

The promise and pitfalls of public science communication

Les promesses et les pièges de la communication scientifique au grand public



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THE POTENTIAL AND PITFALLS OF PUBLIC SCIENCE COMMUNICATION

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Before we begin:

1. Please sit at a table with attendees from other MSIs
2. Join the Wooclap event using a smart phone, or laptop →

How to participate?



1 Go to wooclap.com

2

Enter the event code in the top banner

Event code
MBJZEN

Enable answers by SMS



What is Science Communication?



What is Science Communication?

Science communication is a type of interpretation

Interpret (verb)

1 : to explain or tell the meaning of : present in understandable terms

Merriam-Webster

HERITAGE INTERPRETATION

An educational activity which aims to reveal meaning and relationships through the use of original objects, by first-hand experience, and by illustrative media, rather than simply to communicate factual information.

- Freeman Tilden

TILDEN'S PRINCIPLES

Relate to your audience

Use information to **reveal** meaning

(don't just list facts)

Be **expressive**

Provoke rather than instruct

(inspire action)

Tell the whole **story**



SCIENCE
COMMUNICATION



SCIENCE
INTERPRETATION

Public Science Communication can take
many forms...

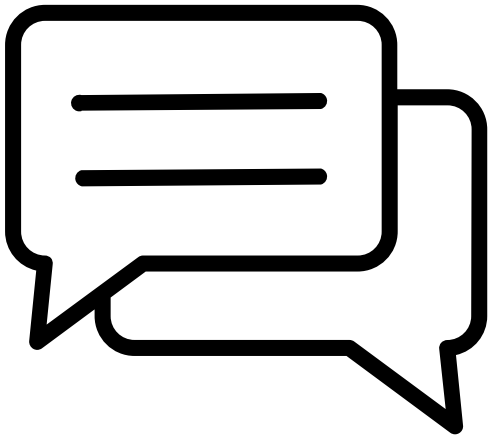




...and bad Science Communication
leads to miscommunication,
misinformation, and mistrust!

WHERE TO START?

FIRST IDENTIFY...



What do you want to say?

What's your message?
What action are you trying to provoke?

Who are you talking to?

Who is the message for?



Who is YOUR public?

The background of the slide is a solid blue color. Overlaid on this background is a faint, light blue graphic of a globe. The globe is represented by a grid of latitude and longitude lines. The lines are thin and semi-transparent, creating a subtle watermark effect. The globe is centered in the lower half of the frame, with its top edge near the bottom of the text.

KNOW YOUR AUDIENCE

ADAPT YOUR MESSAGE

ADJUST LANGUAGE

Appropriate

Accurate

Use plain language
when possible

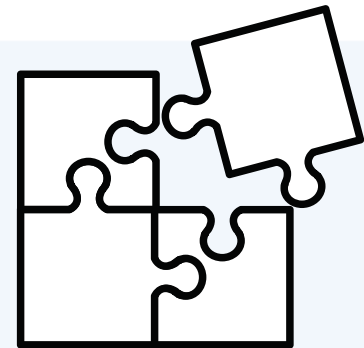


Avoid jargon

PUT THINGS IN CONTEXT



Frame of reference



Fill knowledge gaps

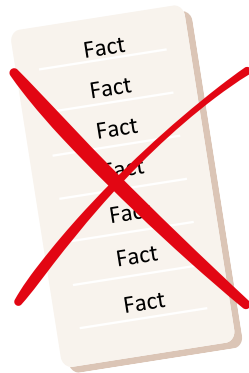
CREATE CONNECTIONS

SAGE ON THE STAGE -VS- GUIDE ON THE SIDE

CONNECT INFORMATION



Tell a story



Don't list facts

CONNECT TO THE AUDIENCE

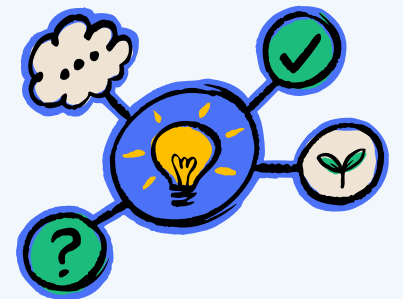


Encourage engagement



Be

authentic



Make it relevant

MAKE IT CLEAR

PRESENTATION IS KEY TO UNDERSTANDING

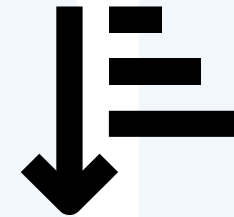
CLARIFY CONTENT



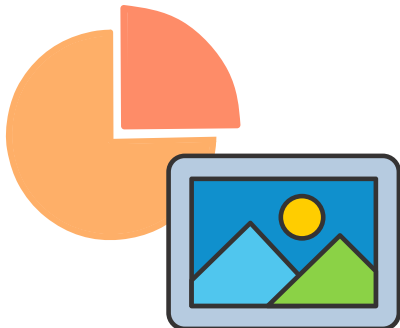
Life is like
a box of
chocolates...

