Food Stories

Exercises Toolbox

Storytelling for Food Science Communication

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Introduction

This toolbox aims to equip food scientists with the necessary skills to effectively communicate their research to a broader audience, using storytelling techniques. It consists of a range of exercises that cover key elements of storytelling, along with a “Learn more about storytelling and science communication” section to address common questions and concerns related to storytelling in food science communication. Please read the introductory sections and instructions carefully before doing any of the exercises.

This Toolbox has been developed by the Erasmus+ project FOODSTORIES which aims to empower food researchers towards more effective science communication using storytelling techniques. For more information about the project, please visit **our website**.

Disclaimer

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Some of the materials in this Toolbox are inspired from exercises commonly used in communication and other fields. When the source of the exercise is known (individual or organisation) you will find clear mention of them. If you plan to use any of these exercises, please also give credit to the author appropriately.

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A few words on storytelling for science communication

How can I use storytelling when communicating science?

Not all the exercises presented in this toolbox will be relevant to your specific situation or needs. However, it is generally a good idea to start your storytelling journey by asking yourself questions, such as:

- What is the key message I am trying to convey?
- How complex is the information and what would be the consequences of misrepresenting something?
- Who is my target audience? What is their level of expertise?
- Through what channel or medium am I reaching my target audience (e.g., short text on social media, an article, a video, etc.)?

These types of questions can help you determine which exercises are the most useful to you. Always remember that **there is no single "right" way to tell stories about science**. Effective approaches will depend on the specific content, target audience, and communication channels involved. Researchers should begin by clearly identifying their key messages and the level of complexity required by their audience, then strategically select storytelling techniques aligned with their goals and constraints.

Do I need to use all the storytelling elements and techniques for a successful story?

No, even small, strategic additions of narrative devices can enhance the accessibility and impact of scientific communication. Storytelling is not only about creating a complete storyline from scratch, but also about transforming information into narratives, which may take countless forms. It is not necessary to adopt a full-fledged, fictional storytelling approach. Storytelling is a vast continuum, and researchers can selectively incorporate various narrative techniques and elements based on their specific needs and constraints.

For instance, a researcher could open a technical report with a brief anecdote that humanises the research topic and its real-world implications. Or they could help the audience visualise the scientific process by weaving descriptive details and sensory language into an explanation of their methodology.

FOODSTORIES Best Practices Collection includes several cases using selective storytelling elements, rather than a comprehensive narrative structure, to great effect.

The key is to start small and experiment with different storytelling techniques. As you gain more experience with the approach, you can gradually expand your use of narrative elements and become more confident.

For more background knowledge, go to the section "Learn more about storytelling and science communication" at the end of this Toolbox.

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How to use this toolbox

This toolbox contains **19 exercises** focusing on different storytelling elements and techniques that can be used for science communication. You can choose to follow the exercises in order, from the fundamentals to the more detailed learnings, or check the overview of the exercises on the next page to navigate which specific elements or techniques of storytelling you want to focus on or improve. In the section “Possible combinations of exercises” you can check further ideas on exercises to try depending on your expertise level, while in the instructions of some of the exercises you will find suggestions for specific use cases (box “Try this for”).

If you are new to the use of storytelling for science communication, we strongly recommend you go through the “learn more about storytelling and science communication” and the additional resources at the end of this toolkit.

For some of them, you will find an example of the exercise completed by a participant of one of the workshops we held to test the toolbox.

The instructions for the exercises in this toolbox are tailored to the individual learner. The FOODSTORIES project has also developed a **Facilitator’s Guide complementing this Toolbox**. The Facilitator’s Guide contains the same exercises but geared towards individual learners, as well as information about the criteria used to select and develop the exercises.

In some of the exercises we refer to the **FOODSTORIES Best Practices Collection** as a supplement source of examples for when participants do not have other research topics to write about.

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When doing the exercises

Good communication is always tailored to a specific audience and setting. For this reason, when you're doing each exercise, we recommend that you decide on a clear setting/application (e.g., a conference, a presentation, an article for a general audience, etc.). Therefore in some of the exercises you can find a box titled "Try this for" giving you suggestions of suitable applications/ settings to apply the techniques and tools described.

In some of the exercise we refer to the FOODSTORIES handbook **"Storytelling in Food Science Communication - Best Practices Collection"** as an optional source of subject topics you can use to complete the exercises.

