

INQUIRY INTO **DIGITAL CITIZENSHIP, MISINFORMATION AND SCIENCE**

A grade 7-12 lesson plan for Canadian educators



This project was undertaken in partnership with the Government of Canada.

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Canada 

Lesson Overview

This lesson introduces students in grades 7-12 to digital citizenship, disinformation/misinformation, and scientific thinking. Through interactive activities, students learn to distinguish fact from opinion, evaluate the credibility of media, and apply critical thinking skills to identify misinformation and science denial, culminating in a task that demonstrates their understanding. Due to the vast information available to educators in support of these critical topics and the necessary time to make it meaningful, the lesson has been divided into 2 parts. Like any lesson, the teacher will use professional judgement and may follow the suggestions as outlined or modify/adapt based on their grade, class, where they are within their curriculum, prior knowledge and experience, what other resources they already use to supplement the content, etc.

Grade Levels: 7-12

Total Time: 60 minutes + optional extensions

Extension Activities:

- Green Learning's [Spot the Troll Workshop/Webinar](#) (slide 27)
- Science Literacy & The Five C's of Credibility (slide 28)

Learning Goals

Students will:

- Understand the difference between fact and opinion
- Learn strategies to evaluate visual, text and social media for validity, misinformation and disinformation
- Understand the importance of their responsibility as critical thinkers and as Digital Citizens
- Apply their understanding of the scientific method and basic methods of science denial and media misinformation
- Demonstrate their knowledge and skills through active learning activities and a culminating task

Materials

- Half chart paper for each group with markers
- Paper or sticky notes for each group members
- Large screen or table laptops to display the [slide deck](#) that supports these lessons
 - Note: the slide deck is in Google Slides format. To access a PDF version, [click here](#).

Classroom Groupings: Students will be in table groups of 4-6 with access to view the slide deck

Activities

- Lesson 1
 - Activity 1: Information Ecosystem **(10 min)**
 - Activity 2: Spot the Fake? **(30 min)**
 - Activity 3: So What? **(15 min)**
 - Consolidation **(5 min)**

Success Criteria

- Students will apply strategies to assess the validity of photos and written and social media
- Students will demonstrate an understanding of digital citizenship & the behaviours and decisions that align with safe and responsible online engagement

Activity 1: Information Ecosystem

Time: 10 minutes

Activity

Review the Learning Goals with the class.

Discover your information eco-system

Students will write on a sticky note or paper all the sources of information that feed into their understanding and knowledge. This includes sources at school, home, community, social groups and online sources.

Discuss: What makes a source trusted or valid?

Review the Validated Sources criteria with the class.

Add ideas from the class including trusted sources they have used and why they chose them.

Could include government sources, trusted media outlets such as CBC, Globe and Mail etc., though these could be incomplete, but they do work to include fact-checking. Trusted sources of medical information such as the World Health Organization, The Canadian Medical

Association could be suggested.

Note: Cross-checking information is an important strategy for validating information using multiple, diverse sources. For instance, if a news organization (like the Globe and Mail), is referencing a scientific study, look for the source material to ensure the information is accurately represented.

Students will discuss whether each of their sources is largely a fact-based validated source or if it is more of an opinion or unvalidated source.

Ideas include information sources that:

- Include fact-checking
- Are backed by research from more than one source over time
- Are written by an expert who has qualifications and experience in the field confirmed and corroborated by other experts
- Are based on clear reproducible data sets, etc.

Students will mark an F for fact-based sources and O for opinion-based sources.

Give students a few minutes to discuss: what does it matter if we rely on opinion or fact-based information? Share with the group.

Activity 2: Spot the Fake

Time: 30 minutes

Activity

Review with the class key vocabulary: misinformation, disinformation and malinformation and the purposes behind each type of information.

For the three pictures: have each group determine if they think the photo is real or fake.

- After each—discuss what prior knowledge and clues you used to make your choice
- Watch the short [Media Smarts video](#) if there's time to review key ideas and key verification strategies
- Discuss strategies and the 5Cs of critical consumption

Play the film on [AI generated YouTube misinformation from the BBC](#).

- Introduce the new challenges to validated knowledge caused by AI constructed videos, especially on YouTube
- Review the questions before the film and discuss the answers after the film
- Make a note on the board or digitally to record student responses

Activity 3: So What?

Time: 15 minutes

Activity

- Using chart paper and the prompts provided on the slides, students will engage in this active learning strategy on one of the topics suggested.
- Making a map of their thinking, students will try to think of how misinformation might affect the thinking and actions of others.
- Students could try to add at least three consequences, but more if they can.
- Each group will report back briefly to the group with the question being—can the class think of another consequence?
- Key Idea—spreading false information makes society less knowledgeable and more manipulated by AI, creates fear and anxiety, and reduces trust in science.

Consolidation

Time: 5 minutes

Activity

Slide 27/28: Complete Lesson one with the Recap of Key Ideas. Ask students to record one insight, idea, or strategy that they will take with them when they are viewing, reading, hearing or sharing information.

Differentiation Strategies

Use different groupings to support students' specific learning needs, including pairs instead of groups of four, etc.

Slides can be shown as a preview with some students, or as a class display or shared for use at each desk. The lesson includes videos, hands-on learning, discussion with clear outlines with slides to guide and back-up learning.

Assessment Strategies

Collect **So What?** diagrams and students' sticky notes or papers which include their information eco-system and their ticket out the door as products of thinking in the lesson. Visit group discussion periods to make observations of group engagement and conversations.

Future Step

Modify Groupings and location of students as needed due to their learning needs. After Lesson 1, teachers may wish to modify Lesson 2 to include more direct teaching of the concepts included in the lesson, such as the FLICC types of misinformation.

Extension Activities

- Green Learning’s [Spot the Troll Workshop/Webinar](#) (slide 30)
- Science Literacy & The Five C’s of Credibility (slide 31-34)

Follow-Up Assignment (Optional)

Time: 30 minutes

Activity

- Review the learning goals and key strategies for evaluating the credibility of media.
- There are 10 elements to make posters for this assignment: 5 Cs and 5 strategies of FLICC (from the [GreenLearning](#) “Spot the Troll” workshop) for use to apply to their own critical thinking about media, misinformation and disinformation going forward.
- Assign one of 5 C’s or 5 FLICC strategies to students working in pairs or threes if needed.
- Independent work may also be assigned as needed.
- Before starting—create some assessment criteria with the students on the board to be used in guiding and evaluation.

Differentiation

- Students have options for creating their posters.
- Students could also be assigned to create a display of the posters in the class, hallway or library.
- A digital collection of the posters could be developed to use in other classes or with parents.

Next Steps

- Use the posters when students have research or analysis of articles for other projects.
- Visit resources added to the slide deck.
- Ask about sources and validity when students suggest ideas they have heard about.

About Learning for a Sustainable Future (LSF)

LSF is a Canadian charity founded in 1991 to integrate sustainability education into Canada's school system.

LSF's mission is to promote, through education, the knowledge, skills, values, perspectives, and practices essential to a sustainable future.

We work together with educators, students, parents, government, community members and business leaders to integrate the concepts and principles of sustainable development into education policy, school curricula, teacher education, and lifelong learning across Canada.

Check out our programs and resources at [LSF-LST.ca](https://www.lsf-lst.ca)



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