Tech Take Apart

Best for Ages	Workspace	Is electricity required?
7+	Tabletop surface Indoors or outdoors	No

Description

Tech Take Apart is a very fun activity where you get to dig in to a piece of technology, see what makes it tick, and take it completely apart! **Make sure you have adult permission to take a piece of tech apart.**

Materials

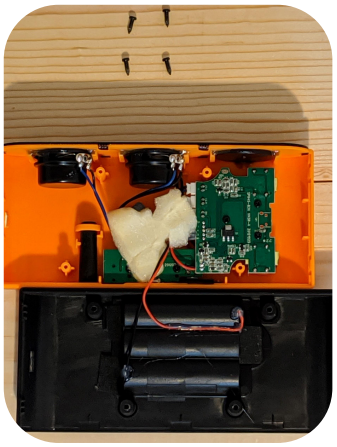
- A piece of technology: old or broken piece is preferred such as DVD or VHS player, computer CPU, keyboard, electronic toys, etc.
- Tools: screwdrivers, needle nose pliers, scissors, wire cutters
- Protective eyewear and gloves
- Tape, magnet, a small bowl to hold small parts
- Camera or journal

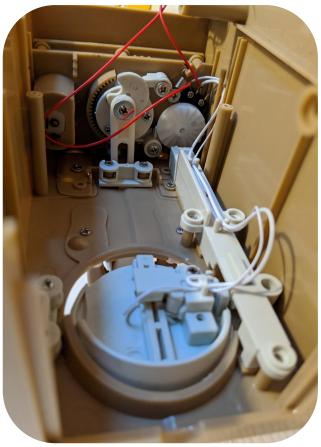
Concepts Explored

- Reverse Engineering
- Fine Motor Skills
- Manual Tool Usage

What to Do

1. Select the piece of technology that you are interested in learning about. Broken technology is a great starting point for this activity since taking it apart will likely make it unfunctional. Don't use tech that contains glass such as as monitor.
2. Inspect the piece of technology for hazards and decide what tools will be most useful. Observe the buttons, switches and parts. What do you think they do?
3. Remove all power sources from your technology. (unplug, remove batteries, etc.)
4. Put on protective eyewear and gloves. Using screwdrivers and pliers, carefully remove screws and dissect the piece. Trace wires to discover how they connect and control parts of the tech. Place small parts such as screws into a bowl. Work slowly and carefully to discover as much as you can about the piece.
5. Use camera and/or journal to record the process and discoveries.
6. The bits and pieces can be remixed and used to create something new or recycled.

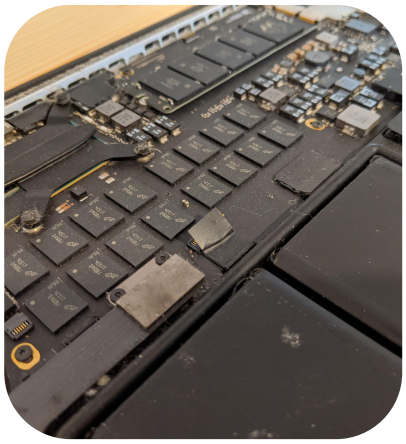




Tech Take Apart

Troubleshooting Tips

- Ensure that you have the right tools for the item you wish to take apart. There are a lot of different screwdriver tips; have several options ready.
- If you plan to put your item back together, try laying your screws on the sticky side of a piece of tape in the pattern they were in before removal. Also, don't cut any wires.
- Taking pictures at each step of taking something apart can help you have a visual reference to rebuild it later.



Did you find anything interesting or unexpected?

What types of fasteners did you find in your tech?

Did you try to put your tech back together? How did it go?

What is Happening?

- **Reverse engineering** is the process of deconstructing an object to reveal it's design and explore how the technology works.
- When taking tech apart, we use a variety of **manual tools** such as screwdrivers and pliers. This is a great activity to develop tool use skills.
- This activity helps to develop **fine motor skills** which is the coordination of small muscles in your wrist and hands. These small muscles are the same muscles we use for writing and drawing. When you use a manual tool, your brain coordinates your muscles with your vision, honing your **hand-eye coordination**.

Taking it Forward

- **Repairing technology**
  - Taking a piece of tech apart is the first step in repairing it. Learning how to take something apart and put it back together, while making sure it can work again, is an important skill for any repair job.
- **If you like this activity, you'll also like...**
  - Journal Making
  - Tiny Tools - Screwdrivers