

CTRL+F

Digital Media Literacy

Teaching Resources

Simple but powerful skills to evaluate online information

Acknowledgements

CTRL-F: Digital Media Literacy is a program of CIVIX, a non-partisan registered Canadian charity dedicated to building the skills and habits of active and informed citizenship among school-aged youth.

Resource Development Team

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CTRL-F Verification Skills: Introduction

With the rapid rise of false and misleading information online, the ability to tell what is reliable or trustworthy has become an essential skill of citizenship.

“Information pollution” has become an urgent problem, and students often lack the skills needed to evaluate the information they see online. The creation of widely available artificial intelligence technologies have made misinformation and disinformation even more abundant.

When asked to assess information, students overwhelmingly rely on out-of-date checklist strategies. They might review a site for signs of professionalism, count the number of ads, or check if the URL ends with .org or .com. These techniques often provide conflicting signals and can result in incorrect conclusions.

To evaluate information effectively, we want to read laterally – meaning we leave the current source or page and open a new tab to conduct simple research. Lateral reading skills may include investigating a source’s reputation using Wikipedia, checking a claim, or tracing information back to its original context.

CTRL-F is designed to equip students with simple but powerful lateral reading skills, purpose-built for the modern web.

Named for the keyboard shortcut for ‘find,’ the skills at the heart of the Verification Skills module are straightforward and used by fact-checkers around the world. The CTRL-F activities are divided into four lessons, which range from 1 hour to 2.5 hours, as well as extension activities about artificial intelligence (AI) technology.

Each lesson begins with a ‘Starter’ activity, followed by a ‘Fundamentals’ section to review key concepts, then a ‘Skills’ section to learn and practice the lateral reading techniques, and a ‘Consolidation’ activity to reinforce learning. The Verification Skills module contains four main lessons:

- **Lesson 1: Introduction: Why Verify?** — What is information pollution? How does lateral reading differ from vertical reading?
- **Lesson 2: Investigate the Source** — How can we find key context about unfamiliar sources?
- **Lesson 3: Check the Claim** — How can we effectively verify, disprove or contextualize a claim?
- **Lesson 4: Trace the Information** — Where did the information come from originally, and has it changed in the retelling?

The Verification Skills module is engaging and flexible, and designed to work in different classroom settings. The materials have been developed for use with students in grades 7 to 12.

For younger students, or for those who might just need a refresher on the basics, the CTRL-F: Online Search Skills module is designed for students in grades 4 to 8, and equips students with the skills they need for the Verification Skills module.

All videos, student activities, and regularly updated examples drawn from current events, are available at ctrl-f.ca.

Better Practises for Teaching Using the Live Web

The CTRL-F program is centered on live web activities. While it is important to give students real experience assessing sources and information online, there is always a risk that students will come across content that could be considered inappropriate or harmful.

For this reason, we encourage teachers to assign the material in a classroom setting so that students are supervised as they access the live web examples.

We also recommend that teachers review activities in advance to assess appropriateness for their students. While sources, posts, and articles have been vetted prior to their inclusion in the CTRL-F program, we cannot guarantee the quality or nature of the information or comments posted afterwards. Other content on websites, such as advertisements, may also change over time. Please feel free to let us know if you encounter anything that causes concern.

In the case of social media examples, students can complete relevant activities without directly accessing the social media platform. We have included screenshots of the posts as well as copies of videos on our YouTube channel.

Several AI extension activities include the use of AI software, such as ChatGPT. Consult your school's and board's relevant policies before accessing any AI technologies with students.

We welcome teachers to replace examples they feel are not suitable for their class with alternate examples from our CTRL-F example bank, or with sources, articles, or posts they have found themselves.

Don't hesitate to contact us at hello@ctrl-f-ca with any questions or feedback about our resources.



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Pre and Post Assessments

Gauging students' knowledge of verification skills before beginning the module provides a way to measure progress from start to finish.

It is also an effective way to demonstrate to students that old habits of source evaluation may lead to incorrect conclusions.

Pre- and post-assessments and support materials can be found at ctrl-f.ca/resources under "Pre/Post Assessments."

Each test asks students to evaluate the reliability of four different sources and claims and should take 10-15 minutes to complete.

Make a copy of the Google Forms or Microsoft Forms so you are the owner of the file, and can track your students' results.

Afterwards, use the 'Review' slide decks to discuss the answers as a class.

To avoid repetition, you can replace the 'Starter' activity in Lesson 1 with the pre-test and use some of the Starter questions to support a discussion.

After completing the CTRL-F program, you can assess student improvement by delivering the post-test.

CTRL-F Example Bank

The CTRL-F program is built around repeated practice investigating real-life sources and claims. The examples included are drawn from a range of subjects.

To create opportunities for practice after completion of the CTRL-F module, CIVIX has created an Example Bank containing dozens of examples for continued quick checks.

These examples can be filtered by topic, degree of difficulty, and core skill.

If you wish to customize the CTRL-F program for a specific subject, you may also use these additional examples — related to current events, science, history and more — instead of or in addition to the ones provided as part of the core materials. To access the Example Bank, visit www.ctrl-f.ca/en/examples.

DIFFICULTY

- Simple (56)
- Challenging (29)

SUBJECT

- Pop Culture (27)
- Science (25)
- Climate change (13)
- General (13)
- Covid 19 (5)
- Politics/Current Events (18)
- History (15)
- AI (8)

SKILL


- Investigate the Source (13)
- Evaluate Expertise (4)
- Check the Claim (40)
- Trace the Information (28)

Examples

The examples on this page can be used to tailor instruction to different subjects and degrees of difficulty. They may be swapped out for the examples included in the lessons on the Resources page, or used as additional practice.

CHECK THE CLAIM


Is Ikea hiring for a virtual Roblox store?



DIFFICULTY: Simple
SUBJECT(S): Pop Culture

CHECK THE CLAIM


Are maple seeds edible?



DIFFICULTY: Simple
SUBJECT(S): General

TRACE THE INFORMATION


Is this a photo of the solar eclipse from Toronto?



AI GENERATED IMAGE

TRACE THE INFORMATION

Is the US bracing itself for a 'Cicada-geddon'?



