

HELLO! WELCOME TO THE HOMESCHOOL SCIENTIST



Paper Engineering Challenge Cards

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Welcome!

Thank you for downloading this STEM resource from The Homeschool Scientist.

You only need a few materials for these 12 challenges. These supplies include paper and tape! You might want to add a few others, like straws, posterboard or cardstock, and string.

Allow ample time and let your kids just have a great time testing and exploring their ideas.

Enjoy!

Paper STEM Challenge

Earthquake-Proof Tower

Create a tall tower that can survive shaking (simulate with a cookie tray). Does it stay standing?



THSS

Paper STEM Challenge

Paper Zipline Carrier

Build a paper "carrier" that slides down a string zipline. Can it get from top to bottom safely?



THSS

Paper STEM Challenge

Make a Musical Instrument

Design a paper instrument that can actually produce sound! Think drums, shakers, or string-like mechanisms.



THSS

Paper STEM Challenge

Paper Column Strength Test

Make three different column shapes (cylinder, triangle, square). Which can support the most books?



THSS

Paper STEM Challenge

Paper Boat Float

Build a boat using only paper and tape. Can it float in water for at least 30 seconds?



THSS

Paper STEM Challenge

Build the Tallest Tower

Design and build the tallest freestanding tower using only paper and tape. It must stand on its own for at least 10 seconds.



THSS

Paper STEM Challenge

Paper Air Pressure Rocket

Build a small paper rocket that can be launched by blowing through a straw. How high can it go?



THSS

Paper STEM Challenge

Build a Paper Chair

Can you build a chair that holds a small stuffed animal using only paper and tape?



THSS

Paper STEM Challenge

Create a Paper Shelter

Design a shelter for a toy that keeps it “dry” during a simulated rainstorm (spray bottle mist test!).



THSS

Paper STEM Challenge

Create a Paper Bridge

Build a bridge between two books 20 cm apart. Can it hold weight (like coins or small objects)?



THSS

Paper STEM Challenge

Paper Chain Challenge

Make the **longest possible chain** using just one sheet of paper. No gluing, only taping ends.



THSS

Paper STEM Challenge

Design a Paper Glider

Build a paper glider that can fly the farthest distance. Test and improve your design.



THSS