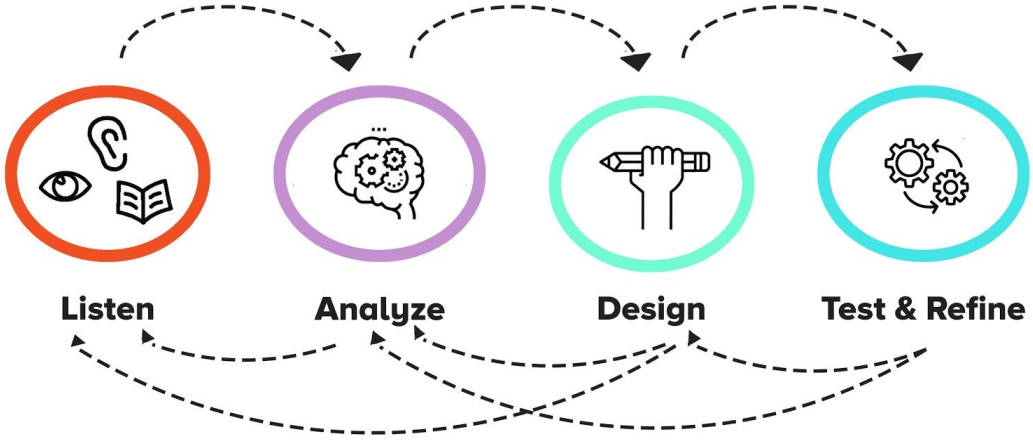
Engineering Your Perfect Pop Checklist

Artists and engineers must have strong communication skills. Becoming an effective communicator takes practice! This worksheet will help you organize your design and presentation -- fill it out as you work through the design process.

Design Process



As you present your popup, remember that YOU are the expert on your popup. Your audience wants to hear about the important details -- present them clearly and in an organized manner. Be sure to explain how you worked through the design process and how your design changed as you tested your popup creation.

- ❏ **Listen**
  - ❏ Which Science Friday resource did you select? Insert the link here.
  - ❏ Briefly explain what the Science Friday resource is about.

- ❏ **Analyze**:
  - ❏ Why did you select this Science Friday resource? What motivated you to want to solve this problem? What about the resource motivates or inspires you? What do the people in the story need? What is the problem they are dealing with? How might popups be used to help solve your selected issue or to tell your story? Identify information that might inform your design.
  - ❏ Concisely define the problem that your popup solves or the idea that your popup conveys.

- ❏ **Design**: Create a rough sketch of the layout of your card. Where will you place and combine mechanisms? Do you need to learn more popup building techniques? What resources will you use to learn them?

- ❏ **Test**: Try out the mechanics of your card. Does your prototype open and close smoothly? Do all pieces fold flat when the card is closed? Do all decorations stay inside the card when it is closed? Does the card convey your idea or address the issue you selected? How did testing cause you to change or alter your design?

- ❏ **Communicate:** Explain the math and engineering in your popup design. How does your popup work? Point out the mechanisms and explain how they support your design. Did you combine multiple mechanisms? If so, explain how they work together and what they support. Don't forget to explain the geometry of your perfect pop!