



Web Detective

Gr. 8-12 Activity Write Up

Web Detective

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Terms of Use

Prior to using this activity or parts thereof, you agree and understand that:

- It is your responsibility to review all aspects of this document and the associated activity write ups, and ensure safety measures are in place for the protection of all involved parties.
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About Actua

Actua is Canada’s leading science, technology, engineering and mathematics (STEM) youth outreach network, representing a growing network of over 40 universities and colleges across the country. Each year 350,000 young Canadians in over 500 communities nationwide are inspired through hands-on educational workshops, camps and community outreach initiatives. Actua focuses on the engagement of underrepresented youth through specialized programs for Indigenous youth, girls and young women, at-risk youth and youth living in Northern and remote communities. For more information, please visit us online at www.actua.ca and on social media: [Twitter](#), [Facebook](#), [Instagram](#) and [YouTube](#)!



Web Detective

Activity Summary

Information is constantly available online. In this activity, participants will learn the steps necessary to determine fact from fake information (e.g., misinformation, disinformation, fake news), to better analyze bias and misinformation online. They will leave this activity with the tools and strategies needed to find reliable, credible sources while avoiding fake information in any setting.

Developed by Actua, 2022.

Delivery Environment	Activity Duration	Intended Audience	Tech
In-Person	1 hour & 30 mins	Grades 8-12 (Ages 14-18)	<p>Certain activities will require a laptop/tablet. With modifications, it is possible to run this entire lesson in pairs/groups. Facilitators should have access to a laptop, projector, speakers, and screen or blank wall to project onto.</p> <ul style="list-style-type: none">• Projector• Speaker• Screen/Blank Wall• Laptops/Tablets

Learning Outcomes






Following this activity, participants will:

- Identify and use credible and reliable sources, as well as online and offline information (by using questions they should ask themselves when exploring content online and before sharing with others to reduce the spread of bias and misinformation).
- Understand how misinformation is created (including Deepfakes and fake news), as well as why it is often widely shared online.



TOOLSETS	SKILLSETS	MINDSETS
Knowledge, resources, and experiences <ul style="list-style-type: none"> • Misinformation • Reliable and credible sources • Machine learning 	Digital skills, STEM skills, & essential employability and life skills <ul style="list-style-type: none"> • Critical thinking • Analysis • Digital literacy • Being safe & responsible online • Communicating online 	Digital intelligence, community action, and computational thinking <ul style="list-style-type: none"> • Understanding your relation to technology • Ethical AI • Privacy management

Logistics (Timing, Group Sizing, Materials)

Section Title	Est. Time	Group Size	Materials
Opening Hook	10 minutes	<i>Whole Group</i>	Facilitators <ul style="list-style-type: none"> •  Snowboarder Girl Chased... •  BBC: Spaghetti-Harvest i...
Section 1: Deepfakes	15 minutes	<i>Whole Group</i>	Facilitators <ul style="list-style-type: none"> •  Tom cruise magic #tomc... •  Deepfakes: Can You Spot ...
Section 2: Fake News	15 minutes	<i>Whole Group</i>	Facilitators <ul style="list-style-type: none"> • Common Sources of Fake News Graphic (<i>Appendix C</i>) • Spread of Misinformation Graphic (<i>Appendix C</i>) •  SPOT Fake News Online • Spot Fake News

Section Title	Est. Time	Group Size	Materials
Section 3: Inspect the Media	45 minutes	<i>Whole Group; Small Groups</i>	Per Participant/Pair/Group <ul style="list-style-type: none"> Laptop/Tablet Spot Fake News Endangered Species - Tree Octopus Article (<i>Appendix C</i>) New Species - Australian Dinosaur Article (<i>Appendix C</i>)
Reflection & Debrief	5 minutes	<i>Whole Group; Individual</i>	<ul style="list-style-type: none"> N/A

Safety Considerations

Safety considerations have been provided below to support safety during this activity, however they are not necessarily comprehensive. It is important that you review the activity and your delivery environment to determine any additional safety considerations that you should be implementing for the delivery of these activities.

Emotional Safety

The goal of this Cyber Smart project is to equip participants with the tools and knowledge to understand online behaviours and make safe decisions.

- Facilitators should understand that participants have different lived experiences and prior knowledge about cyber safety, cyber security and digital citizenship. This activity may involve or lead to discussions of sensitive topics, such as cyberbullying and other online risks. Facilitators should always keep the participants' emotional safety in mind in these discussions, and defer to training from their institution and training received for this project.
- Facilitators should focus on guiding discussion toward an appreciation for healthy and safe online behaviours, and empowering participants to make responsible, informed and smart choices.



Online Safety

Some components of this activity require the use of devices connected to the internet.

- Facilitators should review the provided videos and read/explore provided websites and materials to determine if they are suitable for their participants.
- Where applicable, facilitators should remind participants to stay on task and only use links provided within this activity.
- Facilitators should also model and encourage appropriate online behaviour by all participants in the group (e.g., using chat boxes to answer and ask questions, using positive and encouraging language, using devices for the purpose of the task).

