

**Developmental Benefit of Play:**  
Improve Creative and  
Cognitive Abilities



## Grades: 7-8

Building and inventing simultaneously benefits fine motor and cognitive skills, problem-solving, and creativity. This type of play helps students apply and better understand math and science concepts.

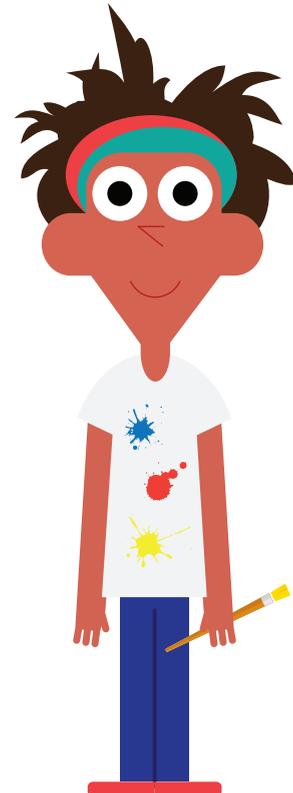
**Goal:** Students will design and build a flying machine to solve a problem and will practice measuring distance traveled.

**Time:** 90 minutes

**Materials:** craft materials (paper, cardboard, pipe cleaners, glue, tape, toothpicks, etc.), meter stick or measuring tape, *Leonardo da Vinci* by Kathleen Krull (optional)

### Instructions:

1. Ask students if they are familiar with Leonardo da Vinci. Explain that he is a famous inventor and artist who lived more than 500 years ago. Use *Leonardo da Vinci* by Kathleen Krull as a class read-aloud if desired.
2. Point out that many of da Vinci's inventions were ahead of his time—he even designed flying machines long before people built and flew airplanes. Explain that just as da Vinci had to think creatively without modern technology, students are going to invent their own flying machines using only materials that are in the classroom.
3. Divide students into groups of two or three students. Provide groups with an assortment of building materials. Encourage students to test out their machines as they build them.
4. Use a fan to create a steady air current.
5. Allow groups to launch their flying machines one at a time.
6. Have students measure the distance each contraption travels. Which flying contraption can fly the farthest?



## Toy Tip!

Construction sets and science kits can continue to help kids develop their problem-solving skills.