

Building the Hidden Structure: Gun Drill Team Building

Target Grade Level: 5th - 10th

Time for Lesson: 60 -100 minutes

Overview & Major Themes

Students are given specific tasks as they work together as a team to complete the building of a specific “hidden” structure. Students repeat building the hidden structure many times, switching tasks, and the addition of several factors, making the construction of the structure harder to complete.

Objectives	Outcomes	Materials & Resources
The Gun Drill Team Building lesson teaches communication and language skills, team building, following instructions, and engineering concepts.	Students will experience the challenges of working as a team to complete a single objective, just as <i>Constitution</i> sailors on a Gun Team needed to do when exercising or firing a gun during battle.	<ul style="list-style-type: none"> • A <i>Sailor's Life for Me? Exercising the Guns</i> scene (active online or a pdf print out) • Several sets of building blocks, or any materials that can be used to build and re-build a structure. • Cardboard boxes to hide the assigned structure. • Timing Clock • Groups of students to compete (teams of 3). • Students will be assigned tasks: observer, messenger, builder.

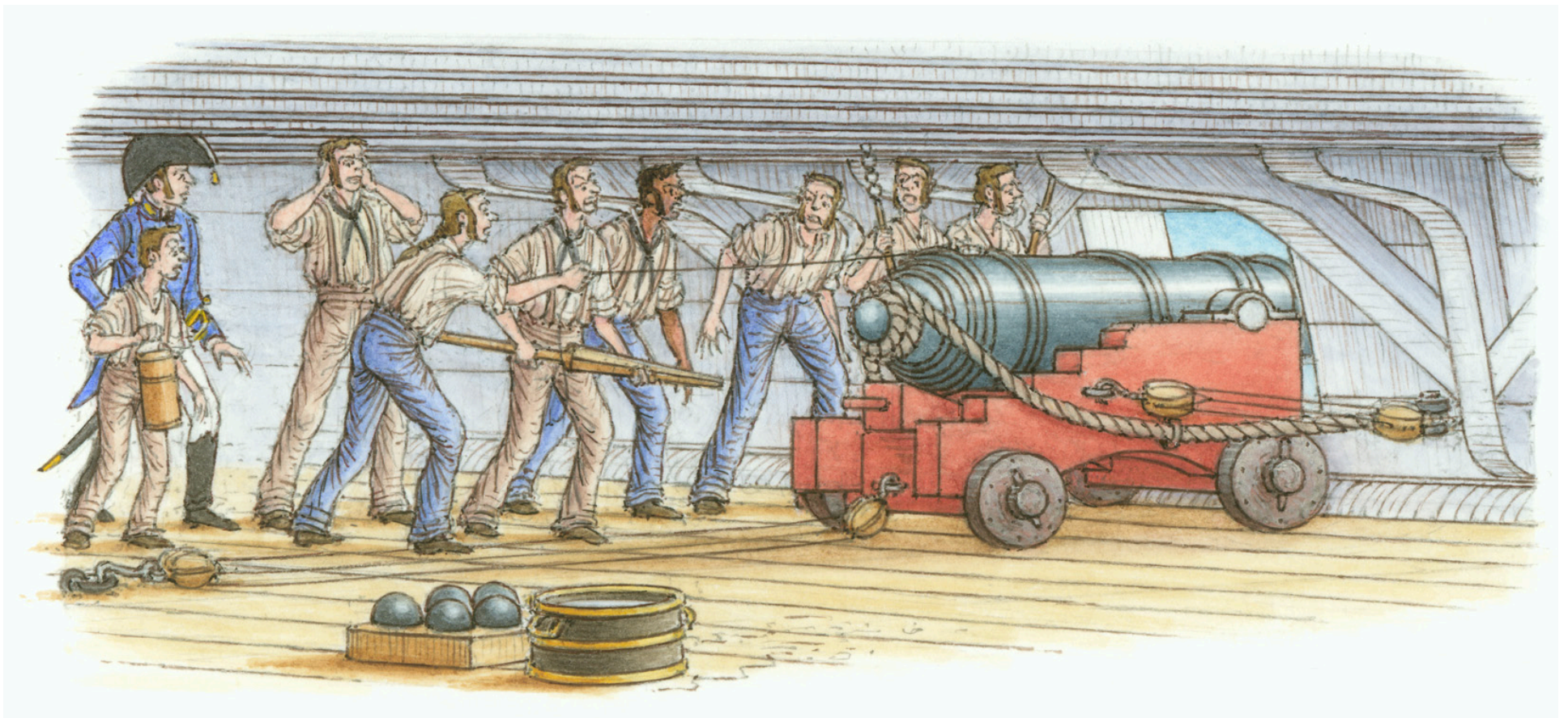
Time	Instructional Activity
2 min.	Lesson Preparation: The Educator builds a simple structure with the building materials without students seeing and places it under a box, keeping the structure hidden.
5 min.	Explore with students the <i>Exercising the Guns</i> scene of <i>A Sailor's Life for Me</i> (either a pdf printout or online). Explain that the Gun Crew needed to practice and work as a team to complete their challenges, and that each member of the team had a specific task.
5 min.	Educator breaks students up into teams of 3.
5 min.	Educator assigns or allows students to pick a task: an Observer , a Messenger or a Builder .