Curriculum Links

Each of these activities align with these components found in the Canadian Computer Science Framework:

Cyber Security

- Starting learners should be able to define cybersecurity and create safe passwords using effective criteria. Proficient learners should be able to describe common cyber attacks and identify malicious content, apply prevention practices and assess the role that people play in creating, preventing, and minimizing the impacts of cyberattacks as well as consider how they affect people and society (p. 24).

Data: Data Governance

- Starting learners should be able to identify ways that their digital or physical activity creates digital data and learn how to adjust privacy settings on commonly used digital tools. Proficient learners should be able to discover who owns the digital data they produce, as well as assess provincial, national and Indigenous data governance laws/agreements and be able to advocate for their data rights and the rights of others (p. 26).



Technology and Society: Ethics, Safety & the Law

- Starting learners should be able to identify strategies to protect their personal data and identity online. Proficient learners should be able to define and apply basic copywriter principles, explain privacy concerns, and assess the effects of computer crime/hacking on self and society (p. 28).

Activity Procedure



To Do in Advance

Section Title	Preparation
General	<ul style="list-style-type: none">• Think ahead and be ready to adapt:<ul style="list-style-type: none">○ Determine your delivery method and leverage ideas from the delivery recommendations and adaptations sections.○ While estimated times are provided, it will be helpful to think about how much time you would like to spend on different activities and discussions.○ While group sizes (individual, pairs, groups) are suggested, many activities are flexible for whatever will work in your classroom.• Prepare for the content:<ul style="list-style-type: none">○ Have answers in mind to share with participants for the various reflection questions asked.○ Examine the provided videos and read/explore the provided materials in <i>Appendix C</i> to determine if they are suitable for your participants.• Equipment:<ul style="list-style-type: none">○ Ensure device, screen and projector are set up.○ Prepare participant devices.
Section 3: Inspect the	<ul style="list-style-type: none">• Familiarize yourself with the different stories participants will be reviewing. Print if necessary.




Section Title	Preparation
Media	<ul style="list-style-type: none"> Optional: Print <i>SPOT Activity Page (Appendix C)</i> (participants can use any method to make notes).

Opening Hook

- Play this video and determine whether participants think it is real or fake:
“What made you think it was real? What made you think it was fake?”:
 -  BBC: Spaghetti-Harvest in Ticino (MySwitzerland, 2:28s)
 -  Snowboarder Girl Chased By Bear - I Was Singing Rihanna Work... (Kelly Murphy, 1:17s)
- Inform the participants of the answers:
 - Video 1: Fake! Created by BBC News as a ploy.
 - Video 2: Fake! This video went viral on Youtube after being shared - but it was debunked by National Geographic (among other sources).
 - National Geographic found issues about the species of bear itself - the one shown is a Grizzly bear, which is found in North America. According to her story, the snowboarder is skiing in Japan, where these specific bears do not live. In addition, while there may be bears in the area, this type of colored bear would be far from that ski specific location.
- If time permits: **“Does something that goes viral make it seem more credible? Does something need to be credible to go viral?”**


Section 1: Deepfakes

- Computer Science Connection: “Are you familiar with Deepfakes?”** - Ask someone to provide a definition. Deepfakes are convincing falsified videos, audio recordings and photos that have the likeness of someone who is not actually present in that video or photo.
- Play this video as an example of Deepfakes:

 Tom cruise magic #tomcruise #tiktok #viral (all in one channel, 0:20s). A Deepfake is media in which an existing image or video is replaced with someone else's likeness (see Background Information in Appendix B for more information).

 - Note:** You can also make connections to the different filters on social media (e.g., Face Swapping).



3. Create a Venn Diagram on the board to compare the “issues vs. benefits” of Deepfakes.
 - a. **“What are some issues that might come from using Deepfakes?”**
 - i. *Possible responses: pretending to be someone else, ruining someone’s reputation, tricking people, spreading rumours and lies by pretending to be a celebrity or politician, inciting political unrest.*
 - b. **“What are some benefits of this tool?”** (see *Background Information in Appendix B* for more information).
4. Play this video for participants as an explanation of what Deepfakes are with the connection to Artificial Intelligence and Machine Learning:
 Deepfakes: Can You Spot a Phony Video? | Above the Noise (Above The Noise, 0:00-**2:28s**, ***it is important to stop the video at 2:28s in order to keep the conversation appropriate for your participants**).

Section 2: Fake News

Information can come in many forms and as we’ve learned from earlier sections.. it is not always true. This section will explore different forms of information (fact, misinformation, disinformation and fake news).

