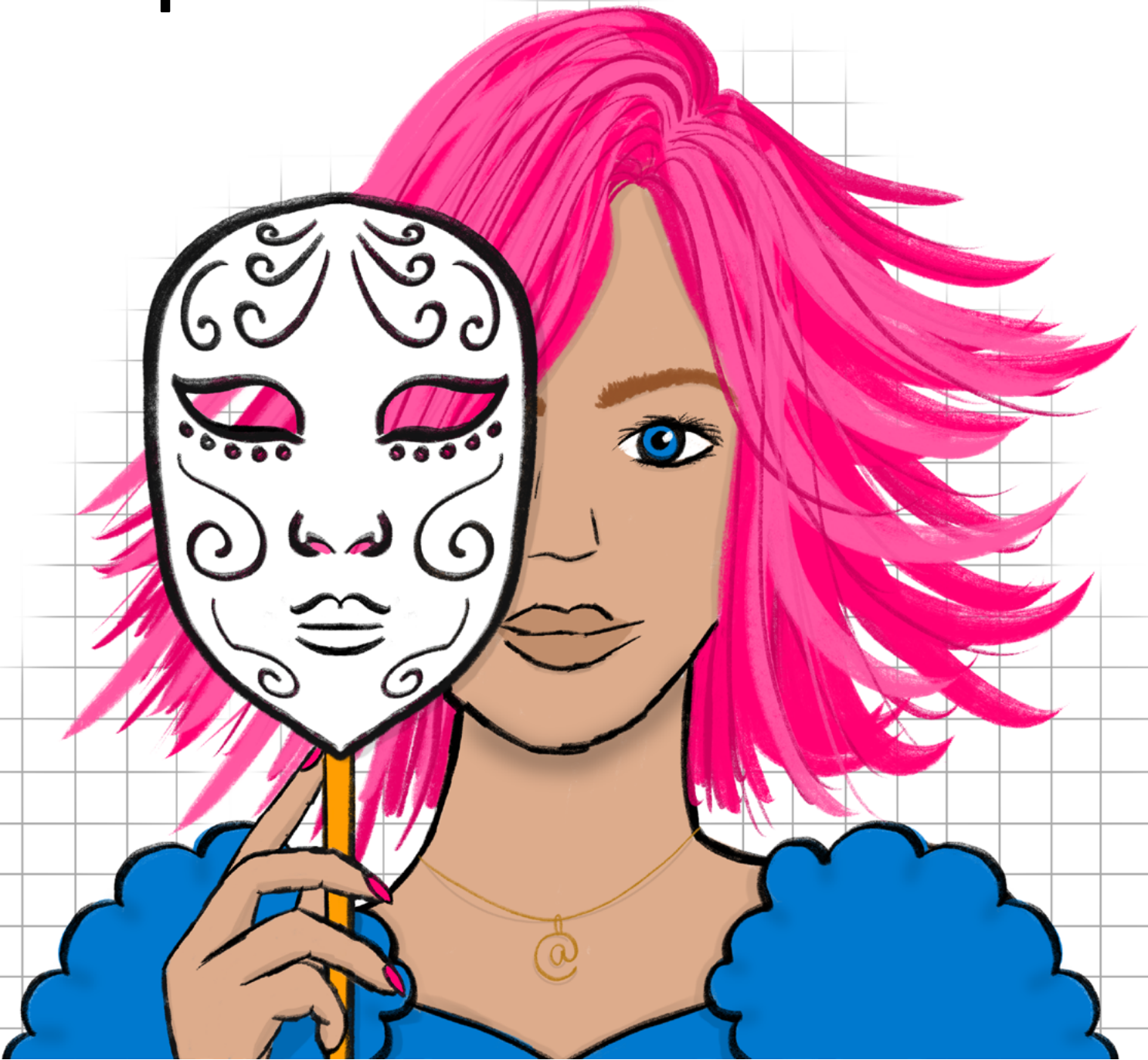


Grade 4-6 Lesson Plan

Unmasking Deception: Understanding and Identifying Deepfakes



Grade 4-6 Deepfakes and Synthetic Media Lesson Plan: “Unmasking Deception: Understanding and Identifying Deepfakes”

Grade Level: 4-6

Subject/Strand: Literacy

Topic: Deepfakes and Synthetic Media

Duration: approx. 50 mins (x 2 periods)

Prep time: approx. 40 mins.

Lesson Description

This lesson will equip students with an understanding of what deepfakes are; and help them develop the capability to identify and assess deepfakes and synthetic content online. Students will practice applying a diagnostic tool to assess online sources of information, which will help them develop the critical thinking skills necessary for identifying deepfakes and synthetic online content; and assessing their purpose, credibility, and accuracy.

Process

The lesson starts off with a teacher-guided discussion on the definitions and implications of deepfake technology and mis/disinformation. After going through the discussions, students have the chance to independently reflect on content they read, and/or create their own content to apply the learnings from the content portion of the lesson. The lesson ends off with students reflecting on what they learned in the lesson, and the activity.



The Ontario Curriculum, Language, Grades 1 to 8 (2023), Learning Goals, Success Criteria:

Curriculum Expectation – A2. Digital Media Literacy

Demonstrate and apply the knowledge and skills needed to interact safely and responsibly in online environments, use digital and media tools to construct knowledge, and demonstrate learning as critical consumers and creators of media.

Learning Goal

I can gather, evaluate, and use information effectively because I know and understand how to recognize deepfakes, misinformation, and disinformation.

