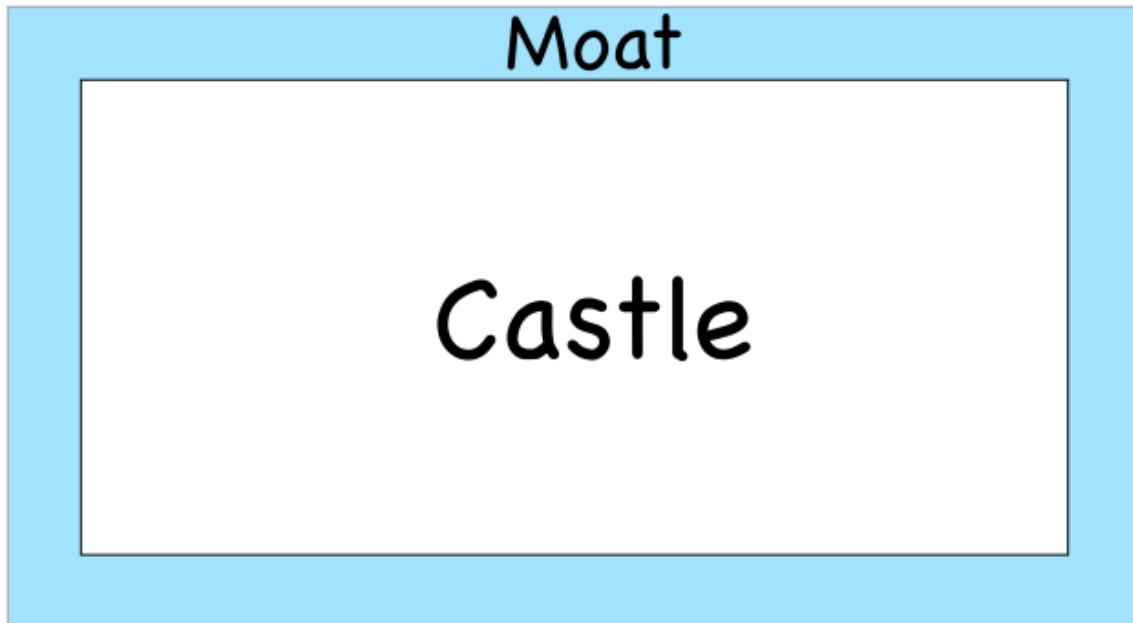


Puzzle of the Week

Crossing the Moat

THE CHALLENGE: You are trying to break into a rectangular castle that has a very deep and dangerous moat with rigid sides that is 8 meters wide all around it. Through a miscalculation, you have two very strong boards that are each 20 centimeters wide by 775 centimeters long. You have no nails or any other way to attach or tie the boards to each other. How can you use the boards to walk across the moat?



The moat is 8 meters wide.
The boards are 20cm by 775cm

Puzzle of the Week

Crossing the Moat – Notes

THE CHALLENGE: They should place the boards in a corner of the moat as shown below.

If your students know some geometry and the Pythagorean Theorem, they can calculate the total diagonal is $8\sqrt{2} \approx 11.3$ meters. The middle of the first board will be about $7.75 / 2 = 3.875$ meters of the way along the diagonal. So when 7.75 meters is added to that we get $3.875 + 7.75 = 11.625$ meters, which is enough for a little overlap for stability.

If your students don't know the necessary geometry, they can still make a scale drawing with a moat that is 8 centimeters wide and then make measurements with a ruler to see that the boards would work in the corner. They can even cut out pieces of paper the right scaled size to simulate the boards.