1. “Is everything found online true? Can you think of an example of something you interacted with online that was fake? What clues made you think it wasn’t legitimate?”
 - a. *Additional prompts:* Something too good to be true? News that doesn’t seem real? Instagram Filter vs. Reality?
 - b. *Possible responses:* check if the person who shared it is someone who is credible (e.g., a scientist who has conducted a lot of research in the field), find out if there is other information about it, do more research on the topic, etc.
2. Introduce the terms fact, misinformation, disinformation and fake news. Read the following definitions randomly and have them match the definition to the term. If time permits, have participants generate examples.

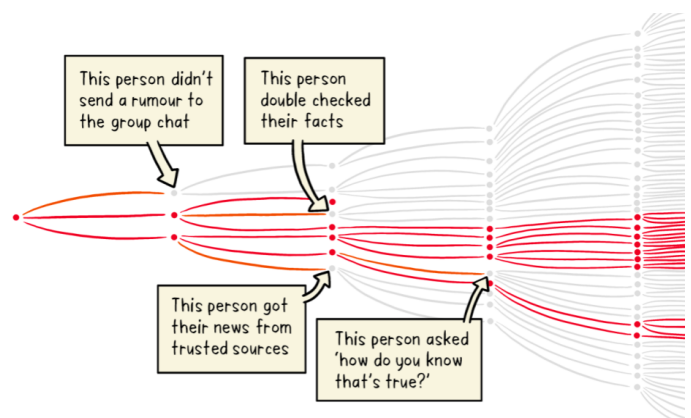


<p>MISINFORMATION</p> <p>False info <u>without</u> the intention of hurting others (often started by someone who genuinely wants to understand a topic and is shared by others who feel the same).</p>	<p>DISINFORMATION</p> <p>Deliberately misleading or biased info (often serves some agenda and can be dangerous).</p>
<p>FAKE NEWS</p> <p>Info that mimics the form of mainstream media (designed to manipulate people's perceptions of real facts, events, and statements).</p>	<p>FACTS</p> <p>Info that is accurate to the best of our current knowledge.</p>

3. Continue the discussion with these questions:

- a. **“Which do you think is the most harmful to spread?”**
- b. **“What are common sources?”**
 - i. “Why do you think social media has such a high volume of misinformation?”. Display *Common Sources of Fake News Graphic (Appendix C)* and ask them to share why social media is such a common source of misinformation (e.g., untrue claims, Photoshopped pictures, fake news).
- c. **“Why do they get spread so easily?”**

Display *Spread of Misinformation Graphic (Appendix C)* for participants to help visualize the spread.




The World Health Organization (N.D.). Let's flatten the infodemic curve. Retrieved from <https://www.who.int/news-room/spotlight/lets-flatten-the-infodemic-curve>

i. **Computer Science Connection:** Bots play a role in spreading misinformation.

1. **What are they?** Computer algorithms that simulate human behaviour, by sharing information and messages. Their algorithm allows them to **learn** from response patterns (they possess artificial intelligence - AI).
2. **Why does it work?** Bots can share fake news in high volumes to make it look credible. The average user tends to believe what they see or what's shared by others without questioning (e.g., posts on Facebook, retweets, trending hashtags). Both bots and people play a major role in the spread of fake news.


4. **“What kind of strategies do you use to check if a source is reliable and trustworthy?”**

- a. Scenario: You notice a post about a religion you're not familiar with. Do you take that as accurate? How would you research the information?
 - b. *Possible responses: ask questions* (Does it provide any concrete evidence? Who made the material - What are their qualifications? What is the intent of the author? Does it acknowledge other perspectives of conflicting information? Does it have any biases (political, religious, personal, etc.)? Where is it hosted?); *use a fact-checking site* (a Canadian one is <https://factcheck.afp.com/fact-checking-afp>, a well known American based one is <https://www.factcheck.org/>); *compare with other sources recognized as reliable and trustworthy.*
5. Play this video that shares information on SPOT - 4 questions to ask when assessing online news and information:  **SPOT Fake News Online** (News Media Canada, 1:00s). The same information can be found here <https://spotfakenews.ca/>.

Section 3: Inspect the Media

1. Say the following statements aloud and have participants indicate if they think it is fake (for example by raising an object, raising their hand, tapping their desk, moving to one side of the room, etc.). The reality is that they all sound fake, but are true.



- a. There are more tigers in captivity in the US than in the wild worldwide.
 - b. Pineapples take about two years to grow.
 - c. Cheetahs can't roar. They can only meow like domestic house cats.
 - d. Scientists who work with cockroaches often become allergic to preground coffee.
 - e. Around the world, many militaries have trained combat dolphins to perform dangerous tasks, like locate underwater mines.
 - f. More time separates Tyrannosaurus rex from Stegosaurus than T. rex from humans today.
 - g. Nintendo was founded in 1889.
 - h. Bananas are berries, but strawberries are not.
 - i. Sharks predate trees.
 - j. Cleopatra lived closer to the release of the first iPhone than she did to the building of the pyramids of Giza.
2. Put participants into small groups and share the 2 stories listed below (do not reveal which is real and which is fake), give participants 10 minutes to explore the website on their device and take notes leveraging SPOT.
- a. **Note:** This can be completed in groups, pairs or individually.
 - b. **Note:** A worksheet has been developed for this activity as a modification: *SPOT Activity Page (Appendix C)*
 - c. Alternative option: Instead of sharing both stories, share the real story with half the class and the fake story with the other half.
 - d. Stories:
 - i. *Endangered Species - Tree Octopus Article (Appendix C)*
 - ii. *New Species - Australian Dinosaur Article (Appendix C)*
3. Discuss! Ask participants what they thought about the website(s) - Was this story real or fake?
4. Wrap up the activity by sharing  **Five ways to spot fake news** (Quartz, 2018), where Damaso Rayes of The News Literacy Project teaches children how to evaluate the credibility of information they get online.