Always Keep These 3 Principles In Mind

Before starting to do any exercise in this toolbox, ask yourself the following questions:

- **What is the key message I am trying to convey?**
- **Who is the target audience for whom I need to tailor my message, language and level of detail?**
- **Why am I communicating to them and what is the desired outcome or impact?**

Overview of the exercises | Foundations

Exercise	You will learn to	Page
FOUNDATIONS		
1. KEY MESSAGES		
1A. HALF-LIFE	Refine the purpose of your research by focusing on brief and comprehensive communication, while avoiding jargon. Learn to clarify the core message and focus of your communication to give the audience a deeper understanding of the concept and remove confusion.	15
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2. KNOW YOUR AUDIENCE(S)		
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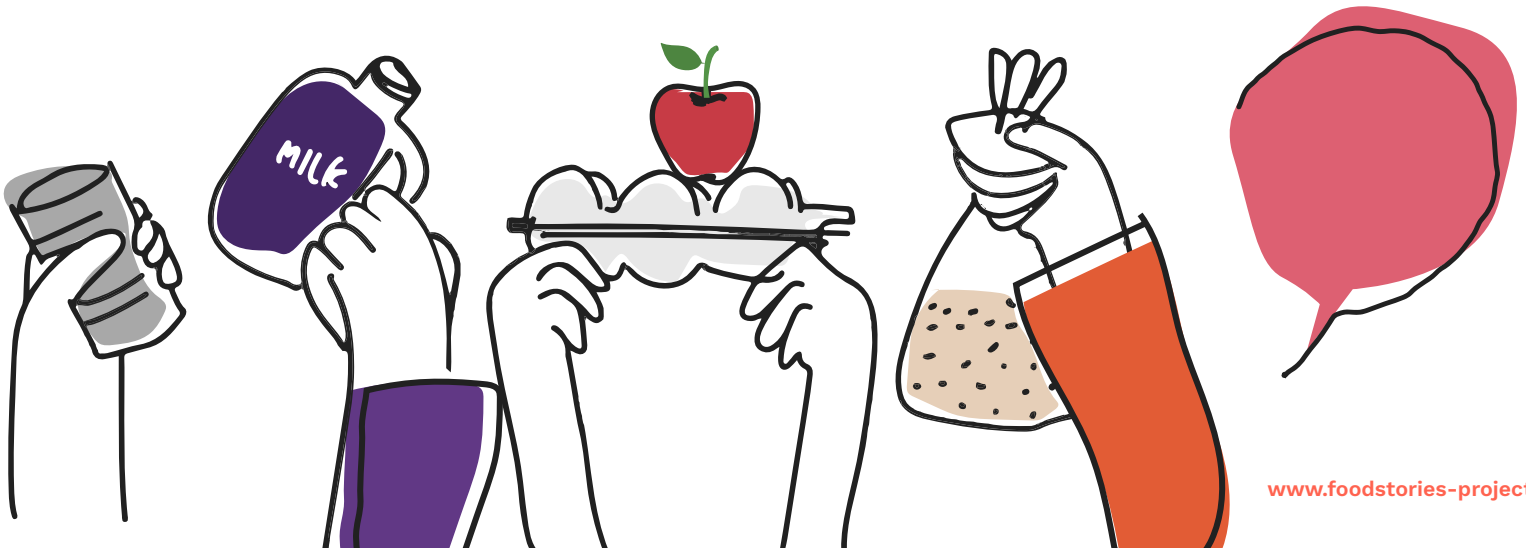
2B. EMPATHISING WITH YOUR AUDIENCE		21



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Overview of the exercises | Building your story

Exercise	You will learn to	Page
BUILDING YOUR STORY		
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	Gain an understanding of how to define and implement a narrative structure.	**25**
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4A. CHARACTER INTERVIEWS	Strengthen your ability to craft an engaging character profile that appeals to different audiences.	**27**
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Overview of the exercises | Strengthening your story

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10B. UPGOER CHALLENGE		**48**
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	Improve the impact and understandability of your story by representing ideas through visual storytelling.	**50**

Overview of the exercises | Maintaining scientific integrety

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Possible combinations of exercises

You can choose to follow the exercises in order, from the fundamentals to the more detailed learnings, or check the overview of exercises on the previous pages to navigate which ones are most interesting for you. However, in case you need some extra guidance, below you will find two combinations of exercises you could follow depending on your previous experience with storytelling and science communication.

In the Facilitator's Guide we also give further (and shorter) combinations for learners who are already familiar with science communication and storytelling and would like to focus on a specific learning objective.

BEGINNERS
1A. HALF-LIFE OR 1B. KEY MESSAGE
2A. WHO IS YOUR AUDIENCE?
3. THE ABT OF YOUR STORY
4B. UNDERSTANDING YOURSELF AS A CHARACTER
8. CREATE A COMPELLING ANALOGY
13. MISINFORMATION MASHUP

ADVANCED
3. THE ABT OF YOUR STORY
5. NARRATIVE STRUCTURE
4C. CREATING A NON-HUMAN CHARACTER
10 A/B JARGON
12. EMBEDDING DATA
11. CREATING A BETTER POSTER

Possible combinations of exercises

In case you have little time or want to focus on a specific aspect of storytelling, you might want to try one of the combinations below. Keep in mind that we only recommend this if you are already familiar with science communication and storytelling so you do not miss out on the basics.