Specific Curriculum Expectation	Success Criteria
<p>A2.3 - Gather, evaluate, and use information – considering validity, credibility, accuracy, and perspectives – to construct knowledge, create texts, and demonstrate learning.</p>	<p>I can define the terms “deepfake”, “misinformation”, and “disinformation”.</p> <p>I can identify the intentions, intended audience, and potential impacts of mis/disinformation and deepfakes in examples provided in class.</p>
<p>A2.4 - Demonstrate an understanding of the forms, conventions, and techniques of digital and media texts, consider the impact on the audience, and apply this understanding when analyzing and creating texts.</p>	<p>I can explain the potential purposes/use cases of deepfake and synthetic media technology.</p> <p>I can reflect on the impact of imagery on a piece of text.</p>
<p>A2.5 - Demonstrate an understanding of the interrelationships between the form, message, and context of texts, the intended audience and the purpose for production.</p>	<p>I can identify the intentions, intended audience, and potential impacts of mis/disinformation and deepfakes in examples provided in class.</p>

Curriculum Expectation - C1. Knowledge about Texts

Apply foundational knowledge and skills to understand a variety of texts, including digital and media texts, by creators with diverse identities, perspectives, and experience, and demonstrate an understanding of the patterns, features, and elements of style associated with various text forms and genres.

Learning Goals

I can articulate how the text elements in a communicated message could mislead or misinform an intended audience.

I can look for, and identify credible sources when looking for information.

Specific Curriculum Expectation	Success Criteria
<p>C1.4 - Explain how images, graphics, and visual design create, communicate, and contribute to meaning in a variety of texts.</p> <ul style="list-style-type: none">• C1.4 (Gr. 6) -> Analyze and compare how images, graphics, and visual design create, communicate, and contribute to meaning in a variety of texts.	<p>I can reflect on the impact of imagery on a piece of text.</p>

Curriculum Expectation - D1. Developing Ideas and Organizing Content

Plan, develop ideas, gather information, and organize content for creating texts of various forms, including digital and media texts, on a variety of topics.

Learning Goal

I can describe the impact that deepfakes, misinformation, and disinformation could have on an intended audience.

Specific Curriculum Expectation	Success Criteria
<p>D1.1 - Identify the topic, purpose, and audience for various texts they plan to create; and explain why the chosen text form, genre, and medium suit the purpose and audience, and how they will help communicate the intended meaning.</p>	<p>I can explain the potential impacts of deepfake and synthetic media technology.</p> <p>I can identify the intentions, intended audience, and potential impacts of mis/disinformation and deepfakes in examples provided in class.</p>

Curriculum Expectation - D3. Publishing, Presenting, and Reflecting

Select suitable and effective media, techniques, and tools to publish and present final texts, and critically analyze how well the texts address various topics.

Learning Goal

I can articulate how the text elements in a communicated message could mislead or misinform an intended audience.

Specific Curriculum Expectation	Success Criteria
<p>D3.2 - Publish and present texts they have created, using selected media and tools, and explain how each helped them communicate their intended message.</p> <p>D3.2 (Gr. 6) -> Publish and present texts they have created, using selected media and tools, and analyze how their choices helped them communicate their intended message.</p>	<p>I can reflect on the impact of imagery on a piece of text.</p>

Materials Needed

- **Slides**
- Analog activity: “**Shockwaves**” activity sheet (can be printed out for students to read)
- Digital activity: “**A Picture’s Impact**” activity sheet (for teacher’s reference)
- Whiteboard/chalkboard/Smartboard + writing tool
- Anchor chart for key definitions
- Chromebooks/tablets (optional)
- Microsoft PowerPoint/Microsoft Word (optional)
- Lined paper

Classroom Setup

- Classroom setup will be conducive to students pairing up to discuss the key definitions
- A screen/board with a projector will be used to display the lesson’s slides and deepfake video example
 - *Alternative:* In the absence of a screen and projector, images and content from the slides document can be printed out and shared with each student.
- Chart paper will be used to write down the key definitions discussed, and the **WROTS** (Who, the Reason, Other Trustworthy Sources) principles
 - *Alternative:* **Padlet** can be used as a digital option to share these concepts.*
 - *Prior to introducing new technology into your classroom, consult your board’s policies and procedures around educational technology and digital resources.
- *Optional:* Students will each have a classroom Chromebook or tablet to work on the “A Picture’s Impact” activity

Key Definitions

Misinformation

False information that is shared without the intent to cause harm. ([Canadian Centre for Cyber Security](#))

Disinformation

False information that is intended to manipulate, cause damage and guide people, organizations, and countries in the wrong direction. ([Canadian Centre for Cyber Security](#))

Simplified: False information that is shared on purpose to trick people, or cause trouble.

Deepfakes

Content (images, videos, audio) that has been digitally altered or created using artificial intelligence tools, to appear to be someone else, or show seemingly realistic events that didn't actually happen.

Fact-checking

A process of verifying the accuracy of a piece of information or content. This can be done through a variety of methods, using tools or searching through books and online.

Example:

You can





- Look to a primary source to verify a politician's quote by finding the original transcript of their speech,
- Verify scientific claims by consulting peer-reviewed studies, journals, and
- Check the validity of facts by consulting government websites, or credible sources.

Simplified: When you check to make sure that something you heard or read is true, before believing it or sharing it with others.

Lesson Plan

Lesson 1

**Approx.
Duration**

-  **Tips**
-  **Assessment**
-  **Curriculum Connections**
-  **Guidance on Inclusion**


Minds On

10 mins

Introduction/Icebreaker

As a class, take a look at the following images. Have students go to different sides of the room – one side if they think it’s fake, the other if they think it’s real. Alternative: Have students stay seated and raise their hands to indicate whether they think it’s fake or real.