Reflection & Debrief

1. Discuss the following question(s) with participants to help them reflect on themselves and their online experiences (these could be shared with the entire group/in small groups/written down):



- a. **“What is the impact of spreading fake news? Why is it important to be careful of misinformation online?”**
 - i. *Possible responses: people who do not know the right questions to ask will believe what is said; it is important to be careful of misinformation so that we are aware of it and find the most accurate information on a topic before forming an opinion.*
 - b. **“What did you learn today that can help you with deciding what is real and what is fake?”**. You can continue the conversation by asking “Can information shape our opinions? How can misinformation influence the ways we see other people/places/problems? (a prompt to this question might be: how might misinformation influence what we think about people from different cultures other than ourselves?”
2. Discuss the different careers listed in *Appendix A: Career & Mentor Connections*.
 3. Encourage participants to be a Cyber Smart Ambassador and share their learnings from this activity with their friends and family.



Delivery Recommendations

How might you deliver this content in different settings? Every activity has been designed for in-person delivery. Here, we provide recommendations for remote learning (online) or unplugged (no tech).

Remote (Online)	Unplugged (Low/No Tech)
General	
<ul style="list-style-type: none"> • Encourage participants to unmute themselves or type in the chat based on what is easiest for them to communicate. • Leverage a tool where participants can all participate online during discussions (e.g., Mentimeter, Jamboard, etc). • Make note of any links that need to be shared and be prepared to share them in the chat. • Use polls or other group interactions to check in and keep up engagement. 	<ul style="list-style-type: none"> • Leverage boards to do brain storms/write down participant responses.
Opening Hook	
<ul style="list-style-type: none"> • For brainstorming, consider doing a verbal discussion or use a collaborative tool (e.g., Jamboard, Google Doc, Mentimeter). 	<ul style="list-style-type: none"> • Find and print out 2 images (1 of a doctored image and 1 of the original image/ similar). Ask participants if they think it is real or fake.
Section 1: Deepfakes	
<ul style="list-style-type: none"> • Activity can be done as-is online. For brainstorming, consider doing a verbal discussion or use a collaborative tool (e.g., Jamboard, Google Doc, Mentimeter). 	<ul style="list-style-type: none"> • Skip this section but verbally bring up Deepfakes as an additional reason to ask critical questions when online during Section 3.



Remote (Online)	Unplugged (Low/No Tech)
Section 2: Fake News	
<ul style="list-style-type: none"> Create, display and share a Google Doc of participant answers to the types of questions important to ask to see whether sources or stories are reliable and trustworthy. 	<ul style="list-style-type: none"> Print out the image. Focus on discussion questions.
Section 3: Inspect the Media	
<ul style="list-style-type: none"> Share the Spot Fake News link with participants to use (they can open a new tab while reviewing their websites). 	<ul style="list-style-type: none"> Print out the image. Leverage a blackboard/whiteboard to write out key questions participants should be asking when on the internet. Print out the following documents from <i>Appendix C</i> for the activities (they will not be able to click the links, but you can continue the discussion by asking what strategies they used, or would use): <ul style="list-style-type: none"> SPOT Activity Page Endangered Species - Tree Octopus Article New Species - Australian Dinosaur Article
Reflection & Debrief	
<ul style="list-style-type: none"> Activity can be done as-is online. For brainstorming, consider doing a verbal discussion or use a collaborative tool (e.g., Jamboard, Google Doc, Mentimeter). 	<ul style="list-style-type: none"> Activity can be done as-is unplugged.



Delivery Adaptations

How might you adapt the time, space, materials, group sizes, or instructions to make this activity more approachable or more challenging? **Modifications** are ways to make the activity more accessible, **extensions** are ways to make the activity last longer or more challenging.

Modifications

GENERAL


- Ensure captions are on during videos played.
- Provide computer mice where laptops are in use.
- Use pairs/groups instead of having participants work individually.

SECTION 3: INSPECT THE MEDIA

- Participants can use the *SPOT Activity Page (Appendix C)* to help keep track of thoughts and answers.

