Steps of Design Thinking - Bird Beak Design

Empathy  
**Total time: 5 minutes**
In this initial phase of design thinking, the **goal** is to **observe**, **share** and **listen**. Questions to ponder:
- How would a bird effectively use their beak?
- What features would that bird find helpful?
- Does location play a role?
- Do food sources play a role?

*Remember, the more ideas generated, the easier the following steps will be!*

Define  
**Total time: 5 minutes**
The goal of this step is to unpack what you know and create a point of view. Items to keep in mind:
- What observations and thoughts from your initial “thinking out loud” list (empathy stage) will help make the best beak?
- Describe your **POV** in a simple sentence that includes action.

*Remember, you want to be able to make something, not just think about it!*

Ideate  
**Total time: 8-10 minutes**
The goal of this step is to brainstorm (now is the time to push your imagination and generate possible solutions. Now might be a good time to:
- Check out available materials
- Sketch and label your ideas (materials, dimensions, parts, and functions)

*Remember, the more ideas that you generate the better! Try to come up with at least 3 solutions*

Prototype  
**Total time: 15-20 minutes**
The goal of this step is simple - build your model! In fact, build more than one. Final touches and editing down to one model can happen in the last 2-3 minutes. Photo documentation is key. These images can be incredibly useful when you go back and edit your prototype.

*Remember, builds do not always go according to plan - best to have a back up!*

Test  
**Total time: 1 class period**
Now it is time to start the laboratory activity. Have fun!
*Remember, testing should inform your iterations. Keep your data in mind!*

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