CTRL-F EXAMPLE BANK • 7



Total time:
65 to 80
minutes

Lesson 1

Introduction: Why Verify?

GUIDING QUESTIONS

1

What are the challenges in identifying trustworthy information online?

2

What causes false and misleading information to spread?

3

What is the best way to determine if online information is reliable?

Overview

With so much false and misleading information online, the ability to tell what is reliable or trustworthy has become an essential skill.

As an entry point to the Verification Skills unit, students will reflect on where they get their news and the criteria they use to determine if it is trustworthy. Students will learn about information pollution and the contributing factors to false and misleading information. Students will be introduced to the idea of *lateral reading* skills and how they compare to other source-evaluation techniques they may have used before.

Key Terms

artificial intelligence (AI), deepfake, conspiracy theories, disinformation, hoaxes, information pollution, lateral reading, misinformation, vertical reading.

Learning Outcomes

By the end of the lesson, students can:

- describe the problem of information pollution and distinguish between misinformation and disinformation;
- analyze how false and misleading information spreads online;
- explain the concept of lateral reading.

Starter

🕒 25–30 min

To introduce students to the key themes of the module, ask them to complete Activity 1.1: Your Media Habits. Use a Think-Pair-Share approach to allow for discussion between students, and then follow up with a whole class discussion.

- If you heard from a friend that there was a meteor crash in your city/town, how would you confirm this story?
- What are your main sources of news and information and why?
- How often do you share news with your friends through social media or messaging apps?
- Do you ever check to see if news is true before sharing it with others?
- When you come across an unfamiliar website, how do you know if you should trust it?
- Have you seen information online that you know to be false or misleading? How could you tell?
- Are you confident in your ability to assess the quality of information you see online?

Fundamentals

🕒 35–40 min

1. Using Slide Deck 1: “Information Pollution” (slides 2 to 5), show students the following two posts and ask them if they think either is real. Ask them to provide reasoning or evidence to back up their answer. Afterwards, reveal the details of each post.

- Kraft Macaroni & Cheese gummies: [Twitter/X](#)
- KFC edible nail polish: [Twitter/X](#)

2. Introduce the concepts of **information pollution**, **misinformation** and **disinformation**, using the video “[CIVIX Explains: Information Pollution](#)” and Slide Deck 1. Ask students to respond to the first three questions in Activity 1.2: What is Information Pollution or as part of a discussion:

- Why do we have information pollution?
- Why is it hard to identify trustworthy or reliable information online?
- What is the difference between misinformation and disinformation? Provide a specific example for each (not mentioned in the video).

3. Explain to students that they will be learning new skills to verify information they see online. Using Slide Deck 1: Information Pollution (slides 18 to 20), review the difference between **vertical reading** and **lateral reading**, and why lateral reading skills are more effective.

Vertical reading: “staying on the page,” examining the content critically and asking yourself what you think. These strategies are time-consuming and often lead to incorrect conclusions. Common examples of vertical reading strategies include:

- Reading a site’s “About” page
- Looking for typos
- Analyzing whether a site “looks professional” or if it has lots of ads
- Checking the URL to see if it’s a .com, .org, .gov, etc.
- Reading a story closely to see if it sounds realistic or plausible.
- Looking closely at an image for signs it has been altered or generated by AI

Lateral reading: “leaving the page,” doing some investigative work and analyzing what others have to say. These strategies are faster and more effective, and are used by fact-checkers around the world. Common examples of lateral reading include:

- Using Wikipedia to learn about the reputation of a source.
- Checking to see if a story or claim has been reported by multiple reliable sources.
- Using the web to trace information, quotes, or images back to the original source.

4. Watch “[Introduction to Verification Skills](#)” and ask students to respond to the last three questions in Activity 1.2: What is Information Pollution or as part of a discussion.

- What causes misinformation and disinformation to spread?
- Can you think of a time when you shared news with a friend or family member that turned out to be false? How did it make you feel? Did the event cause you change any of your habits before sharing news?
- What was the video’s main message about how we should be evaluating information we see online?

Consolidation

 5-10 min

Ask students to fill out the Exit Slip (Activity 1.3).

- Describe three things you learned today...
- List two things you want to learn more about...
- Ask one question you have or wonder related to the topic...

Background Information for Teachers

In the past, people got their news from a much smaller number of sources. Today, however, everyone is both a consumer and producer of information. This means there is a lot of information out there that is not very reliable.

Some of the low-quality, false, and misleading information that circulates online is relatively harmless, while some of it created and shared specifically to cause harm — for example to increase disagreement between people in society who hold opposing views

The overall effect of information pollution is that it can be challenging to tell just by looking at something if it is true or credible. The ability to verify online information is important for a well-functioning democracy

Culminating Activity: Create Your Own Verification Handbook

The Verification Handbook Assignment has been designed to help students consolidate their learning from the CTRL-F program and to record information for future reference. It can be completed on an ongoing basis as students proceed through the activities or as a culminating activity to review what has been learned. Within the Handbook, students will describe the strategies and skills in their own words, and then demonstrate their ability to use the skills with their own examples. Please refer to Handout 1.4: Verification Handbook on page 15. A rubric and exemplar are provided at ctrl-f.ca/resources in the Verification Handbook section.

because when we make collective decisions we need to be informed with accurate news and information.

There are simple steps we can take to combat information pollution. We can build a habit of stopping to investigate sources and claims before we believe or share something online. This doesn’t have to take a lot of time. We can often learn key context very quickly, so we don’t end up believing or sharing false or misleading information.

By building this habit and coming to know what sources of information we can rely on, we can become better sources of information for our friends and family, and help reduce the amount of pollution in our information environment.

ACTIVITY 1.1: YOUR MEDIA HABITS

What are your media habits? Read through and answer the following questions below.

1. If you heard from a friend that there was a meteor crash in your city/town, how would you confirm this story?

2. What are your main sources of news and information and why?

3. How often do you share news with your friends through social media or messaging apps?

4. Do you ever check to see if news is true before sharing it with others?

5. When you come across an unfamiliar website, how do you know if you should trust it?

6. Have you seen information online that you know to be false or misleading? How could you tell?

7. How confident are you in your ability to judge the quality of information you see online?

ACTIVITY 1.2: WHAT IS INFORMATION POLLUTION?