Extensions

SECTION 1: DEEPPFAKES

- Play this video for an in depth explanation of AI's role:
 [Deepfake Videos Are Getting Terrifyingly Real](#) (NOVA PBS Official, 3:35s)
- Participants can create their own “Deepfakes” where they change the original story of a piece of media (an image, a newspaper report, etc.)
 - Create their own newspaper using a newspaper generator (e.g., [Funny Newspaper Generator](#))
 - Edit photos using a digital photo editor (e.g., Adobe Photoshop)
 - Ideas include making the image look “older” by editing it to be black and white; cropping images to remove key figures, etc.

SECTION 2: FAKE NEWS

- Introduce “opinions”
 - Introduce the conversation on opinion: **“What is the difference between fact and opinion?”**



- *Possible response: A fact is something that can be proven or disproven by doing research, while an opinion is something based on personal beliefs or feelings - it cannot be proven.*
- Different people hold different opinions based on their lived experiences and perspectives. It is important to be respectful of different opinions, even if they do not match your own.
- Read the following fact and opinion aloud and ask participants to decide if they think the statement is a fact or an opinion (tell them the answers after they guess):
 - There are less women in STEM than men (fact).
 - Python is the greatest programming language to exist (opinion).
 - Let participants know that opinions should always be encouraged and at the same time should be respectful of all identities. That is how we grow and learn.
Research often originates from people's opinions.
 - Depending on the time, ask participants to also think of one fact and one opinion about the topic of STEM.

SECTION 3: INSPECT THE MEDIA

- Extend the discussion: Consider the universal ethics around the ability to spread misinformation. Who is accountable for what is posted?
 - The US has a law called Section 230 which states that the host of the posts are NOT accountable for what is posted. That means that Facebook, TikTok, Bloggers etc. are not responsible for what other individuals post on their sites. Some sites have started to implement their own rules about 'fake news' or misinformation where they look for it and flag it.
 - Additional questions to consider: How should this work? Should social networks and services be responsible for ensuring only accurate information is posted on their sites? Should the governments decide what is fake? How can AI be used to identify fake news?

REFLECTION & DEBRIEF

- Participants can create a [Canva Poster](https://www.canva.com/posters/templates/campaign/) to share strategies with their friends and families on what cyber smart steps we can take when interacting with new users online. Share this link with them <https://www.canva.com/posters/templates/campaign/>. It will be helpful to explore Canva to get an idea of how to use this resource yourself.
 - Quickly show them how to create a new project and the different editing features they can use. If helpful, choose a suitable Canva template rather than have them find one themselves/have them draw it out.
 - Participants can draw their creations on paper rather than on Canva.
 - If time permits, have participants share their work.



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Appendices

Appendix A: Career & Mentor Connections

ROYAL CANADIAN MOUNTED POLICE: CYBERCRIME INTELLIGENCE ANALYST

- A cybercrime intelligence analyst specializes in cybercrime, and uses that knowledge to develop strategies to identify criminal trends and patterns. They use this information to design strategic intelligence products, and provide expert advice on complex criminal investigations.

CYBER SECURITY PROFESSIONAL (INFORMATION SECURITY PROFESSIONAL)

- A cyber security professional identifies threats and vulnerabilities in various systems and softwares. They apply their knowledge to design security measures and implement solutions to defend against cybercrime, such as hacking and malware. These measures come in the form of technology and organizational processes.

CYBER SECURITY ANALYST (INFORMATION SECURITY ANALYST)

- A cyber security analyst monitors a company's computer networks and systems. In order to further protect the company from threats and breaches, they plan and implement security measures.

SECURITY SOFTWARE DEVELOPER

- A security software developer designs and integrates security software tools, develops systems, and tests vulnerabilities in their designs.

RESEARCHER

- A researcher can specialize in different areas of study, such as Science, Computer Science and Math. They conduct their own research, collect and analyze data in order to solve problems or explore issues. Researchers also review relevant credible and reliable sources related to their own research.

CONTENT DEVELOPER

- A content developer researches, curates, edits and develops content for different organizations depending on the project they are assigned to. They must ensure that the sources they are reviewing are reliable and credible.



FACT CHECKER

- A fact checker looks into facts and information to verify and improve the quality of information in the media or published materials.

Appendix B: Background Information

MISINFORMATION AND DISINFORMATION

Misinformation is “false information spread, regardless of intent to mislead”

(Dictionary.com, n.d.). This could involve:

- Sharing details that you misheard or misremembered.
- Unknowingly telling family you heard something on TV that isn't true.
- Unknowingly sharing a post on social media that has incorrect information.

Disinformation is “deliberately misleading or biased information”

(Dictionary.com, n.d.).

