Lego for Social Entrepreneurs: An Ode to the Shipping Container

Fact Sheet

- In 1955, American businessman Malcolm P. Maclean came up with the idea of shipping goods using large metal containers that could be easily transferred between and carried by ships, trucks or trains. Before that, goods were loaded in smaller boxes or stacked on wooden pallets that had to be individually loaded or unloaded at each stage of transportation. (World Shipping Council)
- 95 percent of all goods are still shipped by sea. (PortTechnology.org) Roughly 60 percent of all goods that are transported by ships every year travel in metal shipping containers—that’s about 1.7 billion metric tonnes of everything from mobile phones to fruit. (Statista)
- There are an estimated 17 million shipping containers in the world, but at any given time on about five to six million of them are in use. (PortTechnology.org)
- A standard six-metre shipping container can hold roughly 3,500 shoe boxes. (PortTechnology.org)
- Almost all shipping containers—about 97 percent—are made in China. (PortTechnology.org)
- On average, 675 shipping containers are lost at sea every year, falling off ships during storms or because of other accidents. (PortTechnology.org)
- The first known instance of a shipping container being repurposed was in 1962, when American Christopher Betjemann invented an exhibition booth made from shipping containers that companies could use to tour and showcase their products. (Containerhomeplans.org)
- The first recorded shipping container home was patented by American architect Phillip Clark in 1987. (Containerhomeplans.org)

Key Terms

- **Shipping container**—Large metal crates 2.4 metres high and wide, and anywhere from six metres to 16 metres long. They’re used to transport all kinds of goods around the world, and are designed to be stackable and carried by ships, trains or trucks. Some containers are simple metal boxes, others have insulation and even refrigeration systems to ship perishable goods like fruit.
- **Modular**—Individual items or components that have been designed to fit together to create a greater whole, like buildings or vehicles.
- **Repurpose**—To take an item that was designed for a specific task and use it for a different purpose.
- **Upcycle**—To reuse an item in a way that makes it even more valuable or useful than it was originally.
Classroom Activity - Grade 9 to 12 Resource:

Essential Questions:
► How can repurposing waste support the local community?

Learning Goals:
► Discover why repurposing shipping containers has become a new trend
► Explore how repurposing shipping containers can have a positive impact on the community and the environment

Discussion:
1. What is the purpose of a shipping container?
2. Why do the authors suggest that shipping containers are “Lego for social entrepreneurs”? 
3. What are the ways that shipping containers can be reused or repurposed?
4. What are the benefits of reusing shipping containers?
5. How does reusing shipping containers impact the environment?

Dive Deeper:
1. Show students the images from the article “Think Inside the Box with These Tricked-Out Shipping Container Homes,” www.digitaltrends.com/home/fifteen-amazing-shipping-container-homes, and discuss the following questions (make sure students do not see the title of the article):
   • What do you think these homes are made from?
   • Would you live in a shipping container? Why or why not?
   • Why do you think these homes were created from unused shipping containers?
   • How could these houses affect the community and the environment?
2. Read the Global Voices article “Lego for Social Entrepreneurs: An Ode to the Shipping Container” to students and discuss the questions from the Discussion section.
3. Show students images of empty shipping containers after they have been used to export goods. Explain to students that the life of a shipping container typically ends after a few uses. Containers are often left to rust, creating an eyesore for neighbouring communities and a pollution hazard. Empty shipping containers are not good for communities or the environment.
4. Show students the video “26 Innovative Uses of Shipping Containers,” www.youtube.com/watch?v=hz280a9aBZA (4:19) or read the article “How a Shipping Container Farm Could Put an End to Food Deserts,” https://www.thestar.com/life/food_wine/2017/07/12/how-a-shipping-container-farm-could-put-an-end-to-food-deserts.html. Discuss how many of these solutions are addressing issues in a community and creating positive change.
5. Provide each student with a sticky note and ask them to write down three ways shipping containers can be repurposed and then place their sticky note on the front board.
6. Share students’ ideas with the class. Ask students to brainstorm what the benefits and challenges of each idea might be. Create a list of these challenges and benefits on the front board or on a piece of chart paper.
7. Divide students into small groups and give each group a piece of chart paper and markers.
8. Have each group discuss ways they would transform a shipping container for a positive purpose and record their answers on the chart paper. Ask students to consider how their shipping container space could positively impact the community they live in and create a solution to a problem.
9. Allow students time to research and map out these ideas and provide them with the following questions to guide their discussion:
   • What local issue does my space assist in solving?
   • What activities can occur in this space?
   • Who will the space benefit?
   • How will I design this space?
10. Challenge students to build a scale model of their idea. Students can consider building a diorama, making a computer simulation or drawing a floor plan.
11. Have students present their ideas to the class. Ask students to select the model or idea they think is best and write a short reflection describing how this idea could have a positive impact on the local community and on the environment.

Extension:
► Have students present their model to the school community in a gallery walk presentation. Students can describe the issue their repurposed shipping container will address and how the space will create positive change in their local community.
► Have them create a budget of the proposed cost of the repurposed shipping container and identify who it will positively impact.