. The teacher should keep these questions in mind as students read the "Meet the Problem Artifact" and create their **"Knows"** (what they know about the topic) and **"Need to Knows"** (questions they must answer in order to solve the problem). The questions students generate when reading the middle school student's letter should align with the essential questions outlined here.

ESSENTIAL QUESTIONS:

1. What does accessible mean for playgrounds? Why is accessibility important?
2. What special needs should we consider to make playgrounds more accessible? (mobility, visual, etc.)
3. What makes playgrounds fun?
4. What elements of the playground environment make our school fun and accessible? What elements may be less accessible and less fun?
5. What are other school communities doing to support fun, accessible playgrounds?
6. What does a model include? What should the plan look like? What materials will we need?

Unit Conceptual Flow Graphic



PBL Unit Aligns with C21 Enrichment Goals

21ST CENTURY SKILLS:

Communication—
Students will communicate daily with classmates and through their final project to their school community.

Collaboration—
Students will collaborate with classmates through classwork while creating their final project.

Critical Thinking—
Students will brainstorm how kids and adults can change their individual behavior to protect the environment and ecosystems.

Creativity—
Students will create a visual/oral project to teach their school community about ecosystems and the importance of protecting the environment.

LOCALLY AND/OR PERSONALLY RELEVANT FOR STUDENTS:

This Unit allows students to explore **real-world accessibility issues** facing kids through observation and investigation. They will **conduct site analyses** like field experts. Students will learn about **playground accessibility** through research. They'll **document and present their findings** through their playground design and model.

CONNECTIONS TO CAREER AND EDUCATIONAL PATHWAYS:

Students will learn about **urban planning and landscape architecture** through research.

Lesson 1

Planning for the All Kids

In Lesson 1:

With the support of the teacher, students will work towards a common understanding of the problem outlined by the school in the "Meet the Problem Document" and will identify what they need to know in order to solve the problem.

Students Will:

1) be introduced to problem based learning and will understand that they will be actively involved in their learning.
2) work with their teacher to identify the problem from the student letter.
3) identify things they know about from the letter (e.g., planning, playgrounds).
4) identify what questions they need to answer before they can suggest how to change our school playground to make it more accessible and fun.

Materials:

Split Whole Program into 2 Large Groups

- 20-30 students per group
- Each large group should have 1 main/consistent instructor and 1-2 floating instructors supporting smaller group work as necessary

Whole Class

- Document camera
- Copy of the Meet the Problem Document: Letter from the Middle School Student
- Timer
- Chart paper: Know, Need to Know Chart
- Sentence frames
- Marker

Individual

- Copy of the Letter
- Pencil

Lesson Preparation:

1) Write sentence frames
2) Duplicate materials
3) Create T-Chart (Column 1: Know, Column 2: Need to Know)
4) Assign table groups with Think-Pair-Share (TPS) groupings in mind (see Procedure)

Version A - Intermediate

February 20, 2017

Dear Students,

Hi from a middle school friend. I hope you are doing great. I've been thinking about my time in elementary school a lot lately. I am getting ready for a big change. Next year, I am going to high school! I am very excited, but I'm also thinking about all the people and places that helped me get here. I remember my elementary school teachers, my favorite books, and the friends I made on the playground. My best friend and I were talking about our favorite memories from 3rd, 4th, and 5th grade. I realized that we had completely different playground memories.

You see my best friend has a mobility issue that makes it hard to walk or run. With my friend's help, I've learned that not all playgrounds are ***accessible*** to people with different abilities or special needs. Imagine how you would use a playground differently if you were blind or couldn't walk. It made me sad to think my friend had less fun on the playground than I did. I want everyone to be able to use playgrounds safely and have fun with their friends.

After our talk, I went home and did some research. There are many ways to help make playgrounds accessible to all kids. I thought it would be cool if your class came up with some changes that would make our elementary school playground more accessible and more fun for all kids.

You might start by brainstorming what parts of the playground make it fun and accessible for kids now. Then consider what parts may be less accessible and less fun for people with different abilities. You should also check out what are other schools do to support fun, accessible playgrounds. Have you heard of the Buddy Bench? It's a really cool idea that a kid like us thought of.

