**Lesson 1 PBL Definition, Team Building and RoleAssignment**

**Problem statement:** How can we provide energy to a growing population in Snohomish County and still be good stewards towards the environment?

This lesson will introduce students to the problem and help them find their role in the solution. Teams of students will represent teams from city government. Each team will be researching different energy sources to find the most cost effective and environmentally friendly energy provider.

**Learning objectives:** Students will discuss the importance of effective and respectful communication within a team and creating sentence starters that encourage collaboration. Students will discuss and learn the meaning of PBL. Students will participate in team building exercises and assign roles within their group.

**Lesson standards (NGSS, CCSS, CTE):**

21st century Skills:

* Learning Skills:
  + Communication
  + Collaboration
  + Creativity
* Life Skills:
  + Flexibility: Deviating from plans as needed
  + Leadership: Motivating a team to accomplish a goal
  + Initiative: Starting projects, strategies, and plans on one’s own
  + Productivity: Maintaining efficiency in an age of distractions
  + Social skills: Meeting and networking with others for mutual benefit

6th Grade ELA standards for Speaking and Listening

Comprehension and Collaboration:

* [CCSS.ELA-LITERACY.SL.6.1](http://www.corestandards.org/ELA-Literacy/SL/6/1/): Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly.
* [CCSS.ELA-LITERACY.SL.6.1.B](http://www.corestandards.org/ELA-Literacy/SL/6/1/b/): Follow rules for collegial discussions, set specific goals and deadlines, and define individual roles as needed.
* [CCSS.ELA-LITERACY.SL.6.1.C](http://www.corestandards.org/ELA-Literacy/SL/6/1/c/): Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion.

**Soft skills:**

* Collaboration: students will build skills to help work in their groups. Team building activity will prove to help students find connections with each other to build teamwork and help them identify what their ideal role in the group would be.
* Communication: Students will create a framework for effective communication within their group by brainstorming sentence starters they can use to: ask a clarifying question, how to respectfully disagree with their someone, how to ask a probing question, and how to add to someone's idea.

**Locally and/or personally relevant for students:**

* Students will identify their strengths and weaknesses, working in a team, and learn more about their classmates.

**Connections to career and educational pathways:**

* Students will learn about their county government and the collaboration that happens between departments when making big decisions like deciding on how to provide energy to a growing population.
  + possible roles that students can fill that reflect real positions at Snohomish County Government. An explanation of how their job roles reflect real job titles:
    - **Project Manager:** delegates tasks, makes sure the goals of the team are clear and everyone is contributing their part.**= Manager:** Makes sure their group remains on task and that everyone’s voices are heard. Keeps track of time.
    - **Communications Director:** Presents their team's idea to a panel or board for decision making **= Presenter:** presents the group’s claim to the rest of the class.
    - **Scientist/Engineer:** find & record relevant data, writes lab reports synthesizing the data into claims. **= Recorder:** will write down the data/research found by the team and write up the claim.
    - **Environmental Consultant:** Is concerned with environmental conservation and the impact changes can make. **= Reflector:** Considers the feelings of the constituents & group members, and all those that may be affected by the team’s decisions (local wildlife/population of the county)
    - **Treasurer:** Is mindful of the funds they have to work with, and does the calculations for the team when considering materials to use(if a group has only four then this responsibility is shared among the team).

**Materials:**

* 4 sheets of poster paper. Each one should have a different title
  + How to ask a clarifying question
  + How to add to someone’s idea
  + How to ask a probing question
  + How to respectfully disagree
* POGIL Job role cards
* Reflection Questions & Exit Ticket
* Brown lunch bag with 10 of the same items in it. These can be filled with anything the instructor has handy, or with anything students could use to construct a makeshift tower (1 bag for each for each group)
  + Possible items for the bag. SAME materials in each bag:
    - 5 straws
    - 2 pieces of 8x11 printer paper
    - a pair of scissors
    - 1 yard of masking tape)
    - or some other combo of classroom material.