Part A: Watch “CIVIX Explains: Information Pollution” to get a better understanding of the problem of false and misleading information and answer the questions below.

1. Why do we have information pollution?

2. Why is it hard to identify trustworthy or reliable information online?

3. What is the difference between **misinformation** and **disinformation**? Provide an example for each (not mentioned in the video).

Part B: Watch “Introduction to Verification Skills” and respond to the questions below.

4. What causes misinformation and disinformation to spread?

5. Can you think of a time when you shared news with a friend or family member that turned out to be false? How did it make you feel? Did the event cause you change any of your habits before sharing news?

6. What was the video’s main message about how we should be evaluating information we see online?

ACTIVITY 1.3: EXIT SLIP

Name:

3

Describe three things you learned today...

2

List two things you want to learn more about...

1

Ask one question you have related to the topic...

HANDOUT 1.4: CREATE YOUR OWN VERIFICATION HANDBOOK

Summarize what you learn about lateral reading skills in a verification handbook that you can keep for the future or share with your family and friends.

You can use Google Slides, PowerPoint, or another format of your choosing.

Your handbook should be divided into four sections:

1) The Big Idea

Start with an introduction explaining why it is important to verify online information. Use persuasive language to capture interest and motivate you or your readers to use lateral reading skills to evaluate information. Consider incorporating quotes from experts to strengthen your message.

2) The Strategies and Skills

Summarize each of the three main strategies (Investigate the Source, Check the Claim, Trace the Information) in your own words and describe the skills involved. You can use screenshots or images to help illustrate the skills and embed the CTRL-F video links as references. Explain when you would use each skill and how it is useful.

3) Examples

Apply the skills. Using examples you come across in your own life, record the findings from your investigative work. The articles, social media posts, claims or images can be on any topic. They don't necessarily have to be examples of misinformation,

but they should demonstrate how you can use the skills described in section 2 to assess whether the information is reliable.

You should include at least six examples (two for each strategy). For each example, summarize the following information:

- Description: What is the content you are investigating? Is it a story, image, claim or social media post and what is it about?
- Source: Where did you find this example? (Include the URL.)
- Findings: What did you learn about the source, article, post, or image? Is the information trustworthy?
- Skills: What skills did you use? Briefly explain how you investigated the example.

4) Trusted Sources

Now that you have verified a lot of information on your own, you should have a better sense of what sources tend to be trustworthy and which ones are not.

Build a list of trusted sources for future reference. This list can include reputable news organizations and fact-checking organizations. For each source, explain why you think it is a good place to go for reliable information and indicate what type of information (e.g., health, politics, technology, fact-checks).



L

Total time:
120-165
minutes

Lesson 2

Investigate The Source

GUIDING QUESTIONS

1

Who made this, and why?

2

What types of sources
are more reliable than others?

3

How should I evaluate the
reputation of a source?

Overview

Information may be shared by friends, family, or celebrities, and while we may recognize the person who shared it with us, we may not know anything about the original source. It's not always clear who has produced the content or for what reason, and whether it can be trusted.

In this lesson, students will review the motives behind producing content before looking at a variety of different sources and the information they produce. Students will learn about how the internet has made it harder to identify who produced the content and how to use lateral reading skills when evaluating sources. In the Extension Activity, students expand these skills by learning how to evaluate expertise.

Key Terms

advocacy, agenda, business, domain knowledge, expertise, lobby group, news organization, reference source, social movement, think tank

Learning Outcomes

By the end of the lesson, students can:

- explain common motives for producing content;
- describe different sources of information and the motives behind their content;
- demonstrate lateral reading skills to evaluate sources;
- analyze why it is important to evaluate sources.

Starter

🕒 20-25 min

1. Through a class discussion, brainstorm different reasons why people, groups or organizations produce content or information. Your list might include the following reasons:

- To inform
- To sell you something
- To get your attention/clicks
- To influence (or persuade)
- To entertain
- To mislead/confuse (disinformation)

2. Using Slide Deck 2, ask students to try to determine the motive of the content in the examples.

3. Have a closing discussion:

- Is it always easy to determine the motive behind the content we see online?
- Why is it important to know the motive behind the content?
- Can you think of some examples where you've watched a video thinking it was going to inform you, but it ended up trying to mislead you or sell you something? Why might these kinds of videos be dangerous?

Fundamentals

🕒 30-35 min

1. Explain to students that there are a variety of sources that produce content. Using Slide Deck 2, review some common types of sources.

- News organizations (newspapers, news magazines, broadcast news, online sources)
- Reference sources (dictionaries, encyclopedias)
- Governments (departments, agencies, ministries)
- Academic/Research institutions (universities, research institutes, think-tanks)
- Entertainment (comedy, satire, commentary, reviews, "infotainment")

- Private groups (businesses, lobby/advocacy groups, community groups/non-profit organizations, professional associations, social movements)
- Individuals (content creators, social media users, members of online communities, celebrities, media personalities, educators)

At the end, ask students which sources they would find most trustworthy, and for what types of information and why.

2. Watch "[CIVIX Explains: Persuasive Sources](#)" and review the concept of advocacy using Slide Deck

2. Advocacy is an activity by an individual or group that aims to influence decisions within political, economic, and social institutions. Lobby groups, social movements, community groups, and think tanks often advocate for their causes or interests.

3. Independently or in pairs, have students complete Activity 2.1. For each example, students should decide the type of source it is and the motive behind the content they produce. Students can look up unfamiliar sources using the web or by visiting the website listed.

Teacher Note: *The responses for Activity 2.1 will be used for comparison in the Consolidation activity, so it is not necessary to review for accuracy immediately afterwards.*

4. As a class, discuss the challenges of evaluating sources. Ask one or more of the following questions (questions can be shown to the class using Slide Deck 2):

1. Which sources were familiar to you and which were not?
2. For any unfamiliar sources, was it easy to determine the type of source by looking at their name or by visiting their website?
3. Do you think you can completely trust how

a source describes itself and its activities?
(Consider an example where the source says it is “the most reliable news network” or a restaurant that says that it serves “the best burgers in town.”)

