

## BUILD-A-BIRD!

*LEARNING ABOUT ENGINEERING:* An engineer observes things around herself, gets ideas and then tries to improve existing designs. The challenge is to build a bird that will fly the furthest. Here are some tips on how to do that:

1. Look around for ideas, observe how different animals move
2. Sketch out your design
3. Make sure you plan carefully because you will only get one sheet of paper to design your model. Engineers always have to work with constraints. We don't always have everything we need.
4. Be brave! Make your own unique designs or modify the designs you see around you.
5. Testfly your model and observe carefully how it flies. If it doesn't fly well, observe carefully as to what it does (fly up and crash, loop, spin etc.).
6. Come back and redesign. Change one thing about it (e.g. wing shape, length of tail, type of tail etc.)
7. Test fly again. Keep trying until you succeed! It is difficult to be an engineer. But if you keep trying, it will fly!
8. Tips: plan, be careful about the weight of the airplane (keep it low), put the tape carefully, make sure both sides of the airplane are the same, etc.



**MATERIALS** Poster board (1 sheet), nose weight (paper clips or play-doh), tape and scissors.



**EXPERIMENT** Look at the pictures on this page, spend 15 min designing and building your model. Test fly it, observe how it flies, change one thing about the design and repeat!

**REFLECTION** What design worked best i.e. what type of wings helped your model to fly the furthest?

1. What are you proud of learning?