I think building a model of your accessible playground would be a great way to share your ideas and what you learn with the school community. I know my best friend and I would be excited to see them. Who knows, maybe one day you'll visit and see some of your ideas in a new playground!

Sincerely,

Your 8th Grade Friend

Version A - Intermediate

February 20, 2017

Dear Students,

Hi from a middle school friend. I hope you are doing great. I've been thinking about my time in elementary school a lot lately. I am getting ready for a big change. Next year, I am going to high school! I am very excited, but I'm also thinking about all the people and places that helped me get here. I remember my elementary school teachers, my favorite books, and the friends I made on the playground. My best friend and I were talking about our favorite memories from 3rd, 4th, and 5th grade. I realized that we had completely different playground memories.

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Sincerely,

Your 8th Grade Friend

Version B - Beginner

February 20, 2017

Dear Students,

Hi from a middle school friend. I hope you are doing great. I've been thinking about my time in elementary school a lot lately. I am getting ready for a big change. Next year, I am going to high school! I am very excited. It makes me think about the people and places that helped me. I remember my elementary school teachers, my favorite books, and the friends I made on the playground. My best friend and I were talking about our favorite memories from 3rd, 4th, and 5th grade. I realized that we had very different playground memories.

You see it's hard for my best friend to walk or run. My friend helped me learn that not all playgrounds are ***accessible*** to people with different abilities or special needs. Imagine how you would use a playground if you were blind or couldn't walk. It made me sad to think my friend and other kids had less fun on the playground than I did. I want everyone to have fun with their friends on playgrounds. Everyone should be able to play and be safe.

After our talk, I went home and did some research. There are many ways to help make playgrounds accessible to all kids. I thought it would be cool if your class came up with some changes for your playground. The goal is to make the playground more accessible and more fun for all kids.

You could start by brainstorming what parts of the playground make it fun. Then think about what parts make it hard for kids with different abilities to use. You should also check out what other schools do to make playgrounds fun and accessible. Have you heard of the Buddy Bench? It's a really cool idea that a kid like us had.

I think building a model of your new playground would be great. You can share your ideas and what you learned with the school community. My best friend and I would be excited to see them. Maybe one day you'll visit and see some of your ideas in a new playground!

Sincerely,

Your 8th Grade Friend

Version B - Beginner

February 20, 2017

Dear Students,

Hi from a middle school friend. I hope you are doing great. I've been thinking about my time in elementary school a lot lately. I am getting ready for a big change. Next year, I am going to high school! I am very excited. It makes me think about the people and places that helped me. I remember my elementary school teachers, my favorite books, and the friends I made on the playground. My best friend and I were talking about our favorite memories from 3rd, 4th, and 5th grade. I realized that we had very different playground memories.

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Sincerely,

Your 8th Grade Friend

PROCEDURE[1]:

PBL STEP 1: INTRODUCTION/PROBLEM LAUNCH

1) Teacher **introduces the letter**: "I am excited to share with you the project we'll be working on this month. A former ___ elementary student has asked us to think of new ways to redesign our playground."

2) Teacher presents students with a letter from the Middle School Student (**Meet the Problem Document**). Hand out letter and use the document camera to display the letter for the class.

3) Ask a student volunteer to read the first paragraph of the letter aloud. (If necessary, provide reading support for**_____).**

PBL STEP 2: BRAINSTORM WHAT STUDENTS KNOW/NEED TO KNOW

4) **Complete Know/Need to Know process one paragraph at a time**.

5) Tell students there are some new concepts or words in this paragraph that they may not know yet. That's okay! Right now, you want them to reread the paragraph to themselves, looking for **things they do know**. 1-2 minutes **(Think)**

6) **(Pair-Share)** Ask students to use the **sentence frame** "I know _____ because ___" to share what they know with their table partner (timer 1 minute).

7) When the timer goes off, explain to students that you are going to add what they already to the "KNOW" column of our **T-chart**. Call on pairs to share what they know using the sentence frame "I know ____ because _____."

   - **Example:** I know our school wants to update the playground in the future because it's in the letter.

8) **Record** student responses in the KNOW column of the T-chart.

THINK-PAIR-SHARE GROUPING

For Think-Pair-Share (**TPS**), assign students a **grade level partner** (for social purposes—someone they know). Pair English Language Learners (ELLs) with language ability in mind **(slightly stronger ELLs paired with slightly weaker ELLs)** to provide language support.

