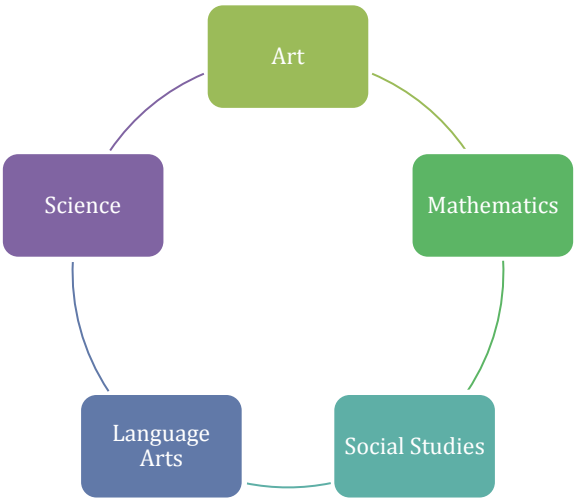
STEM School Chattanooga

9th Grade PBL

Unit Plan Template

Unit 1: Leadership and Collaboration



Learning Target Topics

Art I: Examine material, technologies, processes, and terminology used during project development.

Algebra I: Develop a rubric to assess the plan and implementation of a team building activity.

Geometry: Develop a rubric to assess the plan and implementation of a team building activity.

English I: Collaborate to set group and presentation norms and expectations; Prepare and participate effectively in group discussions and activities.

Physical World Concepts: Appropriately utilize a given format for the Engineer Design Report; Create a team building activity.

World History: Establish a team contract with measurable goals and requirements; Execute the contract; Set standards and deadlines for group understanding and participation.

Grade Level	9th Grade	Unit Length	3 Weeks
Unit Overview	The Unit 1 PBL on Leadership and Collaboration will introduce students to the essential skills needed to be successful at the STEM School and in the future, including collaboration, goal setting, contract writing, and group dynamics. This will be achieved through a jigsaw group literary study of *The 7 Habits of Highly Effective Teens* by Sean Covey. Students will be assigned two parts of the book to read and discuss in jigsaw literary circles, planning presentations as a group for their PBL group members on their assigned sections. Students will then apply the habits learned in the book through the writing of an effective PBL group contract and individual mission statements, as well as the development of a team-building activity based on one of the 7 Habits, including a rubric and reflection for the assessment of the activity.		
Unit Essential Issue	**Strand**: *Leadership and Collaboration*		
Culminating Events	For the Unit 1 PBL, the students will work collaboratively in groups of 5. Students will read *The 7 Habits of Highly Effective Teens* and participate in Jigsaw Literary Circles, writing individual/group mission statements and presenting assigned sections to their PBL group partners. Student groups will also write PBL Contracts and develop a Team-Building Activity based on the 7 Habits, including a rubric and reflection for assessment. **Small 2-3 Group Presentations** – Week of Sept. 14 The culminating event for this PBL is a small 2-3 group presentation where students will show application of *The 7 Habits of Highly Effective Teens* through the demonstration of their Team-Building Activity and its evaluation by the paired groups. The following items will be turned in as part of the presentation: • Team-Building Activity Plan/EDR (Engineering Design Report) • Team Building Activity Rubric and Reflection		

The following items will be assessed by the appropriate content area teacher:

- Math (Algebra I and Geometry): Development of a rubric to assess a team building activity
- Physical World Concepts: Team-Building Activity based on the 7 Habits and EDR
- Art: An instrument that allows group members to critique the work habits during project development
- World History: PBL Team Contracts
- English: Preparation documents and Participation in Jigsaw Literary Circles and Section Presentations to PBL groups