Pre-made content (7 images) is available for use in the slides. Pick two or three to go through, unless you have sufficient time to go through all seven.

 **Tip:** If you choose to create your own content for your class, websites that are quick and easy to use include:


- OpenArt.ai (requires an account)
- thispersondoesnotexist.com

Action

10 mins

Have students do a think-pair-share for 5 minutes to attempt at defining the key definitions provided above to their fellow peers. Then, come back together as a class and discuss two to three pairs’ definitions.

The teacher can complete this discussion by having the definitions written on chart paper to put up in the classroom.

 **Tip:** Before getting into the definitions, ask for a show of hands to see whether your students know what misinformation, disinformation, and deepfakes are.

Optional: If your students have access to Chromebooks/tablets, you can use a digital tool for definitions such as Kahoot.com, Flip, and Padlet to gamify this definition-learning section.

**Approx.
Duration**

20 mins





How are deepfakes used?


Before going over some of the slides, consider asking students the questions on the right regarding why deepfakes are created, and implications of the technology. (5 mins)

Then, use the [slide deck](#) to walk through the impacts of this technology, and some tips to help students approach content they see online broadly, as well as encountering deepfakes in particular.


There are a lot of reasons for people to create/ use deepfakes. There are also many ways in which deepfakes can be used – many of which have been for harmful purposes.

1. They are often used to pretend to be someone else. This means they can be manipulated for identity theft, or to depict someone doing something they never did.
 - a. Example: Deepfake Drake used on a radio show (Virgin Radio), for entertainment purposes
2. There are also impacts on the individual level, and bigger impacts that affect society as a whole.
 - a. Interfering with elections (convincing people a politician said/did something, when they didn't, which might impact election results)
 - b. Identity fraud (using someone's personal information to commit a crime)
 - c. Scam attempts (to steal money or other things from someone, etc.)
 - i. e.g., A deepfake video of an influencer promoting an imaginary wellness product
 - ii. e.g., A Twitch message with a fake video of your online friend asking you to send them money to buy games on Steam

-  **Tips**
-  **Assessment**
-  **Curriculum Connections**
-  **Guidance on Inclusion**

 **Tip:** Take 2-3 answers from the class using the following questions as prompts:

- *Any guesses as to how deepfakes can be used?*
- *Why do you think deepfakes were created?*
- *How do you think they might be helpful? Or harmful?*

 **Tip:** Think of examples that might be relevant to your students to explain these concepts. Another option could be to reference these concepts in pop culture TV shows like *SpongeBob SquarePants*. Refer to the following episodes:





- Identity theft: “Missing Identity” (season 3)
- Scams: “Chocolate with Nuts” (season 3)



 **D.I. Approach:**

For Lesson 1 to be taught in shorter chunks, the teacher can split the lesson at the following section:





- Content: After the “Why” section, before the “How” section

**Approx.
Duration**

-  **Tips**
-  **Assessment**
-  **Curriculum Connections**
-  **Guidance on Inclusion**


	<p>If you have extra time... Either on an anchor chart or using Padlet (digital option), you can create running lists of examples of each type of impact listed above with the class. This will increase retention, and encourage students to get involved in thinking about the impacts.</p> <p>3. Simply put, all of these impacts occur because this technology is used to spread fake news.</p> <p>Explain: As humans, we tend to believe what we see because we rely on visual information more than our other senses.</p> <p>Knowing all of the ways this technology can be used and their potential harms, we need to be aware and prepared for the content we consume online, and have tricks up our sleeve to be able to identify when content is real or fake.</p>	
<p>15 mins</p>	<p>How should we approach this content?</p> <p>WROTS (Who, Reason, Other Trustworthy Sources) <i>Inspired by Learning for Justice</i></p> <p>Take a look at the source of the content.</p> <p>Who created it?</p> <ul style="list-style-type: none"> • On social media, you can look at the account that posted it. Get a show of hands of who has social media in the class. Explain that anyone can post content, so if you see something that spikes your attention, or is something you're learning about for the first time, it's always good to double check to see if something is true. • What's the reason behind why the content was posted? • Read laterally: Do other trustworthy sources say the same things as this content? Or something different? 	<p> Tip: To frame the next section, the teacher can ask:</p> <ul style="list-style-type: none"> • What are some questions we should be asking when we look at content? <p> Tip: Another model that has been used to do a similar analysis is the Media Triangle (Text, Audience, Creator)</p>

Approx. Duration

-  **Tips**
-  **Assessment**
-  **Curriculum Connections**
-  **Guidance on Inclusion**

- These sources can include news coverage, reputable online sites (e.g., government, educational), or fact-checking sites like Snopes.

Walk through the WROTS acronym above by writing these out while introducing them to the class. These three principles can be posted up in the classroom on chart paper for students to refer back to whenever they interact with online content.

 **Curriculum connection:**
A2.3 -> Gather, evaluate, and use information – considering validity, credibility, accuracy, and perspectives – to construct knowledge, create texts, and demonstrate learning.

Consolidation

5 mins

Wrapping up

To wrap up the session, have students fill out exit cards answering the following prompt. These exit cards can also be assigned as homework.





- What’s one reason why someone might create a deepfake, based on what you learned in class today?
- Do you remember the WROTS acronym? Write it out.



Lesson Plan

Lesson 2

**Approx.
Duration**

-  Tips
-  Assessment
-  Curriculum Connections
-  Guidance on Inclusion

Minds On

5 mins

Share the following tips with your students as a kick-off.