A Course in Storytelling for Science Communication			
WORKSHOP 1	WORKSHOP 2	WORKSHOP 3	WORKSHOP 4
1A. HALF-LIFE	5. DEVELOPING YOUR NARRATIVE STRUCTURE	6. NARRATIVE VOICE	10A. DEJARGONISER
1B. MESSAGE BOX	4A. CHARACTER INTERVIEWS	8. CREATING A COMPELLING OPENING	10B. UPGOER CHALLENGE
2A. WHO IS YOUR AUDIENCE?	4B. UNDERSTANDING YOURSELF AS A CHARACTER	9. CREATE AN ANALOGY FOR A COMPLEX CONCEPT	13. MISINFORMATION MASHUP: A SCIENCE MEDIA CHALLENGE
3. THE ABT OF YOUR STORY	4C. CREATING A NON-HUMAN CHARACTER	12. EMBEDDING DATA INTO YOUR STORYTELLING	14. COMMUNICATING RISK IN FOOD SCIENCE
2B. EMPATHISING WITH YOUR AUDIENCE	7. EMOTIONAL CONNECTION		11. CREATE A #BETTERPOSTER: VISUAL STORYTELLING

Exercises

Foundations

Exercises

1. Key Messages

A key message is a core idea or takeaway that you want your audience to remember after hearing or reading your story. Your key message should distil the most important point you want to convey and serve as a foundation for the rest of your story.

1a. Half-life exercise

The half-life exercise is a practical and fun method to start distilling the key message you want to communicate, helping you develop a clear, concise and short “elevator pitch” that can effectively explain your work to anyone in a short amount of time. Below are instructions to give the exercise a try by yourself. Note that while it is normally performed in pairs with somebody else (see the Facilitator’s Guide) the instructions here are for an individual learner who can decide to do it orally or in writing.

Instructions for the written version

1. Open the **link** (if the link doesn’t work, look up this exercise on the Facilitator’s Guide where we have written down the steps to follow.).
2. Follow the instructions on the website, one step after the other: the exercise works best when you are not aware of what happens next!
3. That’s it! As an extra step, find someone to read the final key message resulting from the exercise to see if they understand what you intended your key message to be.

Instructions for the oral version

1. Prepare a timer for 90 seconds and a recording device. You can also find a YouTube timer at this **link**.
2. Once everything is ready, start the timer and record yourself explaining what your research (or a specific topic of your field) is about in the simplest way possible, as if talking to someone who is not in your field (e.g. a family member or someone you go to the gym with).
3. Once the time is over, reset the timer, this time to 45 seconds. Record yourself again explaining your research topic.
4. Now listen to the full recording and think back on the last round. Which elements of your research did you focus on when you only had 15 seconds? What is the key idea you wanted to communicate about your research?
5. That’s it! As an extra step, find someone with whom you can share the final key message resulting from the exercise and see if they understand what you intended your key message to be.

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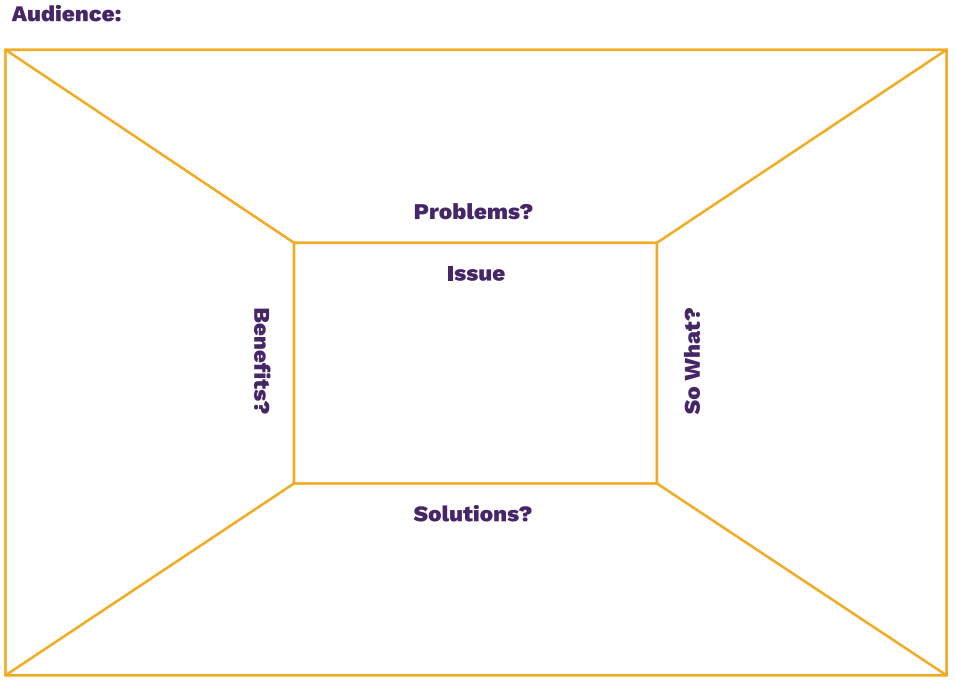
Exercises