[1] The sub-sections of the procedure section (e.g., Understand the Problem, Explore the Problem) are from the Illinois Math and Science Academy's PBL Teaching and Learning Template, however, the descriptions were developed by WABS and do not necessarily represent the views of IMSA.

9) Next, ask students to think about what they **"Need to Know"** from reading the first paragraph. It may help to **underline key words and ideas** in the letter. This will be added to the "Need to Know" column. 1-2 minutes **(Think)**

10) **(Pair-Share)** Ask students to state their "Need to Knows" as questions. **Sentence frames** "What is ___?" "How is ___?" "Why is ___?" to share what they need to know with their table partner (timer 1 minute).

11) When the timer goes off, explain to students that you are going to add what they discussed to the "NEED TO KNOW" column of our **T-chart**. Call on pairs to share what questions they have.

    - **Example:** "What does accessibility mean?"

12) Record student responses in the NEED TO KNOW column of the T-chart.

13) Ask a student volunteer to read the **second paragraph** of the letter aloud.

14) Ask students to reread the paragraph to themselves and identify what they know and need to know. Again, it may help to **underline key words and ideas.** 1-2 minutes

15) **Repeat TPS protocol using sentence frames.**

16) Ask a student volunteer to read the **third paragraph** of the letter aloud.

17) Tell students: "This paragraph has many knows and need to knows. Reread the paragraph to yourself and think about what you know and what we need to know." 2 minutes

18) Ask students to share with the whole class what they already know using the sentence frame.

19) Record student responses in the KNOW column of the T-chart.

20) Ask students to share what they need to know in the form of a question.

21) Record student responses in the NEED TO KNOW column of the T-chart.

SEE ANTICIPATED KNOWS AND NEED TO KNOWS CHART

ANTICIPATED KNOWS & NEED TO KNOWS:

KNOW	NEED TO KNOW
• In the future the school wants to redesign the playground • We want all kids to be able to use playground • We need to make a design and create a model • Playground equipment can be expensive • Sometimes a little paint can create a fun change	• What does accessibility mean? What is an accessible playground? • How can playgrounds be more fun and accessible? • What special needs should we consider to make playgrounds more accessible? • What makes playgrounds fun? • What parts of our playground do students find most fun? • What parts are accessible? • What parts are less fun? Which parts are less accessible? • What are other schools/cities doing to make playgrounds fun and accessible? • What does a model include? What should the plan look like? What materials might we need?

PBL STEP 3: DEFINE THE PROBLEM

22) Read the Need to Knows aloud.

23) Ask students, “What they think the problem is that our class has been asked to solve?” “What is our goal?”

24) If students need support, propose the following:

PROBLEM STATEMENT:

Not all playgrounds are ***accessible*** to people with different abilities or special needs. Our 8th Grade friend would like us to redesign the playground so kids like their best friend can have fun too. How can we change our playground environment to make it more fun and accessible to all kids?

25) Ask students if they agree with your assessment of the problem.

26) Once students have agreed on the problem question, write/post the problem above the Know & Need to Know Chart. We will refer to this chart throughout the month as we work to solve this problem.

REFERENCES/RESOURCES:

Instructional Plan and resources adapted by by Cait Lang from UW Geo Literacy Unit

Continue

20 MINUTES

Week 1

Lesson 1.5

Playground Accessibility

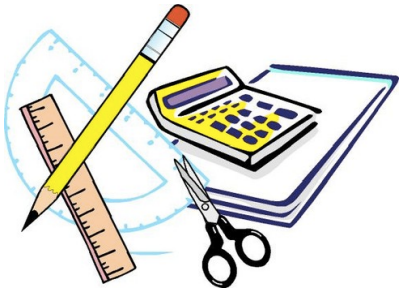
IN LESSON 1.5:

Students will determine why accessibility is an important part of creating playgrounds for all kids including those with special needs.

STUDENTS WILL:

1) gain a basic understanding of playground accessibility (e.g., mobility, etc.).
2) identify how play elements are or are not accessible for some kids.
3) summarize information for the purpose of teaching others.