4. Why would a source try to make themselves sound more legitimate, trustworthy or neutral than they really are?

Skills

 50–55 min

1. Review the concept of a **reliable source** using Slide Deck 2. It is a source that you can rely on or trust because it has a reputation for accuracy and honesty. For example, reliable news sources have journalistic standards, hire professional journalists, and correct mistakes.
2. Watch “[Investigate the Source](#)” and ask students to respond to questions 1 and 2 in Activity 2.2 or discuss them as a class.
 - How does the internet make it more challenging to identify who has produced a piece of content?
 - What two questions should we be asking when we see information online?
3. Watch “[Skill: Just Add Wikipedia](#)” and ask students to respond to questions 3, 4, and 5 in Activity 2.2 or discuss them as a class.
 - What is Wikipedia useful for?
 - Describe the technique used for looking up Wikipedia entries.
 - What two questions should we ask when reviewing an entry about a source on Wikipedia?

Optional: *It is important that students understand Wikipedia can be a helpful starting point for research into any source or topic. Two supplemental videos about Wikipedia are available to support its use. “Why Use Wikipedia?” explains why it is valuable reference*

source, and “Wikipedia Tips & Tricks” supports students in navigating its articles.

4. Demonstrate the Wikipedia trick on a projector or screen using the example below. Students should practice the skill at the same time using their computers or smartphones.
 - [Nova Scotia angler hooks juvenile great white shark and story of a lifetime](#), (The Globe and Mail, Aug 9, 2023)
 - Signs of reliability: daily newspaper, formed in 1936, Canada’s “newspaper of record”

Teacher Note: *While The Globe and Mail is sometimes paywalled, students can still practice the Wikipedia trick using the URL.*

- [Canadian man makes history after receiving zero election votes: ‘I am the true unity candidate’](#), (The Guardian, June 27, 2024)
- Signs of reliability: daily newspaper, formed in 1821, “newspaper of record” in the UK.

Teacher Note: *When demonstrating the Wikipedia trick, hover over the blue underlined words “broadsheet” and “newspaper of record” to show students that it reveals background information or definitions. This is a helpful tool for learning what unfamiliar terms mean.*

5. Explain to students that it can be difficult to tell whether a source is reliable. Some sources are highly credible news organizations, others produce outright false and misleading information, and some are in-between these two extremes.
6. Ask students to practice the Wikipedia trick with the examples in Activity 2.3: Practice Source Investigation.
7. Next, watch “[Skill: Advanced Wikipedia — Bias & Agenda](#)” and ask students to respond the questions


in Activity 2.4 or discuss them as a class.

- Why is it more important to evaluate the source's "agenda" rather than its "bias"?
- How should we evaluate information from sources that aim to influence or persuade?
- What should we do if we are unsure about the quality of the source?

8. Ask students to practice identifying agendas with the examples in Activity 2.5: Advanced Source Investigation.

Teacher Note: The Google Forms and Microsoft Forms versions of the activities allows students to check their work and view a walkthrough of the skill after submitting their answers. You can find background information and tips for using the forms versions under Supporting Documents at ctrl-f.ca/en/resources.

Consolidation

 20-25 min

- 1.** Ask students to use Wikipedia to research the sources listed in Activity 2.1 and have them update their answers as needed. Debrief as a class:
 - Were your original answers for source types and motivations correct? Which ones did you have to update?
 - Was it easier and faster to evaluate sources using information you found on Wikipedia compared to looking at the source itself? Why or why not?
- 2.** Ask students to consolidate their learning by completing Activity 2.6.
 - What would you say to a friend to convince them that it was important to investigate sources who produce or share information?
 - Practice the Wikipedia trick at home. When you

come across an unfamiliar source, check for a Wikipedia entry and answer the questions below.

- Is this source the type of source you thought it was?
- Does the information you found about the source make it more or less trustworthy?

Extension Activity: Evaluating Expertise

 20-25 min

- 1.** Review the concept of **domain knowledge**.
 - Domain knowledge is the deep understanding of a specific topic or specialized discipline.
 - People who have domain knowledge are often considered specialists or experts in their field.
- 2.** Watch "[Evaluating Expertise](#)" to get a better understanding of domain knowledge and the valuable service that journalists provide when summarizing the views of numerous experts. Guiding questions:
 - What is domain knowledge?
 - Provide two examples of domain knowledge and two examples where it does not apply.
 - How do journalists help us evaluate the views of experts?
- 3.** Ask students to assess expertise using the examples in Activity 2.7: Practice Evaluating Expertise.

Teacher Note: Additional examples on a range of topics are available at ctrl-f.ca/en/examples. These may be used for practice following the lesson, or as subject-specific replacements for the materials provided.

ACTIVITY 2.1: UNDERSTANDING SOURCES AND MOTIVATIONS

For each example below, indicate the type of source and the motive behind the information they produce (see the word bank below). You can research each example if they are unfamiliar to you.

Example	Type of Source	Motive
Black Lives Matter blacklivesmatter.ca		
Maclean's www.macleans.ca		
Environment and Climate Change Canada canada.ca/en/environment-climate-change.html		
Registered Nurses Association of Ontario rno.ca		
The Walrus thewalrus.ca		
The Onion theonion.com		
Public Policy Forum ppforum.ca		
Sierra Club Canada www.sierraclub.ca		
Federation of Canadian Municipalities fcm.ca		
Nielsen Media Research global.nielsen.com		

Sources

- Business
- Government department/agency
- News organization
- Non-profit organization
- Professional association
- Lobby group
- Think tank
- Social movement/social advocacy group
- Research institute
- Community group
- Entertainment

Motives

- To inform
- To influence
- To sell you something
- To entertain
- To get your attention/clicks



Part A: Watch “Investigate the Source” to learn why we should investigate sources online.

1. How does the internet make it more challenging to identify who has produced a piece of content?

2. What two questions should we be asking when we see information online?

Part B: Watch “Skill: Just Add Wikipedia” to learn a quick way to investigate a source’s reliability.

3. What is Wikipedia useful for?

4. Describe the technique used for looking up Wikipedia entries.

5. What two questions should we ask when reviewing an entry about a source on Wikipedia?

ACTIVITY 2.4: USING WIKIPEDIA — BIAS & AGENDA



Watch **“Skill: Advanced Wikipedia - Bias & Agenda”** and respond to the questions below.