Use analogies and metaphors

MAKE IT SHORT AND SWEET



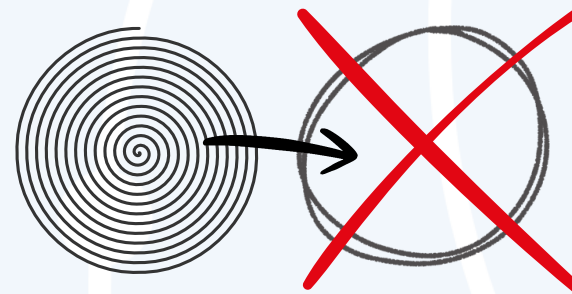
Be concise



Use visuals



Get Hands-on



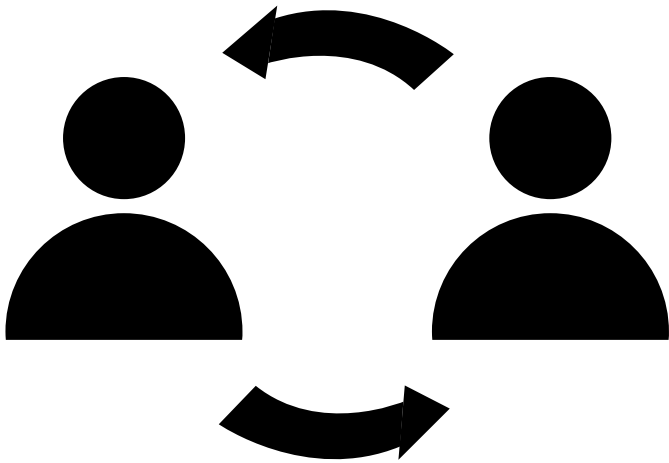
Don't oversimplify



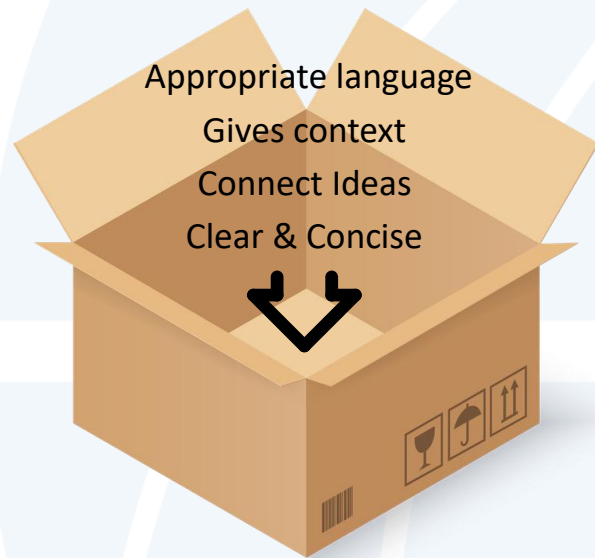
Avoid overloading

GOOD SCIENCE COMMUNICATION

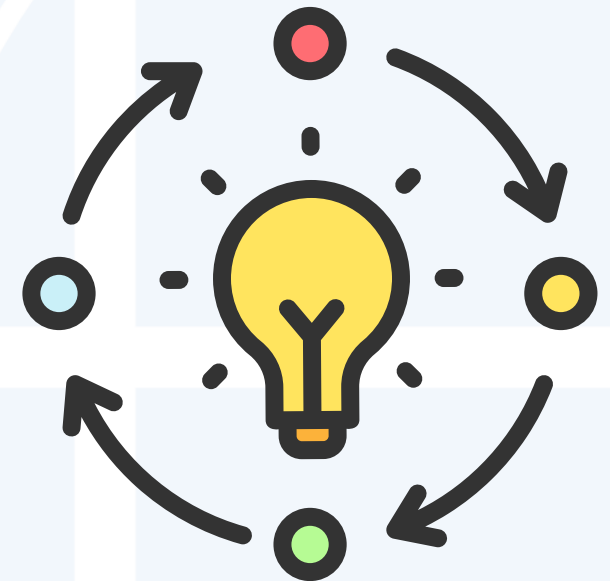
IS...