Tips to identify Deepfakes (*Caveat: This technology is getting better and more sophisticated, so don't rely solely on these!*)

Inspired by [CSIRO](#) and [MIT](#)

1. If it's a video, see if the audio is synced to the lip movement
2. Look at the face: eyes (unnatural blinking, flicking around the eyes), facial expressions (that don't match the tone of what's being said), cheeks, forehead
3. Look at the hands: size, fingers, whether it looks real
4. Shadows: are there any in areas you'd expect?
5. Some images may look airbrushed
6. Words are misspelled

Take a quick look at this deepfake video of Spiderman: No Way Home in the slides. Do any of the tips apply to this video? Students can shout out their responses as they review this video.

**Approx.
Duration**

-  Tips
-  Assessment
-  Curriculum Connections
-  Guidance on Inclusion

Action

10 mins

Play some sections from the linked video below containing deepfake examples for the class.

Split the class into groups of four, and have students discuss each of the deepfake examples, and point out which of the tips above help them identify the deepfakes they're seeing.

Have the groups fill in a placemat:

Student 1 writes here	Student 2 writes here
Student 3 writes here	Student 4 writes here

Videos:

[3 Deepfake Video Examples That Will Blow Your Mind](#)





[0:00-0:30] [This is not Morgan Freeman - A Deepfake Singularity](#)

Bring the class together after each deepfake discussion, and have one representative from each group share which tips they used to identify the deepfakes.

 **Assessment FOR Learning:**

Look for students using information from the “tips to identify deepfakes” list to support their response

**Approx.
Duration**

-  **Tips**
-  **Assessment**
-  **Curriculum Connections**
-  **Guidance on Inclusion**

30-50
mins

Class Activity

Analog Option

Duration: 30 mins

Resource: "[Shockwaves](#)"

Objective: Students will critically reflect on three different pieces of content and engage in class discussions regarding the intentions behind the content, and its possible impacts on its audiences.

1. The teacher can choose to either print out these pieces of text for students or provide Chromebooks/ tablets for students to view these pieces online.

There are three pieces of content for students to interact with. There is an option to conduct this activity either as an individual deskwork activity, or a group activity. If you opt to have students work in groups, split the class into groups of three, and assign one group to each piece of text below, providing 5 minutes to read. Consider prompting students to reflect on the intentions of the main characters in the text. Then, provide chart paper to each group, to have students discuss and write their reflections down for 10 minutes.

2. Give the students 5 minutes to read through the first piece of text – **misinformation**.

a. After students read through the piece, have the class reflect on:

- i. What are the intentions Emma had with sharing the health advice she saw online?
- ii. Who is the intended audience of the content created by the popular wellness influencer? What are the potential impacts?

Analog Option

 **Curriculum connection:**

A2.5 -> Demonstrate an understanding of the interrelationships between the form, message, and context of texts, the intended audience and the purpose for production.

C1.4 -> Explain how images, graphics, and visual design create, communicate, and contribute to meaning in a variety of texts.





C1.4 (Gr. 6) -> Analyze and compare how images, graphics, and visual design create, communicate, and contribute to meaning in a variety of texts.

 **Assessment AS Learning:**

Listen For:

- Students discussing the intentions behind a piece of content and give evidence to support their idea
- Students discussing the intended audience of the content mentioned in the text

**Approx.
Duration**

-  **Tips**
-  **Assessment**
-  **Curriculum Connections**
-  **Guidance on Inclusion**

- 3.** Give the students 5 minutes to read through the second piece of text – **disinformation**.

 - a.** After students read through the piece, have the class reflect on:

 - i.** What are the intentions Jake had with spreading disinformation?
 - ii.** Who is the intended audience of Jake’s content? What are the potential impacts?

- 4.** Give the students 3 minutes to look at the **deepfake image** and its accompanying description.

 - a.** After students look over it, have the class reflect on:

 - i.** What are the intentions behind the deepfake of Taylor Swift?
 - ii.** Who is the intended audience of this deepfake’s content? What are the potential impacts?
 - iii.** Does the picture of Taylor Swift change your understanding/belief of the message?





- 5.** If you opted to run this as a group activity, wrap up the activity by having each group share their piece of text, and reflections to the prompt questions.

Alternative: Instead of using the deepfake image provided in the activity, you can choose to find a deepfake image that touches upon pressing topics (e.g. social justice) in order to encourage students to think critically about the world around them.

 **D.I. Approach:**

Write the reflection questions on the board, for students to refer back to as they engage in the class discussion. Instead of having students engage in a class discussion, you can also split the class into three groups, have each group act out each one of the texts, and have the rest of the class answer the reflection questions.

**Approx.
Duration**

-  **Tips**
-  **Assessment**
-  **Curriculum Connections**
-  **Guidance on Inclusion**

Digital Option

Duration: 50 mins

Resource: "[A Picture's Impact](#)"

Objective: Students will get to create a piece of text in the form of a flyer and pair it with relevant imagery, to understand the difference in impact between texts with and without images. Students will apply the three principles learned in class (Who?; the Reason behind a piece of content; what Other Sources are saying) in their paragraph reflections.

1. Introduce the flyer as a new text form. Click into the link here, or in the slides to go over the key features of a flyer.
2. Provide each student with a digital device (e.g., classroom tablet, Chromebooks)
3. Students will create their flyers based on a topic they choose, or you can assign a topic for the whole class to work on. Potential topics are available in the activity sheet linked above.
4. After students have chosen their topic, instruct students to use their digital devices to search for three different credible sources, to find information related to their chosen topic.
 - a. Instruct students to use a search engine like Google. Type in your chosen topic, and press "Enter."
 - b. Look for reliable websites, like websites that end in .edu, .gov, or .org. Look for articles written by experts or well-known organizations.
 - c. Click on a few links and read the information. Make sure it explains your topic clearly.
5. Ensure students write down the source of the website they browse, who the "creator"/author of the source is, and take down point-form notes (approx. 3-5 points per source) on key facts about their chosen topic, so they can refer back to their notes as they develop their text.