1. Why is it more important to evaluate the source’s “agenda” rather than its “bias”?

2. How should we evaluate information from sources that aim to influence or persuade?

3. What should we do if we are unsure about the quality of a source?

ACTIVITY 2.6: CONSOLIDATION

1. What would you say to a friend to convince them that it was important to investigate sources that produce or share information?

2. Practice the Wikipedia trick at home. When you come across unfamiliar sources, check for a Wikipedia entry and answer the questions below.

- What is the source?
- Is this source what you thought it was?
- Does the information you found about the source make it more or less trustworthy than you originally thought?

	What is the source?	Is this source the type of source you thought it was?	Is it more or less trustworthy than you originally thought?
Source 1			
Source 2			



Total time:
115–135
minutes

Lesson 3

Check the Claim

GUIDING QUESTIONS

1

How do I distinguish between a factual claim and a value claim?

2

How do I verify a claim or story?

3

Which sources can I rely on to verify claims?

Overview

People make claims all the time, but a claim is not necessarily a statement of truth. Some claims can be factually proven, while others are a matter of opinion or interpretation. It is easier to evaluate factual claims, but we can gather context about any claim that will help us to put it into perspective and form our own opinion.

In this lesson, students distinguish between factual claims and value claims before learning to verify claims they see online or hear from others. In the Consolidation activity, students apply these skills to claims they encounter in their daily lives.

Key Terms

fact, factual claim, opinion, value claim, verify

Learning Outcomes

By the end of the lesson, students can:

- explain the difference between a factual claim and a value claim;
- analyze when it is helpful to check claims;
- demonstrate lateral reading skills to verify claims.

Starter

🕒 20-25 min

1. Review the concept of a claim. A claim is something that someone says is true or factual — but sometimes it isn't the truth.
2. Explain to students they are going to play a game called 'Three Claims' — it is similar to the game 'Two Truths and a Lie'

In groups, they will have to share one truth and one lie about themselves, along with one opinion they have about any topic they want. Afterwards, the rest of the group will have to decide which statement is which, and if they agree or disagree with the opinion stated.

3. Review the game by providing your own examples. Ensure students understand the difference between fact and opinion.
4. Divide students into small groups. This activity can be done in the classroom, or virtually with a Google doc.
5. Have students share their claims within their groups. After each student is finished sharing their three statements, the rest of the group members will guess which statement is a truth, lie or opinion and then vote if they agree with the opinion statement.

Teacher Note: As an alternative activity, or in addition, have students play *Fact or Opinion*, available at ctrl-f.ca/en/activity-fact-or-opinion. The online game helps students distinguish between fact and opinion using a gamified format built for learning and practice.

Fundamentals

🕒 25-30 min

1. Using Slide Deck 3, review the following key terms: fact, opinion, factual claim and value claim.
2. Ask students to complete Activity 3.1. They will have to assess whether each statement is a factual or value claim. Afterwards, students will write their own example for each type of claim.
3. Review the answers to Activity 3.1 as a class.

SKILL: Check the Claim

🕒 55-65 min

1. Watch "[Check the Claim](#)" and ask students to respond to the first three questions in Activity 3.2 or discuss them as a class.
 - What are fact-checking organizations? What do they do?
 - When we are evaluating claims, what questions do we want to ask?
 - Research three fact-checking organizations using Wikipedia. Write down some quick facts about them.
2. Watch "[Skill: Check Other Sources](#)" and ask students to respond to questions 4, 5, and 6 in Activity 3.2 or discuss them as a class.
 - Describe the skill discussed in the video.
 - Why is this a helpful technique?
 - What is the concluding message? How does it relate to you?
3. Watch "[Skill: Advanced Claim Check](#)" and ask students to respond to questions 7 and 8 in Activity 3.2 or discuss them as a class.

- What are some examples of claims that may be difficult to check?
- What is the final take-away of the video?

4. Demonstrate looking up a claim by doing a web search. You can use the example below or one of your own choosing.

- **Claim:** A chemical is added to swimming pools to catch people who urinate by turning the water blue.
- **Keyword search:** chemical turns pee blue in pools.
- **Results:** The Snopes Fact-Check should appear in the top three search results.

Review the findings on Snopes with your class.

5. Ask students to practice checking claims using the examples in Activity 3.3, "Practice Checking Claims" and 3.4 "Advanced Claim Check".

Teacher Note: The Google Forms and Microsoft Forms versions of the activities allows students to check their work and view a walkthrough of the skill after submitting their answers. You can find background information and tips for using the forms versions under Supporting Documents at ctrl-f.ca/en/resources.

Consolidation

 15 min

Ask students to summarize what they learned through the activities and to apply the skills in their own lives (Activity 3.5).

- Summarize the lateral reading strategy learned today. When you would use it to help you evaluate information?
- Verify two claims of your own choosing.
 - Describe the story/claim in one or two sentences.
 - List the keywords for a web search.
 - Summarize findings from two reputable sources.
 - Determine a verdict (True/False/Complicated/Unknown).

Afterwards, consider having students exchange claims or stories with a classmate and have them compare their findings and verdicts.

Teacher Note: Additional examples on a range of topics are available at www.ctrl-f.ca/en/examples. These may be used for practice following the lesson, or as subject-specific replacements for the materials provided.

ACTIVITY 3.1: FACTUAL VS VALUE CLAIMS



Read the eight statements below and determine if they are factual or value claims. Remember that a factual claim is not necessarily true; it's just something that could be proven to be true or false.

Statement	Factual or Value Claim?	Why?
1. The proportion of the population under the age of 24 is declining in Canada.		
2. There are more fake flamingos in the world than real flamingos.		
3. Breakfast is the most important meal of the day.		
4. There are more stars in space than there are grains of sand on all beaches on Earth.		
5. Biking is a better form of exercise than running.		
6. The most important goal of education is to create active and informed citizens.		
7. Russia has a larger surface area than Pluto.		
8. Lightning never strikes the same place twice.		

Write down your own example of a factual and value claim.

Factual claim example	
Value claim example	

ACTIVITY 3.2: CHECKING CLAIMS



Part A: Watch “Check the Claim” to review fundamentals about claims and the key questions we should ask when evaluating them.