MATERIALS:



Whole Class

- Definition of **accessible**
- Chart paper
  Label T-Chart **Accessible** | **Not Accessible**

Per Group (teacher identified groups of 3-4)

- Randomly assigned photo cards
- Dry erase marker
- **Sentence Frames:**
  I think _____ is accessible because _____.

  I think _____ is less accessible because _____.

Individual

- 2 Pencil
- Science Notebook

LESSON PREPARATION:

1) Identify effective student groupings
2) Review **Instructor's Guide** to accessible playgrounds
3) Gather Materials and create T-Chart
4) Duplicate materials as needed

STUDENT GROUPINGS

If grade levels are mixed, **pair older students** with younger students so they may provide reading support. Pair ELLs with language ability in mind. **Stronger ELLs may provide language support to slightly weaker ELLs**.

PROCEDURE:

PBL STEP 4: GATHER INFORMATION (5 MINUTES)

1) Tell students that you know they are already on the right track because they asked, **"What does accessibility mean? What is an accessible playground?"** as one of their Need to Knows.

2) Ask: "Who can tell me **what the word accessible means**?"

   If students need help ask: "For example, we build ramps to schools, libraries, and restaurants so people who use wheelchairs can attend school, check out their favorite book, or eat dinner. How do ramps make these buildings *accessible*?"

   Examples of what kids should/will say:

   - You mean someone in a wheelchair can get in and use the building.

3) Let's look at the definition of the word "accessible"

   accessible (adjective): able to be used

   To make something ***accessible*** means to change it so everyone can use it.

4) Who do we want the playground to be accessible to? Who do we want to be able to use it? (Ask for specific examples)

   Examples of what kids should/will say:

   - All kids should be able to use the playground.
   - Kids who use wheelchairs, kids who are blind, etc.

5) Professionals who design playgrounds for their job want people of ALL ages and ALL abilities to be able to use and have fun on the playground.

PBL STEP 4: GATHER INFORMATION (7 MINUTES)

6) I'm going to pass out 2 photos of playgrounds to each small group. Together, you are going to decide which playground photos you think **are accessible** to all kids and which **are less accessible**.

7) Divide students into pre-identified groups of 4. (See **Student Groupings** on pg. 21 for recommendations)

8) Explain to students that they will be **learning from and teaching one another**. Therefore, it is important that they focus and work effectively (well/nicely) together.

9) Ask one representative from each group to **randomly choose 1 photo page from a face down fan**. (**Note:** Allowing students to pull their photo from the hand instead of assigning one allows for more student engagement.)

10) Once students have their photo page, ask each group to think about which playground is more accessible to all kids.

Sentence Frames:

I think ____ is accessible because...

I think ____ is less accessible because…

11) Monitor group work and provide discussion support as necessary. Offer additional support or challenge by asking **probing questions and making observations**.

- **Example:** I see you've identified which playground you think is more accessible. Why do you think all kids can use that playground? What in the photo tells you all kids can use that space?

PROBING QUESTIONS

See pages 24-27 for Instructor's Guide

Ask follow-up questions to push students to **think deeply** about what they have learned.

PBL STEP 5: SHARE INFORMATION (8 MINUTES)

12) **Call groups back together.**

13) Remind students that they are about to **learn from one another**, so it is important that they **listen carefully and respectfully**. Show the same respect to other groups you'd like them to show to you.

14) Spend **1 minute per group** sharing. Have students post photos on T-Chart

15) Record elements that make a playground more accessible under the photo (like the

16) Ask for **group feedback** on group consensus using thumbs up (agree), thumbs in the middle (not sure), or thumbs down (disagree). **Reorganize T-chart collectively if necessary.**

17) **Wrap up Lesson:** Explain to students that over the next few weeks they'll have a chance to research and brainstorm ideas.

More Accessible

This playground has a **ramp** that allows kids who use wheelchairs to access all parts of the playground. Students are blind can use **handrails** to access the ramp. The **rubber ground is flat** and easier for kids who use wheelchairs or braces to move around.

Less Accessible

This playground does not have a ramp for kids who use wheelchairs. The wood chips and the curb around the playground make it less accessible.

This hoop lets many kids use the basket at one time. Kids can play a game using more than one ball at a time. Because it's **lower** kids who aren't as tall or use a wheelchair can still use it easily.