Digital Option

 **Curriculum connection:**

A2.4 -> Demonstrate an understanding of the forms, conventions, and techniques of digital and media texts, consider the impact on the audience, and apply this understanding when analyzing and creating texts.





C1.4 -> Explain how images, graphics, and visual design create, communicate, and contribute to meaning in a variety of texts.

C1.4 (Gr. 6) -> Analyze and compare how images, graphics, and visual design create, communicate, and contribute to meaning in a variety of texts.

D1.1 -> Identify the topic, purpose, and audience for various texts they plan to create, and explain why the chosen text form, genre, and medium suit the purpose and audience, and how they will help communicate the intended meaning.

D3.2 -> Publish and present texts they have created, using selected media and tools, and explain how each helped them communicate their intended message.

**Approx.
Duration**

-  **Tips**
-  **Assessment**
-  **Curriculum Connections**
-  **Guidance on Inclusion**

An optional chart template is available in the activity sheet linked above.

6. After completing this step, students will then find an image on Google Images to pair with their text.

7. Using either Microsoft Word or Microsoft PowerPoint/Google Docs or Google Slides, students will create two versions of their flyer: a text-only version, and a text and image version. Examples are linked in the activity sheet.

8. If time allows and upon completion, students can write out a paragraph-long reflection on:

- a.** The differences between their two flyers, and how their choice of image may or may not have changed how their message gets across.
- b.** Does the flyer communicate your key message clearly, and who would your target audience be? Would this flyer reach your target audience?
- c.** The key message behind their flyers.
- d.** Summarize other sources of information they used to create their flyers in three sentences.

9. Provide an option for students to present their work by running either a) a gallery walk; or b) uploading students' flyers using tools like Padlet or whatever online learning platform your class uses.

- a.** If you choose to run a gallery walk, have students pin up both of their flyers somewhere on the classroom walls. Students can circulate around the room, and browse their classmates' flyers. Take the results back to the class and discuss the strengths of the selected top three flyers.
- b.** If you use a digital option/learning platform to upload the flyers, have students do the same voting and discussion as described above.

 **Assessment OF Learning:**

Teachers should assess students based on:





- Their ability to write down point-form notes of the sources they look through
- Their creation of two flyers (one text-only, one text & image)
- Their ability to look for credible sources, to find information related to their chosen topic
- Their ability to select an image, explain what elements it contains, and how the choice of their image is suitable for their target audience
- (Optional): Their reflection paragraph on the impact of imagery on their messaging

 **D.I. Approach:**

Students can submit an analog version of this activity, if necessary. Instead of requiring students to use digital devices to look up imagery, the images can be hand drawn to pair with their text.

Assessment Mode: Written, Performance (Write, Say, Do)

**Approx.
Duration**

-  **Tips**
-  **Assessment**
-  **Curriculum Connections**
-  **Guidance on Inclusion**

Consolidation

5 mins

Wrapping up

To wrap up the session, have students fill out exit cards answering the following prompts. These exit cards can also be assigned as homework.

For Grade 4-5:

Introduce the 3-2-1 exit card:

- 3 - Things you understand: Write down one tip you learned to test whether information is accurate or not.
- 2 - Things you wonder: What is a question you still have about this lesson?
- 1 - What is one tip we haven't covered today that you would suggest to your friend?

For Grade 6:

Write down a paragraph in response to this prompt: From your own perspective, what do you think makes pictures especially convincing when determining whether a piece of information is accurate or not? Why or why not?

Curriculum connection:

A2.3 (Gr. 4-5) -> Gather, evaluate, and use information – considering validity, credibility, accuracy, and perspectives – to construct knowledge, create texts, and demonstrate learning.

C1.4 (Gr. 6) -> Analyze and compare how images, graphics, and visual design create, communicate, and contribute to meaning in a variety of texts.

Assessment FOR Learning (Gr. 4-5):

Can students recall the knowledge they learned in class?

Assessment OF and Learning (Gr. 6):

Students make text-to-world/text-to-self/text-to-text connections to answer the prompt. This may be done through recalling personal experiences of believing text when paired with images, or a TV show with a main character being convinced of a message's validity by the presence of an image. Can students independently write their ideas into a paragraph? Can students provide supporting details for their opinion?

Assessment Mode: Written

Extension Activities

1. Get the students to try reverse image searching, to see if they can find the source of the images provided in the slides. If the image is AI-generated, Google will be unable to come up with results for a source! (This allows students to practice discovering who the author of a piece of content is, in a different way.)

Link here to learn more about reverse image searching: <https://www.searchenginejournal.com/reverse-image-search-complete-guide/370012/>

2. Have students choose and fill in one of the following prompts related to mis/disinformation, or deepfakes:

- a. Text-to-world: Someone I know had this happen to them... OR I saw a piece of news related to mis/disinformation or deepfakes...
- b. Text-to-text: This reminds me of a story/book/TV show/movie..
- c. Text-to-self: I had this happen to me one time when...

Background on this lesson

Big Idea:

Understanding Media: The Power and Impact of Digital Content

Inquiry Question:

How can we tell what is real or fake in the digital world, and why does it matter?

