

Across the river

Objective: Pupils will explore bridge structures by designing and building their own bridges.

Activity steps

1. Tell the pupils about Emma and Thomas, who are good friends. They are on opposite sides of a river. The water is so choppy that neither one of them can swim to the other side. Ask the pupils how they can help Emma and Thomas, perhaps they need a bridge?
2. Guide the pupils in conducting research on bridges. They could study pictures, read articles, or watch a short video.
3. Based on the age and ability of your pupils, choose a brick (or bricks) to represent the river. The wider the river, the more difficult the challenge. Use the two minifigures to represent Emma and Thomas.
4. Ask the pupils to use their LearnToLearn sets to build a bridge for Emma and Thomas. Encourage them to test whether their bridges can support both minifigures.
5. Ask the pupils to share their designs with the class. Ask them to compare the bridges, and to relate them to their research.

Discussion questions

- How did you decide on the design of your bridge?
- What was difficult about this challenge? How did you overcome it?
- How is your bridge design different from and/or similar to other bridges?
- How could you improve your design?

Extension

Encourage pupils to write a story about how their two minifigures came to be on opposite sides of a raging river, and why they need to get to each other. Ask pupils to share their stories with a partner or with the class. Encourage pupils to think about the different materials they could use to construct their bridge in real life, which materials would be best to use? What influenced your choice?



30-45 min.

Year group modifications

Key Stage 1,

Lower Key Stage 2:

Provide pictures of bridges made from blocks or bricks as inspiration for your pupils.

Upper Key Stage 2:

Tell pupils to research different bridge designs and ask them to choose one to build. You may stipulate additional design constraints, such as the bridge cannot touch the brick (or bricks) representing the river.



Example solution: A stable bridge constructed by Catharina, Brazil



9686 Simple & Powered Machines Set

Delve deeper into Design & Technology by designing solutions with the 9686 Simple & Powered Machines Set. Go to www.LEGOeducation.com to learn more!