...a two-way dialogue



...packaged properly

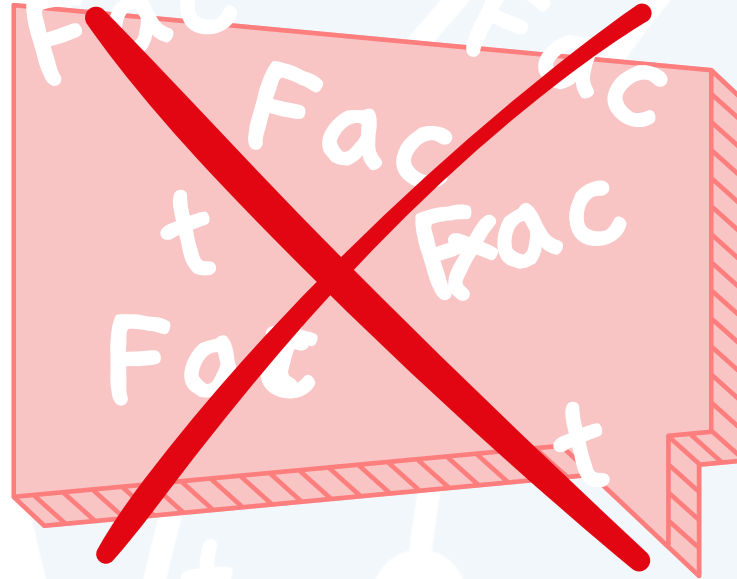


...relevant and meaningful

GOOD SCIENCE COMMUNICATION ISN'T...



...a lecture



...a bunch of facts



...overly complex
or overly simplified

LET'S PRACTICE!

1. Split into groups of 4 at your table
2. Choose a scenario
3. 2 practice and 2 observe (5 minutes)
4. Then switch (5 minutes)

CHOOSE A CONCEPT THAT'S RELATED TO YOUR MSI FACILITY AND EXPLAIN IT TO...



University management or staff

High school student group

Public at an outreach event

Politicians or policy makers

Journalist or media

STRUCTURE YOUR STORY

USE THE ABT METHOD

INTRO/HOOK

The André E. Lalonde National Facility for AMS, funded by CFI, is Canada's centre for measuring and researching low-levels of radioactive isotopes in the environment.

AND

We detect tiny amounts of radioisotopes in all kinds of samples, like water, wood, soil, and even fish! Our work supports research from many different scientific disciplines - everything from archeology to environmental science.

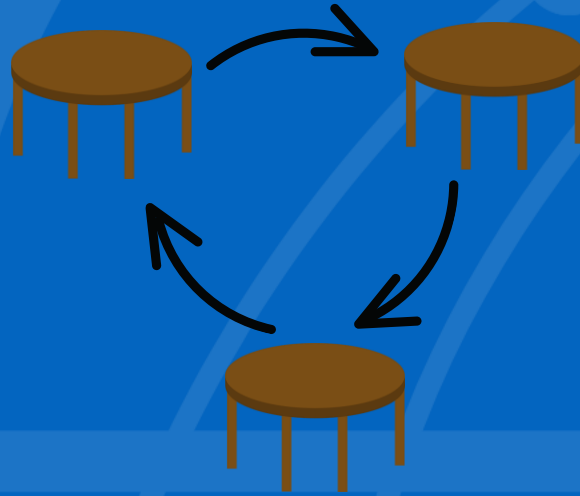
BUT

Right now, Canada and the world are facing tough environmental challenges. Researchers need access to accurate radioisotope measurements for nuclear monitoring, tracing the flow of groundwater, and to understand past climates to be able to predict future changes.

THEREFORE

Our facility provides the data that scientists' need to address these important issues. We will continue to serve the international scientific community by providing reliable radioisotope results and sharing our knowledge by training the next generation of radioisotope scientists.

MUSICAL CHAIRS!