A Bit about Deepfakes and Synthetic Media

As AI-generated content has become increasingly sophisticated, it's become more difficult to discern between 'real/authentic' or 'manipulated' content and information. Deepfakes and synthetic media are a form of AI-generated content, creating realistic depictions of people and events (CNTI, 2024). Common deepfakes include face swaps, lip syncing, and voice cloning.

While the technology is not dangerous on its own, it has been used by people with malicious intent, and foreign adversaries. Used to deceive viewers, this technology has led to an overall increased uncertainty about media in general, defamed reputations and perceptions, and contributed to an overall undermining of democracy (Government of Canada, 2023; Hancock and Bailenson, 2021; Diakopoulos and Johnson, 2020).

Building Resilience Against Deepfakes

As humans, we rely on visual information more than other forms of sensory information. As a result, our susceptibility to believing visual depictions of information is high, meaning we should be well-equipped to critically assess the digital content we encounter. There are various ways to build resilience against deepfakes – from enhancing media literacy, priming individuals to be prepared for AI-generated content, and raising public awareness of deepfake-related threats. Organizations, governments, and companies have been looking into watermarking authentic content, banning deepfake/AI-generated content in certain contexts like election discourse, and implementing effective cybersecurity protocols ([Clarke, 2024](#); [Government of Canada, 2023](#)). Overall, being able to critically assess content has been recognized as a crucial skill.

Recognizing the deceptive nature of deepfake technology and synthetic media, this lesson equips students with a basic understanding of the technology and its potential impacts. The class activities are designed to provide an opportunity for students to build transferable skills to ask questions; and a foundation to critically assess online content, and to create and analyze their own content. Students will come away from the lesson being able to understand the impact of imagery on a piece of text's meaning, and to take these reflections into their own online interactions and experiences.

Intention behind the activities

“Shockwaves” (analog): This activity provides students with the opportunity to interact with three different pieces of text – one that depicts misinformation, another that depicts disinformation, and a deepfake example paired with a caption. Through students' analysis of the pieces, they are able to ask critical questions about the intentions, intended audience, and potential impacts of the texts they read.¹ This will equip them in future interactions with different pieces of text, as they will have practiced asking probing questions about the content they consume.

“A Picture's Impact” (digital): This activity is designed to have students reflect on the impact of imagery on a piece of text.² Students have the opportunity to search for credible information, create two flyers, and reflect on the key messaging of their flyers. This activity encourages students to think critically about the power of images, especially when they come across different types of media in the future.

Wrap-up: For grades 4-5, this exit card seeks to test students' knowledge of the tips learned in class, and have them reflect on what they are still unsure/curious about. For grade 6, this exit card provides students a chance to connect their own opinions and knowledge with their reflections on the impact of images.

¹ A2. Digital Media Literacy. <https://www.dcp.edu.gov.on.ca/en/curriculum/elementary-language/grades/grade-4/a/a2>.

² C1. Knowledge about Texts <https://www.dcp.edu.gov.on.ca/en/curriculum/elementary-language/grades/grade-4/c/c1>, <https://www.dcp.edu.gov.on.ca/en/curriculum/elementary-language/grades/grade-6/c/c1>.

Supports for Assessment

Prior Learning:

- Students may have experience interacting with mis/disinformation and deepfakes during their own online engagement, using social media platforms like YouTube, Instagram, and TikTok.
- Students may know how to search for relevant images using applications on a computer, smartphone, or other device (e.g., Google Images).
- Students may know how to use Microsoft Word or Microsoft PowerPoint.
- Students have their own mental frameworks/predispositions for how to determine whether something is true or false.
- Students may have encountered the concept of unreliable narrators in novels or short stories.
- Students may have practice gathering information to construct knowledge, create texts, and demonstrate learning in other subjects.

Students' learning will be demonstrated by:

- Writing an exit card to reflect on the reason behind someone creating a deepfake, referring to knowledge learned in class
- Discussing deepfake examples with their classmates and using tips learned about to identify deepfakes, in order to fill out the group discussion placemat
- Analyzing the three different pieces of content through discussing the intentions behind a piece of content, and intended audiences, and engaging in the subsequent class discussion
- Creating two flyers to convey a key message – one that's text-only and one paired with an image. This will be supported by their ability to look for, and use credible sources to search for information, and the ability to select an appropriate image for their target audience

Assessment Tool

"A Picture's Impact" Assessment Tools*

Assessment Mode: Written, Performance (Write, Say, Do)

Curriculum Connection: A2.4, C1.4, D1.1, D3.2

*There are two options below to assess this activity

Option 1: Success Criteria Checklist

Look for the following, and provide descriptive feedback:

Students are able to write down point-form notes of the sources they look through.

Students create two flyers (one text-only, one text and image) that are well-organized.

Students are able to look for credible sources, in order to find information related to their chosen topic.

Students are able to select an appropriate image, explain what elements it contains, and how the choice of their image is suitable for their target audience.

Students embed the WROT (**W**ho?; the **R**eason behind a piece of content; what **O**ther **S**ources are saying) analysis in their written paragraph response.

Students use conventions (e.g. grammar, spelling, punctuation, usage), and vocabulary of the lesson appropriately.

