| **CHAT LESSON - Angle Info Gap** | |
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| Preparation | We recommend you develop a tool for student self- or peer-assessment ratings like the Process of Learning (POL) Tracker.   * Develop collaboration criteria with your students either during this lesson or prior to this lesson and have a POL Tracker prepared for students to self-assess with. * The Angle Info Gap lesson is an example of a groupworthy task to use with Libra. You may use Libra with any groupworthy task for groups of 3. * Generate room codes in the Libra Teacher Dashboard for a multiple of three larger than your class size. Prepare to distribute room codes to small groups. |
| Resources | **Lesson resources: Student Handouts:**   * [Student Libra Link](http://libra-hewlett.s3.us-east-2.amazonaws.com/prod/client/index.html) - [Effective/Ineffective Teammates](https://docs.google.com/document/d/18AyGv-LiKzmyt7FIcfYxpe5GOvkETa74VMWvoO46QQI/edit?usp=sharing) * [Teacher Dashboard](http://libra-hewlett.s3.us-east-2.amazonaws.com/prod/dashboard/index.html) - Libra UI * Slides - [Player A](https://docs.google.com/presentation/d/12MZFt-vFr15l7bAS2RKR3ivMi8LtL_2UDth_gofLKF8/edit?usp=sharing), [Player B](https://docs.google.com/presentation/d/1jYspyozD8eru3oAQcIhrDt3ZAUUsEc4Zl0Smtzw30gM/edit?usp=sharing), [Player C](https://docs.google.com/presentation/d/15FttcQOQk6SeWgGoGRSQgA5cG1m8Pa3JVcgAO21UFr0/edit?usp=sharing) * Dashboard Guide **Rubrics** * [**Technical FAQ**](https://docs.google.com/document/d/1FfIlCCsOZdbYv9osY90UbS9cGZ6tEZdbBO1fgfIFdtY/edit?usp=sharing) - [21st Century Rubric](https://drive.google.com/file/d/1zzpwfP2sj5at2aeEofVXlqPy-wVoftl7/view?usp=sharing)   - [PISA 2015](https://drive.google.com/file/d/11e9QH0peHvT6oqjHoz9OkCAjCU-JtA8A/view?usp=sharing) ([factors](https://drive.google.com/file/d/1gfODOOVw7JRMek-7UctfGLXZkn2hqTOE/view?usp=sharing), [framework](https://drive.google.com/file/d/15mG3yNvg7z_hPobS3nOZzFWiBlv8LSCt/view?usp=sharing))  **Process of Learning Tracker:**   * [Google form](https://docs.google.com/forms/d/11Dl8B6XLuEX_hyW6cr07B4gxBnU0SsAO1IaMzCAfJAc/edit?usp=sharing) ([doc](https://docs.google.com/document/d/1BKweZfNy0qwFVLxu7DBVLaUAPWUvdbPye1zmQOM1Q78/edit?usp=sharing), [sheet](https://docs.google.com/spreadsheets/d/1y-Ds-tY_SDloTt50_pC33HyufWLqWLeHP5GuuJIUQCY/edit?usp=sharing)) |
| Guiding Question(s) | How do we communicate effectively in teams?  What patterns of communication do you notice?  What are my strengths and weaknesses when working in groups?  How do I solve for missing angles when parallel lines are cut by a transversal?  How do I solve for missing angles with algebraic expressions? |
| Learning Goal | * Students will solve for missing angles with algebraic expressions, vertical angles, straight angles and parallel lines cut by a transversal. * Students will experience a need to work together in order to accomplish a shared goal * Students will describe some patterns of behavior in teams |
| Lesson Flow  (30 min) | 1. (2 min) [Hook](https://www.youtube.com/watch?v=8Ox5LhIJSBE): Explain that in this lesson, students will be working in small groups toward a shared goal. Share a hook related to communication needs. 2. (1 min) Essential Question: Share the guiding question with students, “How do we communicate effectively in teams?” and explain that we will brainstorm a list of collaboration criteria before the main activity.      1. (3 min) Waterfall (don't enter your message until the signal after t time):  * Give students 20 seconds to compose a response to “identify the qualities of an effective teammate.” Copy/paste their responses to reference later. * Give students 20 seconds to compose a response to “identify the attitudes and behaviors of an effective teammate.” Copy/paste their responses to reference later.  | *Qualities of an effective teammate* | *Attitudes & Behaviors of an ineffective teammate* | | --- | --- | |  |  |   4. (4 min) Create a class list of collaboration criteria to be used for self-assessment. Ask students to describe 1-2 actions or behaviors that would serve as evidence for each criterion. Add the criterion to a Process of Learning tracker for collaboration.  5. (10 min) Introduce Angle Info Gap: Review the rules of Info Gap as well as dos and donts of engagement. Model an example by acting as Player A and letting a pair of students serve as Players B and C.  6. (20 min) Play Angle Info Gap: Distribute Libra room codes to students. If teaching remotely, keep everyone together as a whole-group on the video call (not in breakouts) so they are forced to communicate through Libra. Students advance through the Player A, B, C set of problems.  Routine   * Player: “What specific information do you need?” * Other Player: “Can you tell me (a piece of information they need)?” * Player: “Why do you need that info?” * Other Player: “I need that info because…..” * Repeat until problem is solved   7. (5 min) Three possible closing activities: (1) Ask students to reflect on the visualization of their group’s communication during the activity. (2) Ask students to reflect on their collaboration today with a POL tracker. (3) Ask students to reflect on the key pieces of information required to complete missing angle problems. |
| Vocabulary | Communication, pattern, logic, angle, vertical angles, straight angles, parallel lines cut by a transversal, expression. |
| Assessments, Reflection and Evidence of Student Learning | Students will take turns working together to solve a puzzle. Students will reflect on the rules and gameplay of info gap and discuss optimal strategies for solving missing angle problems.Students will have the opportunity to discuss their group communication visualization as it relates to the lesson context. |