**Lesson preparation:**

* Teacher has list of students, grouped by 4s
* How-to posters are student-accessible
* One large poster on the wall, with “PBL” in caps
* Post-it note on each desk
* Print out:
  + reflection questions
    - cut them in half (they are half sheet handouts)
    - the back side can have the exit-ticket
  + Job role cards (enough for each group)
    - cut them in half (they are half-sheets)

**Time required:** One or two fifty-minute class sessions, depending on classroom dynamics.

**Grouping of students for instruction:**

4- 5 Students (4 is ideal). Students should be placed into teams prior to the lesson, at the teacher's discretion if they want to let teams choose each other. consider waiting until students have taken the personality quiz (found in resources & extension) before grouping students up, and try to have one of each type in a group.

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| Teacher | Student |
| Direct Instruction: Have students sit with their team.  Hook:/warm up (Access prior knowledge):  Instructions posted on board/screen. Teacher directs students to instructions and encourages all to add to post-it and then posters.  “What do you think PBL stands for?”  3-5 minutes and then share out student ideas.  T shares PBL meaning and then points out 2 key components of it are **communication** and **collaboration**. | Students will sit with their team and introduce themselves if necessary.  Hook/warm up: Students will add a definition to post-it note for “PBL” and attach it to poster in front of the room. Names on post-it not necessary |
| Direction Instruction: Assign groups a prompt to write sentence starters for. The prompts are the same as the title of the posters. Explain that their sentence starters will be recorded on the poster paper and that the expectation is that they will refer back to these often for effective communication amongst the team.  How to ask a clarifying question: will help students phrase any questions that they still have about their research or their partners ideas that they still don’t understand.  How to add to someone’s idea: will build student’s ability to build on each other’s ideas and include each other instead of thinking of their ideas as separate entities that can not be combined with another or developed further.  How to ask a probing question: frames how students will go about inquiring for further knowledge about something  How to respectfully disagree: Will give students a way to express their disagreement without damaging relationships or making group members feel undervalued.   * make sure that at each prompt has at least one group working on it   Communication Activity: Allow time for students to work on this activity (10 minutes) | Communication Activity: Students will brainstorm sentence starters with their new group. Every student must participate, students will ask the opinions of quieter students to practice inclusion and teamwork. |
| Class discussion: Write students sentence starters on the corresponding poster. Explain that these posters will be hung up so that they can easily refer to them while they are working as a group (5 minutes)   * + Help students frame their sentence starters if they have awkward phrasing. ask students if it is okay to rephrase some of the more awkward sentence starters before recording them on the poster | Class discussion: When the instructor asks for student’s work, students will share their top three favorites that they created. Students can practice “how to respectfully disagree” and “adding on to someone else's idea” if the instructor asks how a frame can be reworded to be more applicable. |
| Direct Instruction: Introduce what a PBL and the PBL to the class. Explaining that they will be working as research teams for the county. Emphasize the importance of the different departments at county government working together to come to the best decision. Outline the factors that go into the decision:   * environmental impact * cost * resources * climate * projected population growth | Direct Instruction: Students take in what the instructor says and ask questions if they have any. |
| Direct Instruction For Tallest Structure Building Activity and Reflection: Collaboration is a big part of this assignment. Tie the PBL to the collaboration-building activity (Tallest Structure Activity). Instruct the students that they need to be able to feel accountability in the group and that their contributions are valued, and that there needs to be communication and building off of each other's ideas.   * Pass out supplies for the structure building activity * Allow time for the activity (10 minutes for building, and 10 minutes for measuring and reflection) * Optional: offer a small prize to the winning team * Pass out & collect team’s reflection questions | Pre- and Post-Activity questions/Group Discussion: in their groups students will quickly discuss:   * + Who will do what?   + Who decides how the process goes?   + Do the tasks get equally divided?   + After the time is up, structures are measured   + Students end with a reflection of what went well/what didn’t   + How does the reflection knowledge help in deciding who will take on what role in the group?   Collaborative Team-building to Roles/Tallest Structure Activity:   * Each team will be given a brown lunch bag with 10 of the SAME materials in each bag. * Goal is to create the tallest free-standing structure in a certain amount of time (no more than 10 minutes)   Reflection Questions: Students will answer the questions on a paper   * Students will reflect on the activity, their performance and strengths as a team member and think about how things could be improved. |
| Assigning Roles/Direct Instruction:   * Ask students to reflect on what they noticed they did well as a team member and what they could improve on. Explain that their performance as a team member should influence how the group assigns roles. * Explain how these roles reflect the real job titles of people working at county government. * pass out and collect the Role Assignment Exit Ticket | Assigning Roles/Group Discussion:   * Students will read the role cards and reflect back on the team-building activity and discuss with their team who they think will fit each role the best. * Exit Ticket: Students will self-assign their roles after discussion and coming to a conclusion as a group. They will also include WHY they were given their role.   + Examples: *Laura will be the project manager because they did a good job of making sure we all knew what to do and gave us a task if we didn’t* **or** *Juan will be the Reflector because he always asked if everyone was okay with what other group members decided to do.* |