This hoop is fun for a basketball game, but it doesn't let as many people shoot at one time. There are many amazing basketball players who use wheelchairs, but practicing with shorter hoops help kids build up their strength.

INSTRUCTOR'S GUIDE (CONTINUED)

More Accessible

This digging tool can be **used** by a kid while **standing or** by a kid while **sitting** in a wheelchair.

Less Accessible

This digging tool has a seat. Someone using a wheelchair would not be able to reach the handles because the seat is in the way.

This playground is more accessible because the **ground is flat**. A flat surface is good for someone using a wheelchair and people who have a hard time walking. It also has **musical elements** that can be used by kids with different abilities and of different heights.

This playground is less accessible because it does not have a flat surface on the ground.

INSTRUCTOR'S GUIDE (CONTINUED)

More Accessible

This playground is probably more accessible because it has a **ramp** where someone using a wheelchair can enter by himself or herself. But we'd want to see what the rest of the playground looks like before we say it is accessible to all kids.

This playground has **games kids can touch** and play with. These games are more accessible than the other playground because you **don't need to climb** to reach them.

Less Accessible

This playground is less accessible to kids who use wheelchairs. Most of the playthings/equipment need to be climbed.

This playground looks like it has stairs instead of ramps. The chips of wood are not as accessible as flat rubber ground.

REFERENCES/RESOURCES:

Instructional Plan and resources adapted by Cait Lang from UW Geo Literacy Lessons

Lesson 2

45 MINUTES

Week 1

Brainstorming: Fun Accessible Elements & Possible Changes

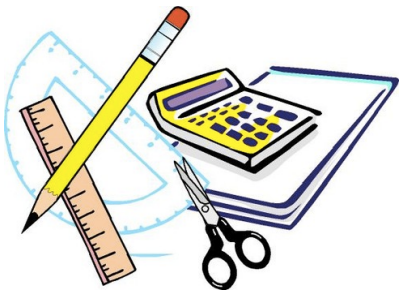
IN LESSON 2:

Students will brainstorm fun elements of the school playground and create a survey to determine which are considered most fun.

STUDENTS WILL:

1) discuss in partners what they like best about the school playground.
2) develop a poster dot survey to determine which playground elements are considered most fun by the majority of kids.
3) brainstorm ways to change the playground.

MATERIALS:



Whole Class

- Timer
- 2-3 pieces of chart paper for "Dot Survey"

Dot Surveys are visual way for groups to quickly vote on options.

Each C21 student will have 4 votes to identify their favorite parts of the playground. ***May open voting to non-C21 students for more data.***

1. Swings
2. Soccer field
3. Four square court
4. Jungle gym
5. …other items...

Group of 4 (assigned by instructor)

- 1 piece of lined paper

Individual

- 4 colored sticky dots (cut into small sheets of 4 dots)
- Brainstorming playground changes handout (**Will be used again in Lesson 4**)

LESSON PREPARATION:

1) Gather materials; Write and post ***Rules for Collaboration*** (listed on pg. 25)

PROCEDURE:

ICEBREAKER (7 MINUTES)

1) **Icebreaker:** Divide students into think-pair-share partners.
2) Tell students to "Take a minute to think about your favorite place in the whole world. Consider why it's your favorite place."
3) When I say go, you're going to turn to your partner give them a high-five and introduce yourself. The partner with the smallest hand will share first. The partner with the larger hand will listen first.
    - Model for students: "My favorite place in the whole world is _____. I like it because _____."
4) Tell students partners with the smallest hand have 1 minute to share. **Go.**
5) Walk around and monitor student conversations. Listen for full sentences and watch for conscientious listeners.
6) Call for students to **switch roles**.
7) Debrief: Ask 2-3 students to share with the group their **partner's favorite place.**

PBL STEP 4: GATHER INFORMATION (7 MINUTES)

8) Now, in groups of 4 you are going to think about your favorite parts of our school playground. Your group will have 3 minutes to create a list of these favorites before we share them with the class.
9) "Who can remind me how we work together?" Point to and have 1 student read the posted rules for Collaboration

Rules for Collaboration

- First, everyone gets to talk and share their ideas.
- Second, everyone listens to everyone else.
- Third, everyone gets a vote.

