



Chain Reaction

Have you ever seen a chain reaction? It's fun to see how one item causes another to move. Think about ways you can create your own using bricks and other materials. Consider the shapes of the materials and how they will react. How far apart will the materials need to be for the chain to continue? How will you make it happen? How will it end? Put your chain reaction together and challenge yourself to make it even bigger. For more fun, have different people create different parts of the reaction.

<https://education.lego.com/en-us/lessons/maker-middle-school/make-a-chain-reaction#Planitem1>

Make a Repeatable Pattern

Do you like to draw? Can you make a pattern that repeats? It can be difficult to make a pattern that is consistent without a little help. Think about what a pattern is and how you can make sure it repeats. Design and create a machine to help you create a repeatable pattern using bricks and other materials. What pattern will you try to create? Can you create more than one?

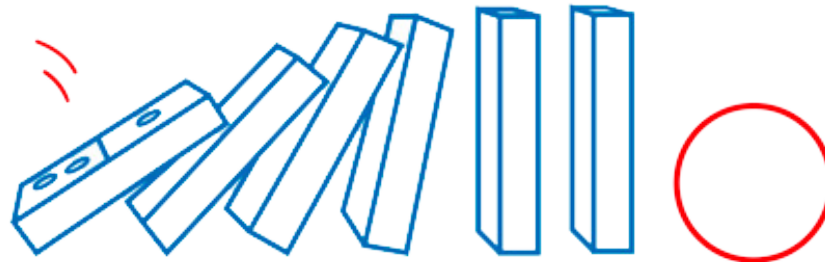
<https://education.lego.com/en-us/lessons/maker-middleschool/repeated-pattern>

Carnival Game

Can you create a fun game that you might find at a carnival. Think about the games you like to play and see what you can come up with. How will you play the game? Will you keep score? How will you earn point? Is there a prize if you win? Think of how to set up your game and then find some players and challenge them. Be sure to create a way to keep score. Challenge yourself further to create a ratio that shows how one play does against another.



<https://education.lego.com/en-us/lessons/maker-middleschool/make-a-carnival-game#Planitem3>



Create a Table Game

Playing games is always fun. Games come in all different shapes and sizes. For this challenge, you need to create a game that can be played on a table. The game needs to include a way to keep score and a type of goal. What will the goal look like? What will you need to go through the goal in order to score points? How will you be able to score points? How will the points add up? Using bricks and other materials, design and build your game. Be sure to play it a few times to ensure you can score points all the ways you planned. Then you can challenge others to play your game and see who can score the most points. Challenge yourself further to create a graph of all the points scored to display your top players and their scores.

For inspiration for this challenge, see the Goal! Lesson available at <https://education.lego.com/en-us/lessons/prime-extra-resources/goal>

Build a Bridge

Can you create the strongest bridge? Build a bridge that spans two tables or two chairs. You can determine the length, but it needs to be long enough to place a book in the middle. Think about how to make your bridge strong enough to hold one or more books. Use inspiration from different geometric shapes to create your bridge. What shape(s) will help your bridge stay strong? Try different designs to find the best one.

Can you Measure up

Think about how you can build the tallest tower possible with bricks. What will make it strong enough to hold a can or water bottle at the top? You will need to measure the height of your tower when you are finished. Create a conversation chart that shows how many bricks equal an inch or centimeter. Do the same measurement for the sides of the bricks. Then you can count the number of bricks or studs and convert that measurement to inches or centimeters.