Please move to sit with members of your MSI facility

MAKE AN “ELEVATOR PITCH”

Explain your facility to someone with
little-to-no scientific background
in 30 seconds or less



Don't forget!

- Tell a story: use ABT structure
- Create meaning...think “Why are you important?
Why should they care?”



SHARE YOUR “ELEVATOR PITCH” Volunteers?

How do we adapt science communication to social media?

Remember...we start with message and audience!

Which social media platforms have you used?



SOCIAL MEDIA IN 2025

MOST POPULAR APPS - MONTHLY ACTIVE USERS



Facebook - 3.07 Billion

Instagram - 3 Billion

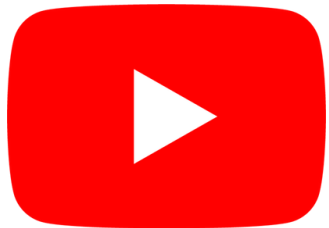


Youtube - 2.58 Billion

TikTok - 1.9 Billion



X - 557 million



*LinkedIn - 310 million



FIND YOUR AUDIENCE

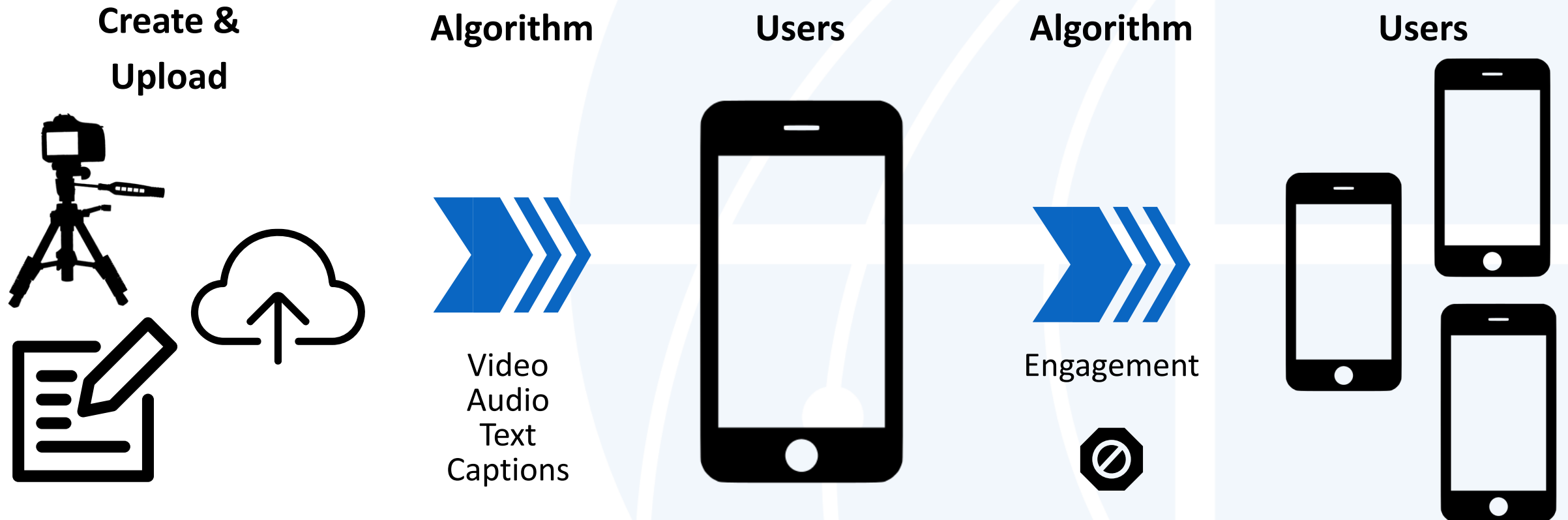
MATCH THE MESSAGE TO THE PLATFORM

Percentage of active users of each platform (age 16+) who say they use that platform for each kind of activity

Social Media Platform	Looking for fun or entertaining content	Follow or research brands and products	Keep up to date with news and current events	Message friends and family	Post or share photos or videos
Facebook	55.9%	53%	58.3%	71.9%	62.0%
Instagram	67.9%	62.8%	55.8%	62.4%	70.1%
TikTok	80.3%	56.2%	49.4%	26.3%	45%
LinkedIn	12.9%	26.6%	29.7%	13.9%	17.6%
X	35.7%	38.1%	59.7%	19.4%	28.3%

THE ALGORITHM

HOW IS CONTENT DELIVERED TO USERS?



