TAKE APART

A PRACTICE FOR FOSTERING THE MAKER CAPACITIES:
LOOKING CLOSELY, EXPLORING COMPLEXITY & FINDING OPPORTUNITY

Choose an object to examine through a mechanical dissection.

- Check out your object thoroughly. What does it do? How does it work?

Before diving into dissecting consider:

- What tools do you need to disassemble the object?
- What do you think you might learn about the object by taking it apart?

As you take apart your object:

- How would you name or describe each part?
- What seem to be the purposes for the various parts? How do the parts work together? What seems to be the function for each part?
- Does it seem like it was designed to be taken apart?

As you examine your dissected object, consider these questions:

- What new questions do you have about the object as you take it apart?
- Would you be able to rebuild it?
- What ideas do you have for redesigning this object now that you are familiar with it inside and out?
- How might you use the components from this object for other purposes?

Take Apart

"If you can't open it, you don't own it," is a repeated declaration from makers, fix-it communities, and the introduction to "The Maker's Bill of Rights" from Make Magazine. Some have extended the quote to include the provocation: "If you can't open it, you don't own it, ***it owns you.***" Mechanical dissections are a practice that allows learners to discover the often hidden design of objects.

When and How Can This Practice Be Used?
The practice can be used on its own or along with other AbD thinking routines or practices. Here are some considerations for implementing this practice:

- Taking things apart is exciting; in order to slow things down and focus on the learning opening an object can yield, try the practice along with the routine *Parts, Purposes, Complexities*. The routine can be used throughout the process as a discussion prompt with individual students and as method for the whole group to reflect on their learning after a take-apart.
- Learners can make their thinking visible by displaying the parts of their object on large paper as they dissect it and sharing what they found through written labels or an oral presentation. Todd McLellan's book, *Things Come Apart: A Teardown Manual for Modern Living* provides inspirational documentation of dissected items from a digital clock to an entire piano. Invite students to display the parts of their object on a construction paper background and capture the display in a still image or video with a "tour" of the inner workings of their object.
- Taking things apart is a dynamic way to move from a close study of objects into the various systems and subsystems connected to objects and their parts. Many educators have used this moment to introduce the economic/design dilemma of planned obsolescence with their learners.

A few things we learned along the way:

- Choose items with screws – not glues. On the other hand, it might be valuable to share a few items with students that cannot be easily opened for them to get a sense of the debate over the right to repair, redesign, or tinker with objects.
- Whenever it seems advisable, we recommend that educators take apart items themselves first before having students open them to make sure there are no hazardous parts or chemicals inside.
- Some older items, like Bakelite phones or garage sale items may be yucky inside, it is always wise to have disposable gloves handy.
- Small plates are handy to capture tiny parts.
- Consider rephrasing dissection and using the term: opening. Then challenge learners to both open and close the item, rebuilding it after examination. Can't put it back together? Save the dissected parts for future tinkering and art-making activities!

Photo credit: Alice Matthews Gentili