This could be:

- Manipulated narrative or facts
- Propaganda

Fake News “is false or misleading information presented as news”. This is often created to be widely shared or distributed for the purpose of generating revenue, or promoting or discrediting a public figure, political movement, company, etc. (Dictionary.com, n.d.). This could involve:

- False news stories
- Altered videos
- Manipulated pictures

The Walden University Library describes the negative impacts of Fake News

([Walden University Library](#), n.d.):

- Frustrating and a waste of time: Users deserve accurate information, so finding biased and false information is frustrating and time consuming.
- Dangerous: the spread of lies and deceit can create hostility.
- Sharing/supporting fake news can damage your reputation and diminish your credibility.
- Creates general mistrust in all news and media sources.



DEEPPFAKES

According to [Think Automation](#), Deepfakes are convincing falsified videos, audio recordings and photos that have the likeness of someone who is not actually present in that video or photo. Deepfakes are powered by artificial intelligence (AI). AI is the development of computer systems to perform tasks that would usually need human intelligence (learning from data to be able to classify, make predictions and generate new data). They can replicate voices and change videos. The term is a combination of the words “deep learning” (from AI) and “fake”.

There are a lot of alarming concerns and questions surrounding ethics that arise with the use of Deepfakes because they can potentially spread bias and misinformation (undermining our trust). They also offer opportunities for mischief and malicious use.

However, there are benefits to using this tool. This technology holds positive potential for:

- **Education** in the sense that it could preserve stories and revolutionize lessons with interactivity (e.g., Deepfakes with historical figures or holograms in museums).
- It also has a role in **reducing language barriers** in order to reach worldwide audiences (e.g., David Beckham’s malaria announcement was shared in 9 different languages).
- In terms of the **entertainment industry**, Deepfakes can be used if an actor has passed away in order to recreate the likeness of that individual.
- In **medicine**, it can help with the development of new diagnoses and monitoring through creating deepfake patients for testing and experimentation.
- The shock-value of deepfake videos often results in a viral phenomenon. These videos can be used to deliver a **strong message**.

STRATEGIES TO USE WHEN READING INFORMATION ONLINE

According to a media literacy tool developed by News Media Canada, there are 4 simple questions that users should ask themselves before consuming information that they found online. [Business Wire](#) (2019) lists the 4 questions created by Fake News Online (SPOT) with additional details:





- **S**: Is this a credible **S**ource? Check the source of the article - and be skeptical.
- **P**: Is the **P**erspective biased? Think critically and look for varying viewpoints on an issue.
- **O**: Are **O**ther sources reporting the same story? Be your own fact-checker and verify the validity of the story.
- **T**: Is the story **T**imely? Check the date the story was published - sometimes, stories use old information to take advantage of a timely occurrence."

Appendix C: Additional Resources



OPENING HOOK

Video(s)

-  Snowboarder Girl Chased By Bear - I Was Singing Rihanna Work And D... (Kelly Murphy, 1:17s)
-  BBC: Spaghetti-Harvest in Ticino (MySwitzerland, 2:28s)

SECTION 1: DEEPPFAKES

Video(s)

-  Tom cruise magic #tomcruise #tiktok #viral (all in one channel, 0:20s)
-  Deepfakes: Can You Spot a Phony Video? | Above the Noise (Above The Noise, 0:00-**2:28s**, ***it is important to stop the video at 2:28s in order to keep the conversation appropriate for your participants**).

SECTION 2: FAKE NEWS

Infographic(s)

- Common Sources of Fake News Graphic (*see below*)
- Spread of Misinformation Graphic (*see below*)

Website(s)

- [Spot Fake News](#)

Video(s)

-  SPOT Fake News Online (News Media Canada, 1:00s)

SECTION 3: INSPECT THE MEDIA

Activity Resource(s)

- Endangered Species - Tree Octopus Article (*see below*)
- New Species - Australian Dinosaur Article (*see below*)
- SPOT Activity Page (*see below*)

Website(s)

- [Spot Fake News](#)