1. What are fact-checking organizations? What do they do?

2. When we are evaluating claims, what questions do we want to ask?

3. Research three fact-checking organizations using Wikipedia. Write down some quick facts about them.

Part B: Watch “Skill: Check Other Sources” to learn how to check claims online.

4. Describe the skill discussed in the video.

5. Why is this a helpful technique?

6. What is the concluding message? How does it relate to you?

Part C: Watch “Skill: Advanced Claim Check” to learn how to check more complicated claims that might not be obviously true or false.

7. What are some examples of claims that may be difficult to check?

8. What is the final take-away of the video?

ACTIVITY 3.5: CONSOLIDATION

1. Summarize the lateral reading strategy learned today. When you would use it to help you evaluate information?

2. Verify two claims of your own choosing.

Claim A

Describe the story/claim in one or two sentences.

List the keywords you used to search the claim.

Summarize findings from two reputable sources.

Determine a verdict.
(true/false/it's complicated/
unknown)

Claim B

Describe the story/claim in one or two sentences.

List the keywords you used to search the claim.

Summarize findings from two reputable sources.

Determine a verdict.
(true/false/it's complicated/
unknown)



Total time:
95-140
minutes

Lesson 4

Trace the Information

GUIDING QUESTIONS

1

What are the ways information can change when it's shared online?

2

Why is it important to trace information back to its original source?

3

How can we tell where information and images came from?

Overview

News, information, and images will appear in many places outside their original context. Similar to a game of broken telephone, information can be altered or become distorted as it moves from source to source. Tracing information back to the original source allows us to get closer to the truth with a story that is more accurate and complete.

In this lesson, students learn skills for tracing information to its original context, including click-through and find, check the date, and reverse image search. Students become familiar with false context and how information used out of context can cause misinformation.

Key Terms

altered, context, distorted, false context, reconfigured, reporting on reporting, reverse image search

Learning Outcomes

By the end of the lesson, students can:

- explain different ways in which information gets altered or distorted online;
- describe different skills for tracing information back to the original source;
- demonstrate tracing skills to verify information.

Lesson Considerations

This lesson will likely span more than one class period. Consider dividing the materials in the following way:

- First class: Starter, Fundamentals, Skills Part 1
- Second class: Skills Part 2, Consolidation

Starter – Option 1

🕒 40-45 min

Play a game of 'Reporting on Reporting' to introduce the idea of how information can get reconfigured or distorted as it passes from one source to another. This activity is adapted from other games like 'Broken Telephone' or 'Gossip.' This can be done physically or through an online platform or tool, such as Google Docs.

1. Organize students into groups of three. Give each group a number.
2. *First re-reporting:* Provide each group with one news story. The members of each group will work together to paraphrase the story in 100-150 words. Provide 15 min. News story examples:
 - **An unlikely ally in the face of wildfires and droughts: the humble beaver**, CBC (Sept. 14, 2022)
 - **There's life growing on a giant patch of garbage in the ocean**, CBC Kids News (April 19, 2023)
 - **Would you eat lab-grown meat? How meat made from cells is picking up steam**, Global News (June 28, 2023)
 - **Why deleting something from the internet is 'almost impossible'**, CTV News (Sept 18, 2022)
 - **How Humans Have a Time Machine in Our Heads**, Discover Magazine (Sept 6, 2022)
 - **Japanese-Canadian paper, pillar for community during war, saved from digital oblivion**, Times Colonist (Aug 22, 2024)

Teacher Note: CBC Kids News has shorter articles written for lower reading levels that may be more suitable for your class.

3. *Second re-reporting:* Have each group pass their synopsis onto the next numbered group (e.g. group 1 passes their synopsis to group 2; group 2 to group 3; until the last group passes to the first). Each group will paraphrase the synopsis they received in 50-75 words. Do not include the original story when the synopsis is passed. Provide 10 min.

4. *Third re-reporting:* Next, the second synopsis will now be passed along one more time to the next numbered group (as before: group 1 passes to group 2; group 2 to group 3; etc.). Do not share the original story or first synopsis. Each group will read the second synopsis and determine a headline for the story, along with a subtitle. This subtitle should summarize the story in one sentence. Alternatively, this group could prepare a short social media post and clickbait headline meant to attract page views. Provide 5 min.

5. As a class, collect the content produced for each news story so that it starts with the third re-reporting, then second re-reporting, first-re-reporting and then the original story.

6. Review each original story and analyze how it changed as it was re-reported.

- How closely did the final reporting match the original story?
- What interesting parts of the story were left out?

7. Debrief on the activity. Discussion questions:

- What happens to the information as it travels from source to source?
- Have you ever heard some news that you later realized was distorted or altered through the message chain? How did you try to find the truth?

Starter – Option 2

🕒 15–20 min

Play a game of ‘Broken Telephone.’

1. Divide students into larger groups of 7-8 students.
2. Share a sentence or phrase with the first person in each group and ask them to whisper it along to the next person.

Sample phrases:

- Oil’s Dismay, Projects Delay, Court Blocks Pipeline’s Pathway
- Ottawa’s Cry, Housing Supply, Cities Struggle as Costs Sky-High
- Toronto’s Traffic Troubles: Transit Transformations Target Timely Travel
- Calgary’s Carbon Conquest: Clever Climate Cuts Clear the Quest

No one is allowed to repeat what they said. If the next player did not hear what was said, that’s okay, it’s part of the game!

The next player then shares what they think they heard to the following player, and so on. This continues until the word or phrase reaches the very last person, who then shares it out loud.

3. Debrief on the activity. Discussion questions:
 - What did you learn through the activity?
 - How easy is it for a message to change when it is passed from one person to another?
 - Did anyone deliberately try to change the message? If so, why?

Fundamentals

🕒 10–15 min

Watch “[Trace the Information](#)” and ask students to respond to the questions in Activity 4.1, or discuss as a class.

- How can a story or image become altered online?
- What are some of the motives behind distorting or altering information? Provide an example.
- Why should we trace information back to the original source?

Skills Part 1

🕒 35–40 min

1. Watch “[Skill: Click Through & Find](#)” and ask students to respond to questions 1 through 3 in Activity 4.2, or discuss as a class. You can also use Slide Deck 4 to review the skills shown in this video.