10) Group pairs (4 students) by where they are seated. **Instructor 1:** set **timer** (3 minutes)**. Instructor 2:** pass out piece of paper for students to record list.

11) Circulate the room listening for respectful collaboration and monitoring behavior.

PBL STEP 5: SHARE INFORMATION (5 MINUTES)

12) When the timer goes off, call students' attention back to the full group.

13) Use the **chart paper** to record "Favorite Parts of School Playground". Ask each group to share 1 item from their list. If another group has already shared an item, please do not repeat it.

Record and number student responses. Leave space for students to place sticky dot votes (5-6 favorites per sheet).

14) Go around the groups until all ideas are listed on chart paper.

15) "Now we have a complete list of C21 students' favorite parts of the playground, but we don't know which most people like best. We are going to vote to find out which our class finds MOST fun."

PBL STEP 4: GATHER INFORMATION (5 MINUTES)

16) "Take a minute to look at our list of playground elements. Silently think about which 4 are **your** favorites. This is your opinion, so you don't need to share with anyone else. When you are ready, silently walk up and get **4 sticky dots.** Each dot is 1 vote. Place your sticky dot votes silently and return to your seat."

Model placing your sticky dot vote on the chart paper.

17) Give students about **2 MINUTES** to vote.

OPENING PARTICIPATION

If C21 staff would like students to collect more data to inform their playground design, staff may choose to ask:

a) The other C21 class to share their data to add totals together.

b) A teacher to have his/her class participate in the vote during the traditional school day. (Send C21 posters and provide sticky dots)

18) Tally votes and identify the 4-5 playground elements C21 students find most fun.

PBL STEP 6: GENERATE POSSIBLE SOLUTIONS (15 MINUTES)

19) "Now that we know which parts of the playground our class likes best. We're going to think about **what part of the playground we should change**. Who can remind us what our goal is?"

Example of what kids should/will say:

- Our goal is to change the playground so all kids can use it.
- Our goal is to make the playground more accessible to different kids.

20) "Great! Now each person will have **5 MINUTES** to **think about what they'd like to change and why**. Write your idea down on the handout. If you have extra time, turn over your paper and draw a picture of your idea."

Instructor 1: Set **timer**
Instructor 2: pass out "**Playground Changes Handout**"

21) If students need extra time give them 30 seconds.

22) Ask 3 students to remind class of the **Rules of Collaboration**.

23) Ask students to turn back in their group of 4 to share their ideas. Give students 30 seconds each to explain their idea with the group.

- Monitor groups listening to ideas.
- Call for students to switch after 30 seconds.
- Call for switch.
- Call for switch.
- Call students attention to full group.

24) "Now, you've heard 4 different ideas about how to improve our playground for all kids. I want your team to discuss each idea and answer these 3 questions together. (**5 MINUTES**)

- Who does it help?
- How does it help them?
- How could we make it even better?

Write your answers on the bottom of the handout."

25) Monitor collaboration. Ask guiding questions if students are struggling.

26) Call students back together.

DEBRIEF & CLEAN UP (5 MINUTES)

27) Ask students, "What did we learn today?"

Example of what kids should/will say:

- Our goal is to change the playground so all kids can use it.
- We learned what our favorite parts of the playground are.
- We brainstormed ideas to improve the playground.
- We learned about our classmates' ideas to improve the playground.

28) We are going to hold on to all these ideas to help you create your model.

29) Please make sure your name (first and last) is at the top.

30) Would 1 person from each group collect the handouts? Have **Instructor 2** collect and put them in a safe location. **Will be used in Lesson 4**

