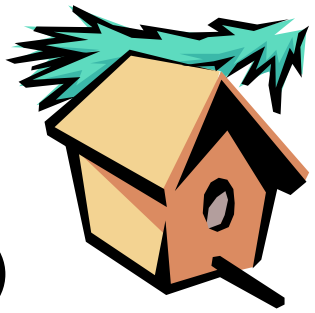
Design Challenge: Aviary Architect

Aviary Architect:
Can you design, build and test a birdhouse that will stay cool in the sun?



Design!

1. **Ask:** What materials would make a good birdhouse roof? Experiment with different materials available. What color roofs would best keep a house cool? What types of materials would best keep a house cool?

2. **Imagine:** Working with your team, brainstorm many different roof designs. Think of many different combinations of insulation and roofing materials.

3. **Plan:** As a team, decide which design you like best and sketch a detailed drawing in the space provided on the back of this sheet. Choose up to **3** materials you will use for your design and label the different materials on your sketch. Present your completed sketch to receive your materials and your thermometer.

4. **Create:** Build your birdhouse according to the plan your group designed. Once you have completed your model, test your house under the heat lamp using the thermometer provided. Record your results below!

	Temperature (°F)							
	0 Sec (Start)	30 sec	60 sec	90 sec	120 sec	150 sec	180 sec (finish)	ΔT
Design 1								
Redesign								

5. **Improve:** Make any changes to your house that you think will help keep it cool. Make sure to change your drawings and plans as you change your model! Test your redesign and record your results!

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Draw Your Design Below!

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