- Why is it helpful to click through to the original story?
- What is false context?
- How do you quickly search for keywords on a page?

2. Ask students to practice the skills using the examples in Activity 4.3, “Practice Tracing Information.”

Teacher Note: *The Google Forms and Microsoft Forms versions of the activities allows students to check their work and view a walkthrough of the skill after submitting their answers. You can find background information and tips for using the forms versions under Supporting Documents at ctrl-f.ca/en/resources.*

Skills Part 2

🕒 25-30 min

1. Watch “[Skill: Search the History of an Image](#)”

and ask students to complete Activity 4.4 or discuss as a class.

- How can images be a form of misinformation or disinformation?
- What two questions do we want to answer when verifying images? How are they independent of each other?
- What are different ways you can search the history of an image?

2. Using Slide Deck 4 and Handout 4.4, review examples of how to conduct a reverse image search. Demonstrate the reverse image skill using examples found below. Have students perform the skill on their computers or mobile devices. Practice using Google Images (images.google.com).

Teacher Note: *Tineye (tineye.com) can also be used as an alternative to Google Images.*

- **The art of slow running and Mexican torta: Thursday’s best photos**, The Guardian (Aug 3 2023)

3. Using Slide Deck 4, review the importance of lateral reading when it comes to AI-generated images. Discuss with the class:

- How many students have heard that to identify AI-generated images you need to look for “weird hands”, extra limbs, or strange-looking faces?
- Why is this not the best way to determine if an image is AI-generated or not?
- What should you do instead?

4. Ask students to practice using reverse image search with the examples in Activity 4.5, “Searching Images”.

Consolidation

🕒 20-25 min

1. Through words and/or images, ask students to explain why it is important to trace information back to its original source.

2. Ask students to find an example to share with a classmate so that they can practice tracing information.

ACTIVITY 4.1: TRACING INFORMATION



Watch the “Trace the Information” video to learn about how information can get altered or distorted online.

1. How can a story or image become altered online?

2. What are some of the motives behind distorting or altering information? Provide an example.

3. Why should we trace information back to the original source?

ACTIVITY 4.2: TRACING INFORMATION



Watch “Skill: Click Through & Find” to learn some skills for tracing information back to the source.

1. Why is it helpful to click through to the original story?

2. What is false context?

3. How do you quickly search for keywords on a page?

ACTIVITY 4.4: SEARCH THE HISTORY OF AN IMAGE



Watch “Search the History of an Image” to learn how to trace images back to their original source.

1. How can images be a form of misinformation or disinformation?

2. What two questions do we want to answer when verifying images? How are they independent of each other?

3. What are different ways you can search the history of an image?

HANDOUT 4.4: HOW TO REVERSE IMAGE SEARCH

The chart below lists instructions for various methods for conducting a reverse image search on both desktop and mobile.

Google Chrome browser:

1. Right-click on the image, and select "Search image with Google Lens."
 2. Drag the selection area so that it includes the whole image
 3. For more results select "View # results" to see other places this image has appeared.
-

Microsoft Edge browser:

1. Right click on the image and select "Search the web for image." *Mobile users select "Search Bing for this image"*
 2. Select "Pages with this image" tab
-

Safari browser: Desktop and mobile users can use Google Images or TinEye (instructions below).

Google Images (images.google.com):

Option 1: Search with image URL

1. Right click image, select "Copy image link" or "Copy image address". *Mobile users can hold down on the image and select "Share" and copy the sharing link.*
2. Select the Google Lens camera icon and paste the URL into the search bar.
3. Drag the selection area so that it includes the whole image
4. To see results of exact matches of the image, you may need to select "Find image source"

Option 2: Save and upload the image

1. Save image to your device by right-clicking the image by selecting "save image as" or by taking a screenshot. *Mobile users can hold down on the image and select "save."*
2. Select the Google Lens camera icon and select the image from your files
3. Drag the selection area so that it includes the whole image
4. To see results of exact matches of the image, you may need to select "Find image source"

Mobile users may be prompted to install the Google App, which includes features from both the Google Chrome Browser and Google Images and is very effective for searching images.

TinEye (tineye.com):

Option 1: Search with image URL

1. Right click image, select "Copy image link" or "Copy image address". *Mobile users can hold down on the image and select "Share" and copy the sharing link.*
2. Paste the URL into the TinEye search bar

Option 2: Save and upload the image

1. Save image to your device by right-clicking the image by selecting "save image as." *Mobile users can hold down on the image and select or take a screenshot.*
 2. Select "Upload" and select the image
-

Searching images on social media

When using mobile apps like Instagram or Facebook, or in other cases when you cannot save or copy the link of an image you can take a screenshot upload it to Google Images or TinEye.

What if a reverse image search doesn't work?

If a reverse image search does not help you find more context about the image, you can use a keyword search with words from the caption or words that describe the image.

Final Assessment Opportunities

Post Test

After completing the CTRL-F program, you can assess student improvement by delivering a post-test. The post-test asks students to evaluate the reliability of four different sources and claims and should take 10-15 minutes to complete.

The post-module assessment and support materials can be found at ctrl-f.ca/resources under "Pre/Post Assessments." Make a copy of the Google Forms or Microsoft Forms so you are the owner of the file, and can track your students' results.

Afterwards, use the 'Post Test Review' slide deck to discuss the answers as a class.

Verification Handbook Assignment

The Verification Handbook Assignment has been designed to help students consolidate their learning from the CTRL-F module and to record information for future reference.

It can be completed as a culminating activity. Within the Handbook, students will describe the strategies and skills in their own words, and then demonstrate their ability to use the skills with their own examples.

Please refer to Handout 1.4: Verification Handbook on page 13 as a guide. A rubric and exemplar are provided at ctrl-f.ca/resources in the Verification Handbook section.

CTRL-F Videos

CIVIX Explains: Information

Pollution (animated explainer,

3:01): Learn about the problem of information pollution and how to distinguish between misinformation and disinformation.

Introduction to Verification Skills

(2:48): Jane is an investigative journalist with experience investigating and debunking online hoaxes and false claims. Ken helps people learn the skills to figure out what is credible and trustworthy online. Together they will guide you through the CTRL-F: Verification Skills lessons.