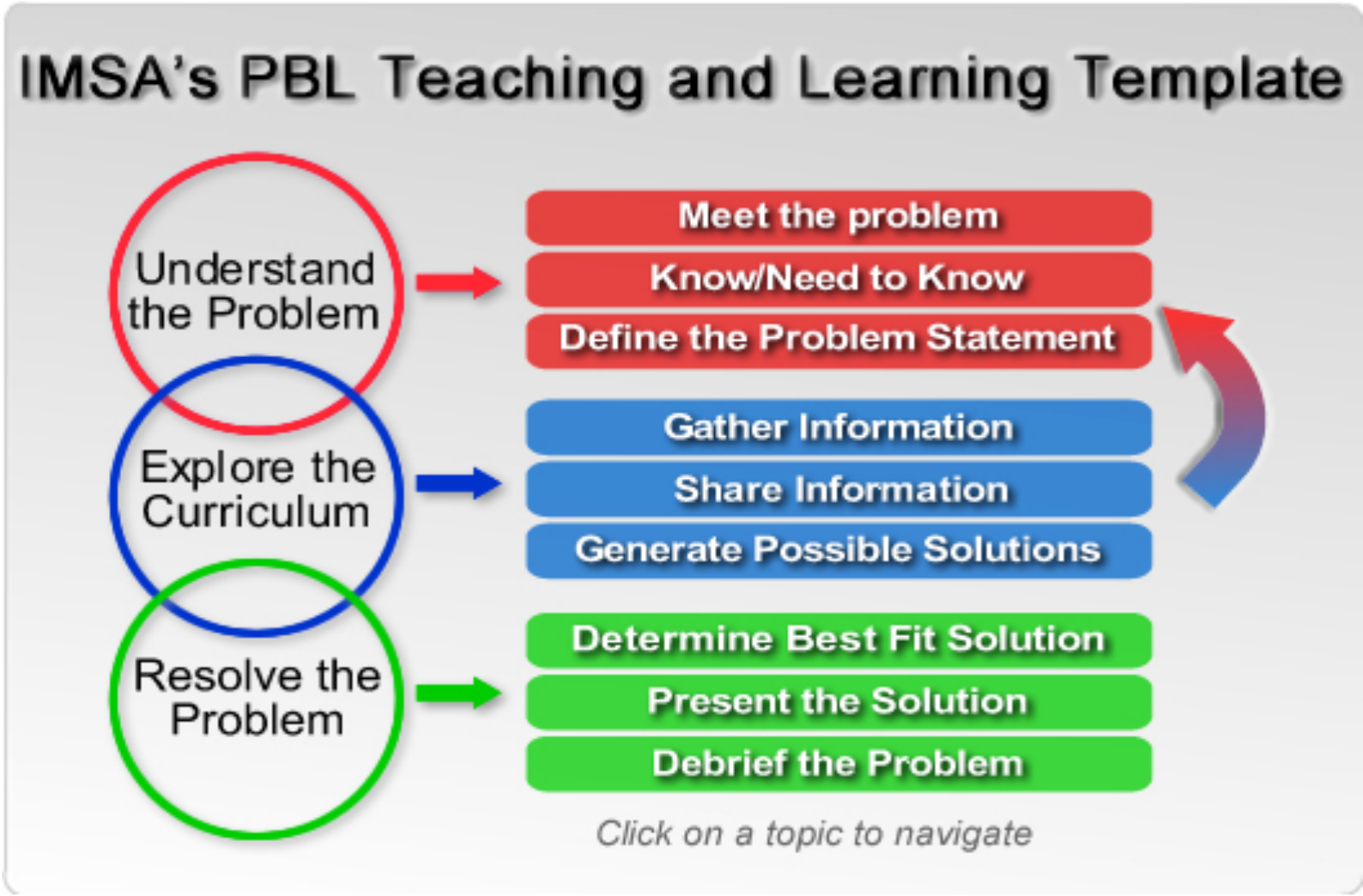
31) Next class, we need to answer another one of our **Need to Knows**.

Point or read: "What are other schools doing to make their playgrounds accessible to all kids?"

Learning from others will help us create our own design.

REFERENCES/RESOURCES:

Instructional Plan and resources adapted by Cait Lang from UW Geo Literacy Lessons