**Accommodations:**

* Visual cues and instructions-notes on board so students don’t just “hear” instructions
* Use of amplification system
* Copy of class notes after the lesson, or note-taking outline for students who need support to take notes during the lesson
* Students who are ELL will be taught skills to translate websites and documents to read in 1st language.

**Extensions:**

* Peter Urs Bender’s Personality Test (links found in references/resources): identifies the communication style of each student.
  + Activity:
    - have students take the quiz
    - Hand out the information packet about each personality type so students can read them.
    - have students form groups with people that have the same communication style as them. Those groups will make a poster with a T-Chart for the “Dos & Don’ts” when speaking to them.
      * Example: The analytical group might include *“get straight to the point”* under the “Do” column, and write *“Sidetrack the conversation from the goal”* under the “Don’t” column.
  + can be used to form groups before lesson one (one personality type per group or groups of the same type of personality)
  + You can ask students to consider their personality type and compare them with the job assignments. Students can pick the job that best fits their personality.
* Sentence starters: Teams who finish their posters before others could each be assigned one of the “How to:” to present as a brief role-play to the whole class.
* Collaborative Activity: students could design their building on a piece of paper before they start building.

**Assessment:**

Formative Assessment in the Lessons:

* Collaborative Activity Reflection Questions
* Role Assignments Exit Ticket

**References/Resources:**

* Communication Posters Activity adapted from Amy Peterson
* Tower Building Activity provided by Erin Duffy
* Student Role Cards provided by POGIL (found in Student Materials folder)
* Post-team building reflection questions from Venture Team Building: [http://www.ventureteambuilding.co.uk](http://www.ventureteambuilding.co.uk/)/
  + Reflection Question Handout adapted from Venture Team Building Questions: <https://docs.google.com/document/d/1cfsZlI76biL9zeKWbZvNq_wF_LXi5eAeoAE8l_368us/edit?usp=sharing>
* Peter Urs Bender Personality Test: <http://www.peterursbender.com/quiz/quiz.html>
  + personality information: <https://www.peterursbender.com/quiz/swtable.html>
* Role Assignment Exit Ticket (back of the reflection questions): <https://docs.google.com/document/d/1cfsZlI76biL9zeKWbZvNq_wF_LXi5eAeoAE8l_368us/edit?usp=sharing>
* Graphic organizer created by Erin Duffy based on the Frayer Model. This graphic organizer is to be used in each lesson when students are expected to take notes in their assigned/chosen role. [Graphic Org-for Individual Role](https://docs.google.com/document/d/11WOHK9iOZaf5S_MR0mfJdKA4bgre-ApNv9W6MeWFeWo/edit?usp=sharing)
* Team Building/Collaboration Activity-Tallest Structure

[Tallest Structure Team Building Activity](https://docs.google.com/document/d/1ESY4bG_9tW_m7nkDQOmEUwqvdpAAFeqkieLEBVg1MRQ/edit?usp=sharing)