

Cell Phone Safety: What's Inside My Device?

TOPIC: HARDWARE AND SOFTWARE, ONLINE SAFETY AND SECURITY

GRADES: 6-8

LESSON DURATION: TEACHER DISCRETION

SOFT SKILLS: COLLABORATION, PROBLEM SOLVING, COMMUNICATION, GRIT

Learning Outcomes:

- Students will recognize the basic hardware/software features of a smartphone to understand security issues.
- Students will identify and verbalize safety and security threats on mobile devices and explain how they can be prevented.

Reading Materials for Teachers:

- <https://fossbytes.com/whats-inside-smartphone-depth-look-parts-powering-everyday-gadget/>
- <https://www.interaction-design.org/literature/article/the-anatomy-of-a-smartphone-things-for-designers-to-consider-for-mobile-development>

Materials:

- Old smartphones for dissection purposes. (if not available, paper models would work).
- Tools for dissection (small screwdriver, rubber gloves, and goggles)
- [Worksheet](#)

Activities:

1. The teacher should explain that students are going to do a lab in which they dissect smartphones. Safety rules and measures should be enforced.
2. The teacher should explain that the objective of the activity is that students understand how a smartphone works so that security can be discussed.
 - *If the teacher does not feel safe allowing students to dissect the devices, this activity could be done with the teacher dismantling the device, while students provide the feedback and answers. The teacher could model along with one of the articles linked above.*
3. The students should be put in small groups. Each group needs an old phone, tools, and a worksheet.
4. Students should work through the lab worksheet, identifying the parts and completing the required tasks.
5. Once all groups are done, the class should come back together as a whole group.
6. Begin discussing the parts of the phone. After each discussion, talk about the security precautions of each part. For instance, the camera offers a lack of privacy. Digital photos are

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there forever. What does this mean for our daily lives? How is this a positive? A negative? What impact has this had on society? (Everyone is now a “journalist”-cameras/video everywhere) Obviously, some parts will involve more discussion than others but even the battery poses a potential risk (i.e. Samsung).

7. After the discussion, ask students to compile a list of safety precautions regarding cell phone usage. Post the list somewhere in the classroom.

Note: This can be a pretty technical lesson. It can also be time consuming. To modify, teachers could lead a whole class discussion on the parts of a smartphone and then allow students to name potential security risks and flaws. Students should then think of prevention measures. Obviously, hand-on is preferred but due to lack of materials or time, this would be a sufficient alternative.

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