Common sources of fake news according to Canadians



Facebook

68%



Social media

65%



Websites

62%



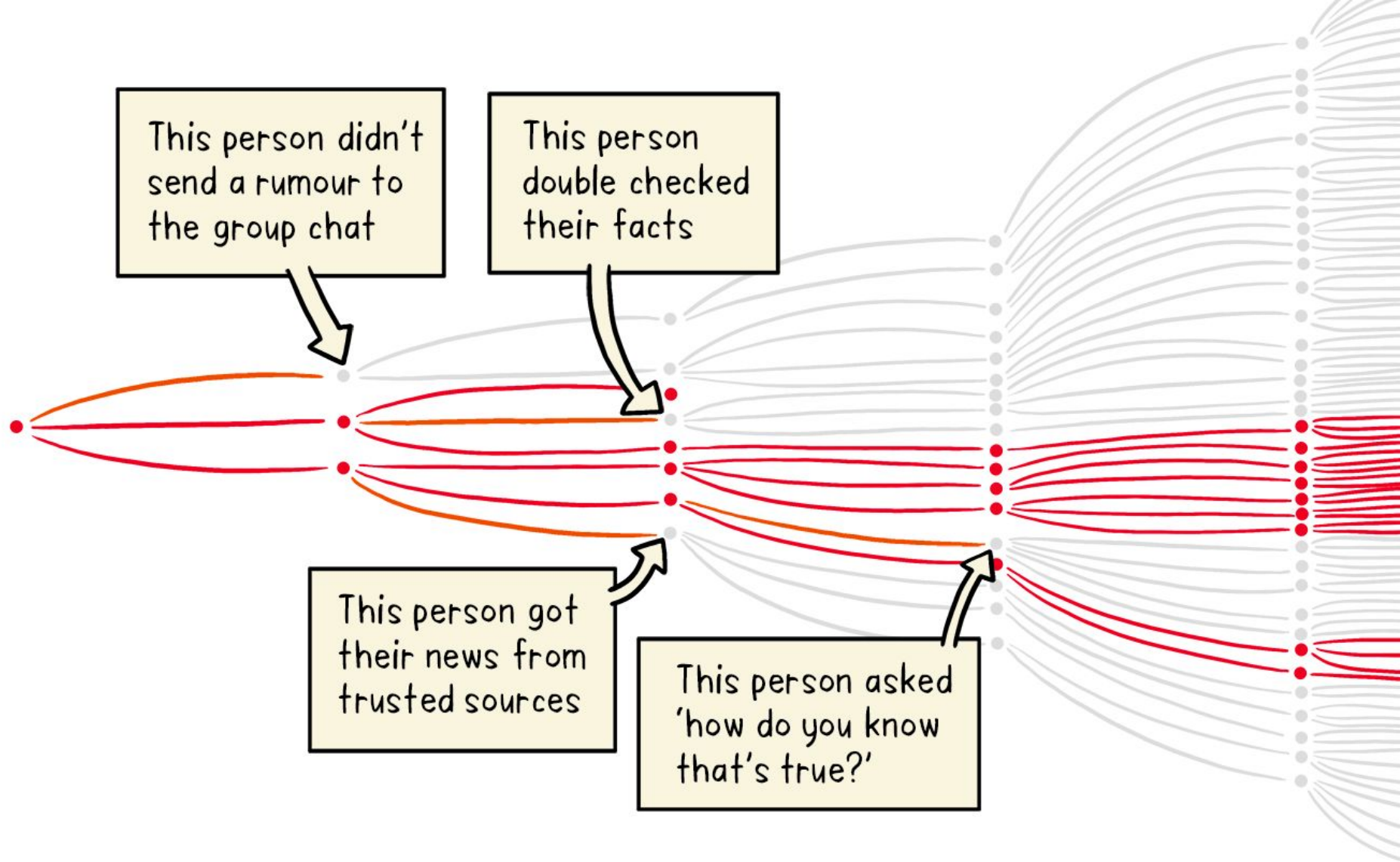
YouTube

49%



TV

45%



SCI NEWS

Officially Endangered: North America's Pacific Northwest Tree Octopus



PHOTO COURTESY OF ZAPATOPI | A Pacific Northwest Tree Octopus, North America's newest addition to their growing endangered list, utilizing camouflage. This species of cephalopods can grow to 30-33 cm (measured from arm-tip to mantle-tip).

“This endangered species faces the risk of extinction without fast action against climate change.” - Dr.

Zapatopi

The effects of climate change are more evident now, in 2022, than ever. In 2021, there were unprecedented reports of intense droughts, rising sea levels and melting glaciers – this trend is projected to continue.

Climate change is defined by [National Geographic](#) as “the long-term alteration of temperature and typical weather patterns in a place... The cause of current climate change is largely human activity, like burning fossil fuels, like natural gas, oil, and coal. Burning these materials releases what are called greenhouse gases into Earth’s atmosphere... This rise in the planet’s temperature is called global warming.”

The impacts of global warming and climate change are creating new challenges for survival for humans and species. There is a common misconception that only distant regions, e.g., the Arctic or the tropics, are impacted by climate change. The World Wildlife Foundation has used Polar Bears (*Ursus maritimus*) as the “poster child” of wildlife impacted by the effects of climate change.

We might also think about the dying Great Barrier Reef. The

[National Ocean Service](#) describes climate change as a major threat to the coral reef system, stating that “scientific evidence now clearly indicates that the Earth’s atmosphere and ocean are warming, and that these changes are primarily due to greenhouse gases derived from human activities”.

Hundreds of plant and animal species have already experienced changes because of climate change. Dr. Zapatopi has worked for decades to bring awareness to North American citizens to think about the impacts in their own backyards, and is devastated but not surprised that the Pacific Northwest Tree Octopus (*Octopus paxarbolis*) has now been added to the endangered species list. He recounts that “because of the moistness of the rainforests and specialized skin adaptations, they are able to keep from becoming desiccated for prolonged periods of time, but given the chance they would prefer resting in pooled water”. The impact of climate change on the Pacific Northwestern forests has meant that these regions are drier and have less precipitation thereby accelerating the dwindling number.