Option 2: Rubric

Expectation	Level 1	Level 2	Level 3	Level 4
<i>Knowledge and Understanding</i>				
Understanding of content The WROT (Who?; the Reason behind a piece of content; what Other Sources are saying) analysis is embedded in their written paragraph response.	The WROT analysis is missing or only partially addressed. The response lacks clarity and coherence.	Attempts to include the WROT analysis, but one or more components may be underdeveloped or unclear. The response is somewhat coherent.	Clearly embeds the WROT analysis within their response. The response and analysis is coherent.	Embeds the WROT analysis seamlessly, and the paragraph is cohesive.
<i>Thinking</i>				
Use of planning skills Find and take notes on three credible sources.	The student finds fewer than three sources, or the sources chosen are not credible or relevant. Notes are minimal, unclear, or missing important information. The notes lack organization.	The student finds three sources, but one or more may lack credibility or relevance. Notes capture some important information, but there are some inaccuracies or gaps in understanding. The notes are somewhat organized, but key details may be missing.	The student finds three credible and relevant sources. Notes are clear, accurate, and capture the essential information from the sources. The notes are organized logically and provide a good summary of each source's key points and ideas.	The student finds three highly credible, relevant, and diverse sources. Notes are thorough, detailed, well-organized, and effectively synthesize the information from the sources.
Use of processing skills Synthesize and evaluate key points from the research process to include in the flyers.	Uses processing skills with limited effectiveness. Information chosen lacks relevance.	Uses processing skills with some effectiveness. Some key points are included.	Uses processing skills with considerable effectiveness. Key points are chosen appropriately.	Uses processing skills with a high degree of effectiveness. Key points are chosen thoughtfully and appropriately.

Expectation	Level 1	Level 2	Level 3	Level 4
<i>Communication</i>				
<p>Expression and organization of ideas and information in visual and written forms</p> <p>Create two flyers: one that's text-only, one with text and an image.</p> <p><i>(Curriculum Connection A2.4)</i></p>	<p>Creates only one flyer or both flyers are incomplete. The text in the flyers is unclear, contains significant errors, and does not serve the intended purpose. The image (if included) is irrelevant or distracts from the message.</p>	<p>Creates both flyers, but one may lack key components (e.g., missing text or image). The text communicates a basic message but may contain several errors in grammar, spelling, or clarity. The image included adds some value but may not be well-aligned with the content.</p>	<p>Creates both flyers. The text is mostly clear and appropriate for the purpose of the flyer, with minor errors. The image chosen is relevant and enhances the message, though there may be room for better alignment or quality in the design.</p>	<p>Creates both flyers with precision and creativity. The text is clear and error-free. The image in the second flyer is well-chosen, aligns with the text, and enhances the overall effectiveness of the message.</p>
<p>Use of Conventions (e.g., grammar, spelling, punctuation, usage), vocabulary, and terminology of the lesson in written and graphic forms, including media forms.</p>	<p>Inconsistent use of vocabulary, with frequent errors that hinder understanding.</p>	<p>Basic understanding of vocabulary is demonstrated, with several errors in grammar, spelling, punctuation, or usage.</p>	<p>Conventions are used correctly with minor errors that do not affect clarity. Vocabulary and terminology are appropriately and accurately integrated.</p>	<p>Conventions are used with a high degree of accuracy and precision, demonstrating clear and polished writing.</p>

Expectation	Level 1	Level 2	Level 3	Level 4
<i>Application</i>				
<p>Transfer of knowledge and skills to new contexts Answer the following: The differences between the two flyers, and how their choice of image may or may not have changed how their message gets across The key message behind their flyers Summarize other sources of information they used to create their flyers in three sentences</p> <p>(Curriculum Connection C1.4, D1.1)</p>	<p>Provides minimal or unclear comparisons between the two flyers, with little to no mention of how the choice of image influenced the message. The key message of the flyers is vague or missing, and the summary of additional sources is incomplete.</p>	<p>Attempts to describe differences between the two flyers but lacks depth in the analysis, regarding the impact of the image on the message. The key message of the flyers is somewhat clear, and the summary of the sources is present but may not fully capture relevant details.</p>	<p>Clearly describes the differences between the two flyers. The key message is articulated clearly, and the summary of the other sources is concise.</p>	<p>Provides a detailed analysis of the differences between the two flyers, with a thoughtful explanation of how the image choice influences the message. The key message is articulated clearly, and the summary of the sources is concise.</p>
<i>Learning Skills/Work Habits</i>				
Organization				
Independent Work				

Wrap-up (Gr. 6) Rubric

Assessment Mode: Written

Expectation	Level 1	Level 2	Level 3	Level 4
<p>Success Criteria: I can identify and reflect on the difference between text-only messages and messages paired with images.</p>				
<p><i>Knowledge and Understanding</i></p>				
<p>Understanding of content Recall what characteristics make a piece of information accurate, or for humans to be susceptible to believing information.</p> <p><i>(Curriculum Connection C1.4)</i></p>	<p>Demonstrates limited knowledge of content.</p>	<p>Recalls some characteristics. The response may be partially accurate, but may contain misunderstandings.</p>	<p>Accurately recalls key characteristics. The response is clear and shows a solid understanding.</p>	<p>Demonstrates a thorough and detailed recall of the characteristics.</p>
<p><i>Thinking</i></p>				
<p>Use of critical thinking processes Infer, interpret and consider personal or other connections in which pictures have impacted their perception of a piece of information.</p>	<p>Uses critical thinking processes with limited effectiveness.</p>	<p>Uses critical thinking processes with some effectiveness.</p>	<p>Uses critical thinking processes with considerable effectiveness.</p>	<p>Uses critical thinking processes with a high degree of effectiveness.</p>
<p><i>Communication</i></p>				
<p>Use of conventions (e.g., grammar, spelling, punctuation, usage), vocabulary, and terminology of the lesson in written form.</p>	<p>Inconsistent use of vocabulary, with frequent errors that hinder understanding.</p>	<p>Basic understanding of vocabulary is demonstrated, with several errors in grammar, spelling, punctuation, or usage.</p>	<p>Conventions are used correctly with minor errors that do not affect clarity. Vocabulary and terminology are appropriately and accurately integrated.</p>	<p>Conventions are used with a high degree of accuracy and precision, demonstrating clear and polished writing.</p>