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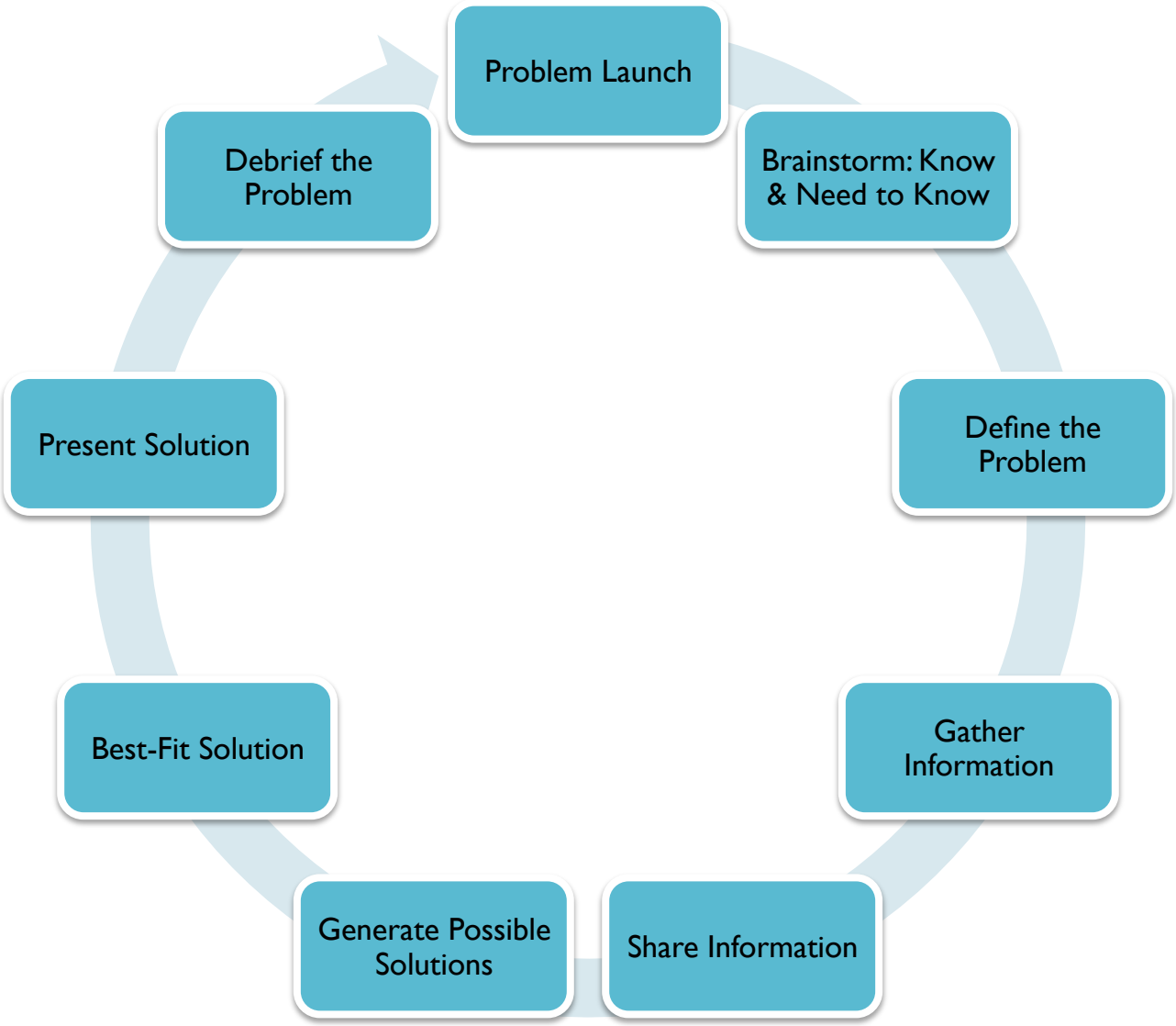
Problem-Based Learning Cycle



Problem-Based Learning Recommendations

Best Practices in PBL Implementation

- Align topic with student skill and interest
- Features clearly defined content and rubrics
- Incorporates team rewards as well as individual accountability
- Provides multiple opportunities to receive feedback & revise
- Offers a variety of ways to present finished work
- Allows for individual and group reflection throughout the unit

Lessons Learned from Previous Units

- Sparking student investment is key
    - Letter to introduce problem needs to be relatable
    - Instructor energy – keep it positive
- Vocabulary level must align with student ability
- Utilize multiple research methods (e.g., visual, reading, etc.)
- Small Group = Magic #4 (groups of four students work best)
- Student roles should be defined, and should rotate
- Shorter project (~4-6 weeks)
- Meeting twice per week is ideal (once is not enough, three times is too much)
- Provide example answer keys for worksheets