However, direct nearby human activity (e.g. deforestation, construction of roads, and tourists), has also negatively impacted them. Recent sightings on route to the Pacific Northwestern’s largest park, [Olympic National Park](#),



PHOTO COURTESY OF ZAPATOPI |

Taken 1942 when the masses believed this was an invasive species.

leaves more room for concern that these species will soon become extinct. Tanya Aloy, a park ranger at Olympic, found these creatures along the roadsides of highway I-5. Dr. Zapatopi believes the species have been disturbed by human activity and has given birth to the need for migration from their natural habitat. This disturbance has been heightened due to the pandemic, where more tourists have been visiting the parks without respecting the animals or environment.

Aloy comments that, “This is extremely dangerous the cephalopods – cars travel over 100km/hour”. They are working with their local community and scientists to develop solutions. For more information about the Pacific Northwest Tree Octopus and what you can do to help, visit Dr. Zapatopi’s website: [The Pacific Northwest Tree Octopus](#).

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Student NEWSLETTER

WELCOME BACK!

WEEK OF SEPTEMBER 3-7, 2021



Australotitan cooperensis - nicknamed Cooper after the creek the fossils were found in [via [The New York Times](#)]

Introducing... Australia's Newest & Largest Dinosaur Species!

Compared to the US, where the “dinosaur rush” started as early as the mid-19th century, Australia began its hunt for fossils relatively recently, with many discoveries in the past two decades. While we were on summer break, a new species was identified by paleontologists in Eromanga, Queensland: the *Australotitan cooperensis* (nicknamed Cooper). Cooper, a 95-98 million-year-old titanosaur, is Australia's largest dinosaur. According to [The New York Times](#), this species, seen in the image above, is “a long-necked herbivore from the Cretaceous period, is estimated to have weighed 70 tons, measured two stories tall and extended the length of a basketball court.” *Think about how that compares to our court.*

The bones were found by Robyn Mackenzie and her husband while mustering cattle on their property near the south western Queensland state town of Eromanga in 2006. Today, Cooper lives in the Australian Outback's [Eromanga Natural History Museum](#) (ENHM). According to Robyn Mackenzie, who not only spotted the dinosaur remains on her family farm but is also the director of the ENHM, “These are



Scott Hocknull poses with a 3D reconstruction and the humerus bone of Cooper [Eromanga Natural History Museum via [Al Jazeera](#)]

the largest dinosaurs that ever walked on earth and based on the preserved limb size comparisons, this new titanosaur is estimated to be in the top five largest in the world” ([Al Jazeera News](#), 2021).

[Scott Hocknull](#), a vertebrate palaeontologist and Senior Curator at the Queensland Museum in Brisbane, said it is the first time researchers can verify that Cooper is in fact Australia's largest dinosaur. In this interview, [Australotitan Cooperensis: Australia's Largest Dinosaur Found](#), Hocknull added that research around this is a long process of preparing the fossils and comparing them to other species of dinosaurs world wide.

This video: “[Model brings to life newly discovered species of dinosaur](#)” demonstrates the magnitude of the *Australotitan cooperensis* through 3D modeling - *how cool is technology?*



Australotitan cooperensis was the largest dinosaur species to have walked outback Australia [via [The Conversation](#)]

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SPOT Activity Page

SPOT (Source, Perspective, Other sources, and Timely) is a strategy you can use when reviewing a resource to figure out if it is reliable and credible.

Adapted from News Media Canada: <https://spotfakenews.ca/>.

SPOT	Think about it	Notes
<p>Is the SOURCE credible? Check the source of the article—and be on the lookout.</p> <p>Don't forget, your social networks are not media outlets—look for the original source and learn who they are and what they do.</p>	<ul style="list-style-type: none"> • What does the “about us” or contact info include? • Is the source credible and reputable? • Is this site meant to entertain, inform, explain, sell? • How does the url end (for example, these endings are often good: .com, .org, .net, .edu, .gov)? 	

<p>Is the PERSPECTIVE biased? See if you can find varying viewpoints.</p> <p>Remember, just because you don't agree with a particular view does not make it biased.</p>	<ul style="list-style-type: none"> • Is the full story shared? • Does it seem designed to be clickbait (created to tempt people to click on)? • Is this meant to be an opinion piece? 	
<p>Are OTHER sources reporting the same information? Try to verify the validity of the story.</p> <p>Look to see if multiple, credible sources—such as established media outlets—are reporting the same facts. If they are, it's more likely to be accurate.</p>	<ul style="list-style-type: none"> • Can other sources back up this information? • Who else has shared this information? • What type of source are they? 	

<p>Is the story TIMELY?</p> <p>Check the date the information was published.</p> <p>If information, facts, photos or videos are old, the information could be false or out-of-date.</p>	<ul style="list-style-type: none"> • Is a date shared? • Has it been updated recently? • Is the information from the past being skewed in the present? 	
<p>Is the source credible and reliable? Why? Why not?</p>		