Time	Instructional Activity
5 min.	<p>Educator explains the goal and each student's assigned task:</p> <ul style="list-style-type: none"> • The team's goal is to build a structure that looks exactly like the structure in the box. • The Observer stands at the front of the room and is able to view the hidden structure under the box. • The Messenger relays messages from the Observer to the Builder about how the structure is put together. The Messenger does not see the hidden structure or the structure being built by the Builder. • The Builder sits in the back of the room with his or her own set of building materials. They use the messages from the messenger on how to build the hidden structure.
2 min.	<p>Educator explains the rules of the game:</p> <ul style="list-style-type: none"> • No running. • No speaking to other teams. • If these students need extra motivation, make it competition. Whoever completes the structure first, wins the opportunity to design the next hidden structure for everyone to try to build.
5 – 10 min.	<p>Students begin and finish the team building challenge!</p>
5 – 10 min.	<p>Try again. This time, switch the student's tasks on the team.</p>
5 – 10 min.	<p>Try again. Switch up the student's jobs on the team, so that everyone has a chance to perform every task. They should be getting better at the challenge each time.</p>
30 min.	<p>Now, make the challenge more difficult by adding different factors that will make the task harder to complete. The Educator might have to alter the rules a little.</p> <ul style="list-style-type: none"> • Use a clock to give the students a time limit. • Have one of the students (either the observer or the builder) complete the task with his or her eyes closed. • Make the activity a "silent" activity where students can only use hand signals.
10 min.	<p>Wrap up the game with a discussion comparing the student's challenge and tasks to the challenges the Gun Drill Team faced aboard Constitution. Battle was noisy, stressful and very dangerous.</p> <ul style="list-style-type: none"> • What additional factors made the student's task the hardest? • What kind of factors made the sailor's the hardest? • Did the task get easier the more times you completed it? • Did you find ways to adapt to the complicating factors? • Was the time factor most stressful? Compare the time limit to a Gun Drill's time limit? (do you mean goal to be quick so you fire more than your opponent)

Furthering the Lesson

- Each group researches the tasks of crew members on the Gun Drill Team. And in turn, students create a short skit to show the teamwork and tasks of each Gun Drill crew member. Have students address the most important question: what would happen if one of the crew members could not complete his task?
- Students can write about a challenge that their own team overcame in building the structure.
- Use the family activity “Ready, Aim, Fire!” for some outdoor education.

Exercising the Guns



Constitution's 52 heavy guns give her awesome power in battle, but they are useless without expert gun crews to fire them. To hone their skills, the seamen practice regularly, rehearsing a strict routine until they can do it blindfolded. Every man plays his part with furious concentration, for a naval gun can do as much harm to those who fire it as to the enemy. It weighs more than three tons, and rolling free, it will effortlessly crush a man. A stray spark on its powder charge will kill the gun crew and set the ship on fire.