Investigate the Source (1:38):

Jane talks about why it is important to investigate the source behind the content, especially in the digital world.

Skill: Just Add Wikipedia (6:43):

Ken demonstrates how to learn key context about the reputation of unfamiliar people and organizations by consulting Wikipedia and other sources.

Skill: Advanced Wikipedia - Bias

& Agenda (6:20): Understanding the difference between bias and agenda can help us make better decisions about what information to trust.

Evaluating Expertise (5:46):

Ken reviews the concept of “domain knowledge” (subject matter-specific expertise) and provides tips to help us determine who is an authority on a particular subject.

Why Use Wikipedia?

(Supplemental, 4:02) This video helps dispel some persistent myths about the reliability of the crowd-sourced encyclopedia.

Wikipedia Tips & Tricks

(Supplemental, 3:57) This video reviews the common features of Wikipedia articles to support students in navigating them effectively.

CIVIX Explains: Persuasive

Sources (3:40) Learn about the different types of groups that work in the world of advocacy.

Check the Claim (2:18): What do we need to know about different types of claims before we start evaluating them?

Skill: Check Other Sources (6:18):

How to verify information using keyword searches, and ‘trade up’ to a better source when information comes from a low quality or unfamiliar source.

Skill: Advanced Claim Check

(4: 25): Learn how to check more complicated claims that might not be obviously true or false.

Trace the Information (1:54):

Similar to a game of broken telephone, information can be altered or become distorted as it moves from source to source.

Skill: Click Through and Find

(6:05): Learn how to follow the information trail back to the original source.

Skill: Search the History of an

Image (8:32): Learn how to find out where an image has been used and if it has been generated using AI, altered, or taken out of context.

Glossary

Advocacy ▪ An activity by an individual or group that aims to influence public opinion and decisions within political, economic, and social institutions. Advocacy-focused activities can include media campaigns, public speaking and publishing research.

Agenda ▪ Most basically, an agenda is a list of things to do. In the context of information literacy, 'agenda' refers to what a person or group is trying to do. Agenda becomes particularly relevant when it is not obvious or deliberately obscured, such as when information from agenda-driven sources is made to look more professional or independent than it is.

Altered ▪ Changed or manipulated.

Artificial Intelligence (AI) ▪ Technology that enables computers and other machines to perform tasks that would typically require human intelligence. Examples include: problem solving; summarizing information; generating text, images, audio, and video; facial recognition; and more.

Bias ▪ The favouring of one point of view over another.

Business ▪ An organization that sells goods or services for profit.

Claim - An assertion of truth.

Conspiracy theory - A belief that a secret, powerful group of people is causing major news events, manipulating politics and the economy, or hiding important information about the world.

Context - Important background information that helps us interpret and fully understand a claim, story, or image.

Deepfake ▪ An image, video, or audio clip that is made by AI to seem real.

Disinformation ▪ False information that is deliberately created and shared to cause harm. It has the goal of confusing people about what is true and influencing how they think and act.

Distorted ▪ Misrepresented; explained in a false or misleading way.

Domain knowledge ▪ Deep understanding of a specific topic. When someone has domain knowledge, they may be considered an expert. For example, epidemiologists have domain knowledge of viruses and how they spread.

Expert ▪ A person who has authoritative knowledge or skills in a specific area.

Fact ▪ A claim that is demonstrably true. (Some claims may sound like facts, even if they are not.)

Fact-checking organization ▪ A reputable professional group that employs individuals to research contested claims, reach conclusions, and back them up with facts. Examples include Snopes and PolitiFact.

Factual claim ▪ A claim that can be definitively proven or disproven. Factual claims can be true or false. An example of a true factual claim is: "Masks help slow the spread of COVID-19." An example of a false factual claim is: "The Earth is flat."

False context ▪ Accurate content that is shared with false or misleading contextual information, such as when an unaltered image is paired with a false or misleading claim.

Hoax ▪ A deliberate falsehood designed to trick people into believing something happened that didn't.

Information pollution ▪ The accumulation of false, misleading, or otherwise low-quality information that is circulated online, making it difficult for people to determine what information is reliable or true.

Lateral reading ▪ The process of evaluating online information by 'leaving the page' to conduct simple research into a source or claim. Examples of lateral reading strategies include using Wikipedia to look up the reputation of a source or checking to see how a story or claim has been reported by other sources.

Lobby group ▪ A group of people with common goals who try to influence public opinion and government policy. Lobby groups most often focus on a single topic or represent the interests of a specific industry.

Misinformation ▪ Information that is false but that is created and/or spread without the intent to cause harm (though harm may result). The person sharing misinformation believes it to be true.

News organization ▪ Organizations that exist to provide the public information about current affairs. Reputable news organizations follow professional and ethical standards to ensure that the information they report is as accurate as possible.

Opinion ▪ A view or perspective on an issue that may or may not be based on facts or knowledge.

Reconfigure ▪ To change the structure or arrangement of something.

Reference source ▪ Authoritative sources designed to help you find information quickly. Examples of reference sources include encyclopedias, dictionaries, and atlases.

Reporting on reporting ▪ When a media organization or site takes original reporting from one or more other source(s), and creates a new story based on the old one(s). Often in the process of re-reporting, key context is left out, information exaggerated, and risk of error or misrepresentation is increased.

Reverse image search ▪ A search technique where an image is used as the 'search term' instead of words. Results will show where else on the internet the image has appeared. A reverse image search will sometimes reveal if a photo has been altered or used out of context.

Social movement ▪ A type of group action intended to carry out or reverse social change.

Think tank ▪ An organization that does research on topics related to public policy (the economy, the military, the environment, technology, social policy, etc). The purpose of this research is often to advocate for certain issues or influence government policy.

Value claim ▪ A claim based on a judgment or opinion. Value claims cannot be proven true or false. Ex. "Cats are better than dogs."

Verify ▪ The act of determining through research a claim's degree of accuracy.

Vertical reading ▪ The process of evaluating information by analyzing the text itself to assess reliability. Vertical reading strategies are commonly packaged as checklists, such as the CRAAP test, and have been demonstrated to routinely backfire when applied to information online. Examples of vertical reading strategies include looking for signs of professionalism, checking to see if the URL is a .com or a .org, and looking for ads on the page next to the information.