Expectation	Level 1	Level 2	Level 3	Level 4
Application				
Making connections within and between various contexts Make text-to-world, text-to-self, or text-to-text connections to answer the prompt.	Minimal or unclear connections are made between the text to their own experiences, other texts, and to the world.	Basic connections are made, but may lack relevance to the prompt.	Clear and relevant text-to-world, text-to-self, and text-to-text connections are made.	Connections made are deeply relevant and demonstrate a strong ability to synthesize information across different contexts.
<i>Learning Skills/Work Habits</i>				
Organization				
Independent Work				



Guidance on Inclusion

Differentiated Instruction Approaches

- For Lesson 1 to be taught in shorter chunks, the teacher can split the lesson at the following section:
 - Content: After the “Why” section, before the “How” section
- There are two activity versions (digital and analog):
 - “Shockwaves” activity (analog)
 - Write the reflection questions on the board, for students to refer back to as they engage in the class discussion.
 - Instead of having students engage in a class discussion, the teacher can also split the class into three groups, have each group act out each one of the texts, and have the rest of the class answer the reflection questions.
 - “A Picture’s Impact” activity (digital)
 - Students can submit an analog version of this activity, if necessary. Instead of requiring students to use digital devices to look up imagery, the images can be hand drawn to pair with their text.

IEP program implications

Accommodations and Supports

General:

- Chunking information -> Break the lesson into smaller sections, such as teaching the “What?” section on one day, and the “Why?” and “How?” sections on subsequent days.
- Visual supports -> Use anchor charts with key definitions and examples of deepfakes, misinformation, and disinformation.
- Instead of students writing out their responses, an option to type their responses can be provided.
- If they are unable to complete it in class, allow extra time for students to complete their written responses.
- If necessary, allow for oral responses instead of written ones.
- Provide English Language Learners (ELL) with step-by-step guidance, and model the tasks to help them follow along.
- Include specific language objectives that focus on vocabulary and grammar.

Introduction/Icebreaker Option:

- Provide students with two sheets of paper to raise up – one that says “real”, the other that says “false”. Instead of having students go to either side of the room, instruct students to raise which sheet of paper corresponds to the images they see.
- Students can also have the option to shout out whether they think the image is real or false.

Content:

- Write out the key concepts taught – definitions, WROTS principles, and tips to identify deepfakes on chart paper, and post it in the classroom to reinforce students’ memory.
- If students require visual aids or have visual impairments, you can explain that, beyond deepfake imagery, there are also audio deepfakes. Some tips to identify audio deepfakes include:
 - Slurring, naturalness (flat and dry), background noise (although the same caveat with video/image deepfakes apply: they are getting better, so sometimes you can’t tell)
 - Example: Daily Headlines with ‘Deepfake Drake’

“Shockwaves” Activity:

- Incorporate the use of user assistive technology, such as text-to-speech software for reading content.
- Allow students additional time to complete the activity and the reflection questions.

Modifications

Content:

- Focus on having students remember the WROTS principles and the tips to identify deepfakes, to reduce the number of elements needing to be recalled. Beyond writing these tips on chart paper, feel free to print out these principles and tips for each student to keep as a reference on their desks.
- Simplify the “What?” section by focusing only on the definition of deepfakes and providing one clear example.
- Provide a simplified version of the content, with key points highlighted for students to focus on.

“Shockwaves” Activity:

- Instead of going through all three pieces of media/text provided, you can choose to only focus on one or two of the pieces (mis/disinformation and the deepfake, or only the deepfake) for students who need some more time to process information.
- The teacher can also search online for additional examples for students who would like a challenge.
- Provide a simplified graphic organizer for students to fill in with the main ideas and examples.

“A Picture’s Impact” Activity:

- For students who need a bit more time to work on their assignments, there is an option to only do one flyer with the text and image, instead of both the text-only, and text and image flyers.
- Reduce the number of reflection questions or simplify them for students who need it.

Additional Resources & Cross-curricular Opportunities

Adobe’s [Real or Photoshop](#) interactive quiz

Potential Cross-curricular connections

Activity	Cross-curricular connection
<p>“Why” section -> Deepfakes to interfere with elections</p>	<p>Grade 6: Social Studies</p> <ul style="list-style-type: none"> • B2: Use the social studies inquiry process to investigate some global issues of political, social, economic, and/or environmental importance, their impact on the global community, and responses to the issues. <p>Students can be encouraged to develop questions to further explore the impact of deepfakes on elections, whether there are any local ties/examples of deepfakes impacting the city they live in, and what collaboration to prevent this action could look like.</p>
<p>“Shockwaves” activity</p>	<p>Grade 4: Health and Safety</p> <ul style="list-style-type: none"> • C1.2: Identify risks associated with communication technology. <p>The teacher can prompt students to consider what risks associated with communication technology are implied in the stories they read in this activity.</p> <p><i>Grade 5: Health and Safety</i></p> <ul style="list-style-type: none"> • C3.2: Explain how a person’s actions, either in person or online, can affect their own and others’ feelings, self-concept, emotional well-being, and reputation. <p>Prompt students to consider how the key character in the two pieces of text (mis- and disinformation) affects others with their actions online, and whether there was any impact on their reputations.</p> <p><i>Grade 6</i></p> <p>Instruct students to develop flyers about any cross-curricular subject.</p>

The Dais is a public policy and leadership think tank at Toronto Metropolitan University, working at the intersection of technology, education, and democracy to build shared prosperity and citizenship for Canada.

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