Tuesday January 18, 2022

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| Make a boat that can really float. How can you modify your design so that it would be a fun bath toy? | [Fold and fly](https://www.foldnfly.com/#/1-1-1-1-1-1-1-1-2) different styles of paper airplanes. How can the [science of flight](https://www.youtube.com/watch?v=AGzOOM0Pz98) help you design a better plane? | Look closely at various kitchen tools. How do you think they work? How could [they be improved](https://www.youtube.com/watch?v=j3_pojVmNcs)? | Transform a room of your house into a castle! What features do you think are most important in [real castle designs](https://www.youtube.com/watch?v=Y5mb2Zcw6mc)? | Create the [ultimate creative rolling car](https://www.youtube.com/watch?v=-RK77vppFgQ) that can go down a ramp. How many different ideas can you try? |
| Create a gap that is about 12 inches across. Use different materials to create a simple bridge. How can you determine which bridge is the strongest? | Do batteries really power the world? Go on a scavenger hunt to find things powered by batteries. What kind of batteries can you find? | Transform a sheet of paper into a fan. How many different designs can you come up with? How else can you [transform paper](https://www.youtube.com/watch?v=Ly3hMBD4h5E)? | Louis Braille wanted to [make reading easier for other blind people](https://www.youtube.com/watch?v=o9BOQ6IpTSE) so he created a code of raised dots. Can you write a message [in Braille](http://www.brailleauthority.org/learn/braillebasic.pdf)? | Watch a movie about sports. How would you describe the different forms of motion? What needs to happen to move *fast*? |
| [Discover how LEGO bricks are made](https://www.youtube.com/watch?v=C3oiy9eekzk). Can you use *your* LEGO to make one really big LEGO brick? | Plan and make [a model playground](https://www.youtube.com/watch?v=ZUw8CH6Mxj0). Who will you make a model playground for? | FREE SPACE | Build a car or house entirely out of edible materials. Consider having [an edible car race](https://www.youtube.com/watch?v=70Hic_038ZA) | Design and build a pair of scissors that can cut through dough. What can you use for the blades? |
| Experiment with freezing different mixtures of water and salt. What do you notice about the amount of salt and the time it takes to freeze? | Build a pendulum by tying a weight on a string. What do you notice about the swing when you change the length? How can you use this as a timer? | Did you know that windshield wipers were invented by [Mary Anderson](https://www.youtube.com/watch?v=7mugNKlcano)? Experiment with making a model windshield wiper. What would you invent for cars? | Design a town square for [the heart of a healthy community](https://www.youtube.com/watch?v=Hy4QjmKzF1c). What makes a community healthy and strong? | Make a building with multiple floors. What do you need to do to ensure that the building is stable? Can you install [an elevator](https://www.youtube.com/watch?v=sSjJjKcoNRk)? |
| Take apart a click-to-write pen to see if you can [get a closer look at the mechanisms](https://www.youtube.com/watch?v=Zv5Qa2kGL04) that make it work. | Grab three balls, go outside, and [simulate a supernova](https://www.youtube.com/watch?v=2UHS883_P60). What do you notice about the maximum height? | Find six things that are held together with screws. Pick one and use a screwdriver to [look inside](https://www.youtube.com/watch?v=N8JpePwvuHw). | Create a tool that helps you measure 6 feet accurately. What makes measuring this distance challenging? | Using *only* paper or index cards, design a tall tower that can support an object. What object will you try to support? |