Common Assessment

STEM PBL Rubric

PBL Unit: #1 – Leadership and Collaboration
Student: _____
Date: _____

	Advanced	Proficient	Needs Improvement
Math Components: **Algebra I**	• Students can evaluate the effectiveness of the rubric they developed, and make adjustments as needed to improve its usefulness.	• Students can develop a rubric to assess the effectiveness of the planning and implementation of a team building activity.	
Math Components: **Geometry**	• Students can evaluate the effectiveness of the rubric they developed, and make adjustments as needed to improve its usefulness	• Students can develop a rubric to assess the effectiveness of the planning and implementation of a team building activity.	
Science Components: **Physical World Concepts**	• Students have included a section of recommendations for drafting a better engineering design report for a more effective team building exercise, as based on their own experiences.	• Students have completed the minimum requirements for the engineering design report for the team building activity. • Students have created a team-building activity based on the assigned reading.	
Language Arts Components: **English I**	• Jigsaw discussion preparation is complete, detailed, and includes text evidence to help guide the section discussions. • Student furthers the group discussion and offers interactive ideas for the section presentations to the PBL groups. • Students involve PBL members in the section presentations, using interactive activities to connect the ideas to real-life school and life scenarios.	• Student is prepared for jigsaw discussions with notes and answers to questions for each of the 2 assigned sections from *7 Habits*. • Student participates in discussion, using preparation activities to help plan the section presentations. • Section information is clearly presented to PBL group, using presentation information and visual aids from the jigsaw discussion groups.	
Social Studies Components: **World History**	• The writing of the PBL Contract is well organized and detailed, with concise and clear information about the PBL responsibilities. Allows facilitator to know where each group member, and the group as a whole, stands on progress and completion. • The responsibilities, specific deadlines that are clearly followed, and interventions outlined in the contract were successful in creating an effective plan for the PBL group to follow.	• PBL Contract is easy to understand and allows facilitator to know where each group member, and the group as a whole, stands on progress and completion. • PBL Contract identifies specific group and individual responsibilities, deadlines, and intervention procedures. • Few errors in spelling, punctuation, and capitalization affect the effectiveness of the PBL contract.	

		• PBL Contract conveys ideas clearly through correct use of spelling, punctuation, and capitalization.		
	Art Components: **Art I**	• The critique instrument is a two dimensional digital image. • The critique instrument has at least four categories to be considered for analyzing project development.	• The critique instrument is a neatly composed image. • The critique instrument has a clear method for identifying the various levels of work habits.	
	Minimum Requirement Components: **Must be included to be graded**	Small Group Presentation Requirements and Parts: • Demonstration of Team-Building Activity. • Assessment of Activity by Peers using the rubric. • Evaluation of Team-Building Activity's effectiveness through reflection. Math: • Rubric must include a minimum of four categories and a description of requirements to meet below basic, proficient or advanced for each category. English I: • Literary Circle Participation Documents must be completed for each section. History: • Contracts must include names and signatures of all group members and PBL Lead Teacher, with each receiving a final copy of the signed contract. PWC: • Students must draft and submit an engineering design report for their activity. • Create a team-building activity based on the 7 Habits.		

Unit Learning Targets

Algebra 1:

- I can develop a rubric to effectively assess the planning and implementation of a team-building activity.

Geometry:

- I can develop a rubric to effectively assess the planning and implementation of a team-building activity.

PWC:

- I can create a team-building activity based on the *7 Habits of Highly Effective Teens*.
- I can appropriately utilize a given format for the Engineer Design Report.

English I:

- I can work with peers to set rules for group discussions and decision-making, clear goals and deadlines, and individual roles as needed.
- I can create and follow norms and procedures for literary circle discussions and class/whole group presentations.
- I can participate effectively as a member of a team, preparing effectively for discussions and offering positive feedback and ideas for the topic and task.

World History:

- I can work with peers to establish a contract that guides the group and establishes checkpoints to produce a successful team project.
- I can establish intervention procedures with my group to assist in any act that delays or stunts the growth of the project.
- I can plan and establish clear deadlines that create both a plan of attack and flow of progress to have a successful and well-tested product.

Art:

- I can develop an instrument to critique work habits through the examination of material, technologies, processes, and terminology used during project development.

Vocabulary	

Math: Algebra I	1. Rubric 2. Classify 3. Assess
Math: Geometry	1. Rubric 2. Classify 3. Assess
Science: Physical World Concepts	1. Engineering Design Report
Language Arts: English I	1. Audience/Task/Purpose 2. Norms
Social Studies: World History	1. Active/Passive Voice 2. Intervention 3. Deadlines 4. Procedure
Art: Art I	1. Professionalism 2. Teamwork 3. Integrity 4. Productivity