POTENTIAL & PROBLEMS

UNIQUE CHALLENGES OF SOCIAL MEDIA

POSITIVES

- Large potential audience
- Positive audience interactions
- Little to no cost
- Increased visibility
- No risk to MSI infrastructure

NEGATIVES

- Misinformation can spread rapidly
- Platforms privately owned
- Time consuming
- Negative audience interactions
- Inconsistent content performance

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BACK TO BASICS

SCIENCE COMMUNICATION ON SOCIAL MEDIA

FIRST IDENTIFY...

Why are you posting?

What messages do you want to share?
What outcome or action are you hoping for?

Who are you posting for?

What audience are you hoping to reach?

STRUCTURING POSTS

USE ABT...AGAIN!



START WITH HOOK!

Get the audience's attention!
Why is this information exciting?

Tell your "story"

Use ABT structure
Make it meaningful for the intended audience...

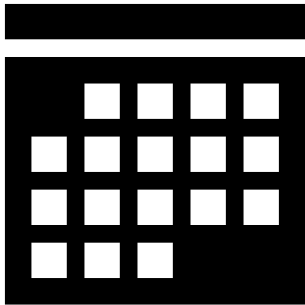
Be authentic

Connect and relate to your audience



THINGS TO REMEMBER

IF YOU HAVEN'T ALREADY



CREATE A POSTING SCHEDULE

Consistency is key...

INVITE ENGAGEMENT

Build in ways your audience can interact with your content



INTERACT WITH YOUR AUDIENCE

Reply to comments, answer questions with response videos, make it a 2-way dialogue



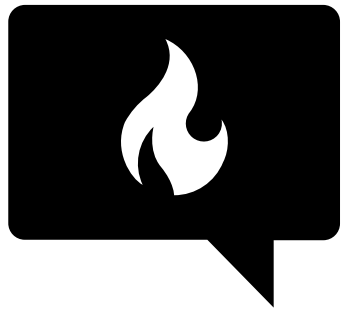
ACCESSIBILITY

Provide closed captions and multiple languages when possible



THINGS TO TRY

GET CREATIVE



TRY A TREND

Modify to fit your facility or niche



MAKE A JOKE

Humour can be a powerful tool!

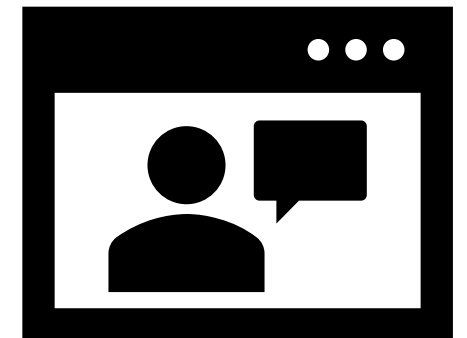


WORK TOGETHER

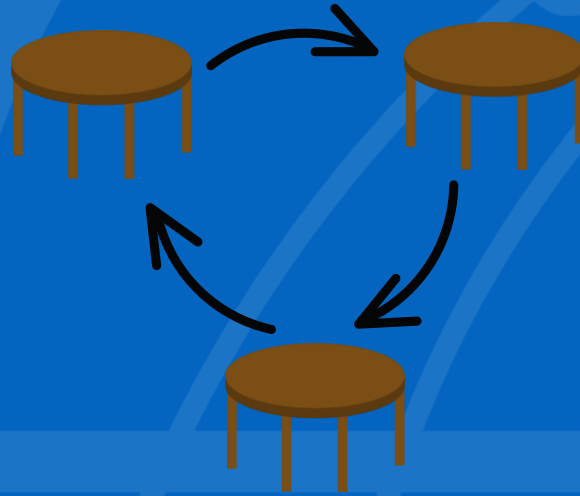
Connect and collaborate with CFI other MSI facilities (tag them)

GO LIVE

Show off your facility or answer questions in real time



MUSICAL CHAIRS (again)!



**Please move to sit with attendees
from other MSI facility**

ROUND TABLE DISCUSSION



At your table discuss:

How does your MSI use social media?

(share what you do with other MSI's and see what is the same...or different)

How does social media support your role?

(How are you connected to your MSI's social media?
Are there ways you could contribute to social media?)

What new ideas could you try?

(Can you incorporate anything you learned today?)