



FIRST at Home Activity

Lost at Sea

ACTIVITY SUMMARY

Teamwork challenges are a great way to help your team members learn how to problem solve and work together. They are also a lot of fun! This activity utilizes multiple Core Values by asking the team to choose items that they would want when stranded. They must create a combined list of items and then draw an innovative design for a way to store the items on the lifeboat. This is also a great activity that can be done virtually!

Age Range & Grade Level: Ages 9+, Grade 4+

Program Connection: FIRST®LEGO®League

ACTIVITY OUTCOMES

Participants will:

1. Create a list of items that they would want if lost at sea.
2. Work as team to create a combined team list of items.
3. Design a storage space on the lifeboat for the team items.

RELEVANCE MATRIX – Subject Area Crosswalks and Core Values Addressed

Science	Math	Literacy	Social Studies	Computer Science
Ocean currents	3D shapes, Geometry	Communication and Listening	Historical perspectives	Logical Thinking
Discovery	Innovation	Impact	Inclusion	Teamwork

FUN! Our last Core Value should always be used when doing any FIRST activities.

KEY VOCABULARY

design

prototype

model

engineering design process

drawing

solution

MATERIALS & SUPPLIES NEEDED FOR THIS ACTIVITY

Lost at Sea Design Brief, paper, pencil, prototyping materials (optional)

GUIDANCE SET-UP

Description – Action – Guidance	Notes
Provide students with the <i>FIRST Lost at Sea</i> Design Brief.	The design brief document is for the students and is in a separate link. You can adjust the difficulty of the activity by increasing or decreasing the time limit and the number of items they may choose.
Review the problem statement and criteria/constraints with the students. Remind students they will be using the engineering design process to work towards a solution.	Review the age appropriate engineering design process with your students.
Determine how students will complete the activity, what their length of time will be, how to collaborate virtually and how to share their solutions. Have students work on their solutions.	Solutions can be built and designed using materials around the house or it can be a drawing or computer aided design (CAD).
Review <i>Evidence of Achievement</i> rubric (on next page) and create assessments if needed.	Sample rubric provided.
Explore the <i>Go Further!</i> opportunities	See below
Wrap up – Have students complete their <i>Core Values Self-Reflection</i> and review.	<i>Core Values Self-Reflection</i> is found in the <i>Lost at Sea</i> Design Brief document.

STUDENT OR TEAM ACTIONS

1. Review the *Lost at Sea* Design Brief and problem statement.
2. Research the questions and discuss.
3. Create a list of your own items and share.
4. Work as team to create a combined list of items.
5. Create a storage solution to solve the challenge presented in the problem statement.
6. Share your solution and reflect on your learning.
7. Explore the *Go Further!* opportunities.
8. Complete your *Core Values Self-Reflection*.

GO FURTHER!

Create a prototype of your storage solution along with all the items that would go inside of it. You could create a physical model out of building blocks or modeling clay or design it with computer aided design (CAD).

EVIDENCE OF ACHIEVEMENT

Evaluation Rubric			
Category	3 points	2 points	1 point
Requirements	All requirements on the design brief were met.	Some of the requirements on the design brief were met.	Only a few requirements on the design brief were met.
Design	Clearly showed how the solution solved the challenge.	Showed how the solution would solve the challenge.	Not clear how the solution would solve the challenge.
Collaboration	Demonstrated collaboration by sharing information or working with team members.	Shared some information or with team members.	Respect and inclusion being developed.
Knowledge Gained	All the questions are answered completely.	All the questions are answered but could have more detail.	The questions are not answered.