

Creating a Prototype

Summary: Design and make changes to a paper airplane

Age Group: Grades 3rd through 5th

Materials: paper, paperclips, tape, other household objects

Instructions:

Engineers rarely build just one of anything. Engineers design and test many versions of their ideas to find the best one. They build and test prototypes, or models, to see if they will work. Using sheets of paper found around the house, have your child build a paper airplane (a prototype) and test it. Next, have your child modify their airplane prototype in some way, then fly it again. Some examples of a modification could be: tilting the wings, adding weight with a paperclip or pieces of tape, or changing the shape of the tail. How did the modified version of their prototype fly in comparison to their original design? Next, have your child build another airplane prototype using different materials - aluminum foil or cardstock, for example - to see if this version of their plane flies any further or faster. If they were going to sell their paper airplanes, which model would they choose to sell?

Extension: Have a paper airplane competition with friends, siblings, or family members! Have each participant build a paper airplane using whatever materials they choose. See who can fly their plane the furthest and the fastest.



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