



Classroom Teacher Preparation

Technology 7: Digital Footprint

Please use the following to prepare for the next SfS lesson.

Description:

After an introduction to digital footprints, older students will be given social media profiles and search histories of several Internet users. They will infer personal data about these people based on the information they can gather from their social media accounts. Younger students will create their own online gaming profiles and then perform a safety review of each other's profiles. All students will then discuss what material is appropriate and safe to share online and what material should be kept private.

Lesson Objectives – SWBAT (“Students Will Be Able To...”):

3rd-8th

- Identify what personal data is not safe to post online
- Explain that we leave a digital footprint that can be taken advantage of and mined for personal information

Disciplinary Core Idea (DCI):

- No DCI applies

Science & Engineering Practice (SEP)

Constructing Explanations and Designing Solutions

- (3rd-5th) Use evidence (e.g., measurements, observations, patterns) to construct or support an explanation or design a solution to a problem.
- (6th-8th) Construct an explanation using models or representations.

Crosscutting Concept (CCC)

Patterns

- (3rd-5th) Patterns can be used as evidence to support an explanation.
- (6th-8th) Patterns can be used to identify cause and effect relationships.

Preparation:

Older students should be at least tangentially familiar with the concept of social media and should be able to name one or two social media platforms, such as *Facebook* or *Twitter*. Younger students should be familiar with online games and creating a profile.

Room Set Up for Activities:

Older students will work in groups of 2-3 at their desks to read through data on several Internet users in order to infer personal data about them. Younger students will work independently at first, and will then pair up for the second part of the activity.

Safety:

There are no safety issues with this lesson.

Related Modules:

This lesson is not necessarily part of a sequence, but we recommend checking out some of our other **Technology** modules, including:

Technology 1: Binary Code, or How to Speak Computer – Introduces the binary number base, which is the system that computers use to communicate information. Students have an opportunity to both encode and decode English alphabetic characters to binary code.

Technology 4: Cryptography – A module full of fun activities introducing the basics of encryption, which has evolved into a critical element in modern data storage and Internet transactions.

Technology 6: Building a Webpage – This module presents the basic structure of a web page. Student teams compete to “load” their webpage fastest, modeling the operation of a browser.

For other module sequences and groups, look here: www.sciencefromscientists.org/sequences

Standards Covered:

Please click the following link to our website to review the standards covered by this lesson, listed by state:

<http://www.sciencefromscientists.org/standards/>

Lessons are matched to both national NGSS and local state standards.

After Our Visit:

Extend this lesson by investigating the ads that appear in their search engines and on a willing adult’s social media sites.

Access this Extension activity by visiting the Classroom Post found on our website at sciencefromscientists.org/cohorts. Use the name of your school/cohort and password to log in.

To help Evaluate, check out our Open Response questions online at sciencefromscientists.org/open-response-questions. They are freely available for all of our lessons for current teachers. Use the password supplied by your instructor to log in.

Additional Resources:

- Adapted Source: Common Sense Media’s lesson “College Bound”: <https://www.commonsense.org/education/lesson/college-bound-9-12>
- Code.org and Common Sense Media lessons “Follow the Digital Trail”: <https://www.commonsensemedia.org/educators/lesson/follow-digital-trail-2-3>
- Digital Passport game (requires registration): <https://www.digitalpassport.org/>
- Net Safe Utah: <http://www.netsafeutah.org/>
- Ruff Ruffman: Privacy and You!: <https://mass.pbslearningmedia.org/resource/ruff16-pd-privacy/wgbh-ruff-ruffman-privacy-and-you/#.WNqEwaK1uUk>
- Nova Cybersecurity Lab (requires registration to save progress): <http://www.pbs.org/wgbh/nova/labs/lab/cyber/>