1b. The Message Box

(Created by Compass)

The Message Box is a tool developed by Compass to help researchers sift through all the information and knowledge you hold and identify the most important aspect of your research to communicate to your chosen audience. Essentially, it assists you in **distilling complex research findings into a clear and compelling core message**, laying the foundation for effective storytelling. When a clear take home message is established, it gives the audience a deeper understanding of the concept, cutting through the jargon and removing confusion. Remember, the human brain can only take about three to five pieces of information at a time!



Download the Message Box template here

MATERIALS

Message Box Workbook

link

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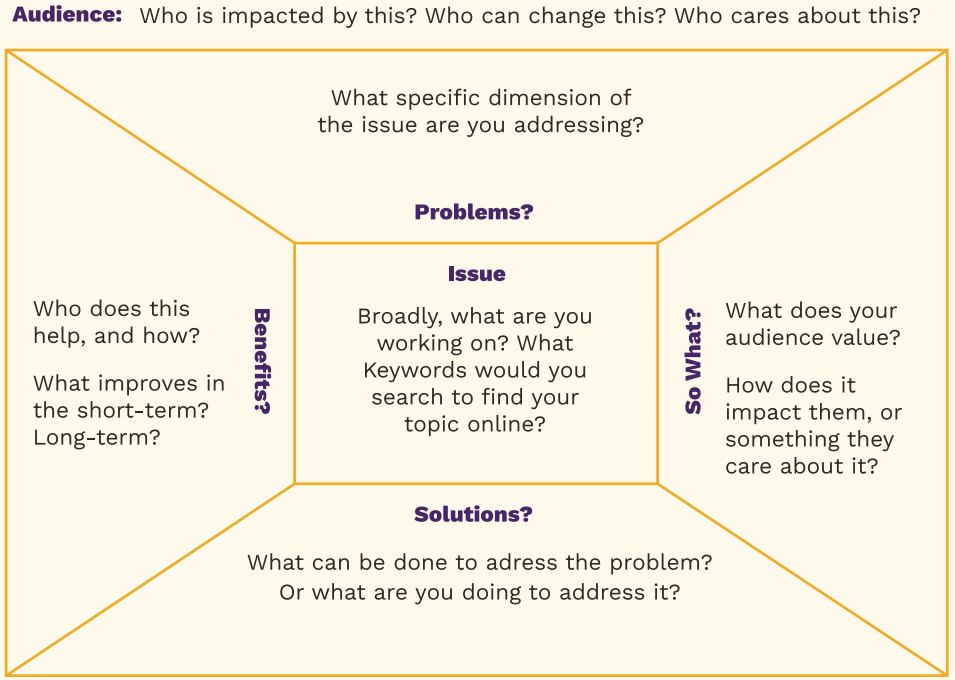
Exercises

Instructions

1. Familiarize yourself with The Message Box (see picture on the right). We recommend you read pages 4 to 6 of the Message Box Workbook (link in the previous page) for a quick introduction to the concept.
2. Select a recent research project or study you have been involved in or a science topic about which you would like to create your story. Alternatively, select one of the following cases from the **FOODSTORIES Best Practices Collection**: Zealand visits a vertical farm (pg. 12), Teaching science through stories (pg.30), Are GMPs good or bad? (pg. 46), What is your kitchen crime? (pg. 78).
3. Begin by filling out The Message Box (template above). There is no right or wrong order, as the process should be iterative, but we recommend you start with the target audience, as sections such as “so what” can vary widely depending on it. If you have more than one target audience, you should create one Message Box per each.
4. Once you have a clear audience, start filling out the rest of the sections in any order you prefer.
5. Once you have completed The Message Box, review and refine your responses. You might realise, for example, that you had an audience in mind whose connection with the problem is not as clear as you thought. Do not hesitate to edit the Message Box until you think all the elements are aligned! You can seek feedback from peers or check the examples in the workbook to get an idea of what a good message box looks like.



Message Box template with guiding questions.

TIP BOX

Do not hesitate to edit, this should be an iterative process! In fact, a Message Box is never finished, it just keeps evolving to adapt to your needs (and the chosen audience). We suggest you read pages 7 to 17 of the workbook for more detailed information on each section.

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Exercises

2. Know your audience/s

To maximise the impact of your science communication, it's crucial to **define a specific target audience, as effective communication requires a two-way conversation in which you actively listen and engage with your audience.**

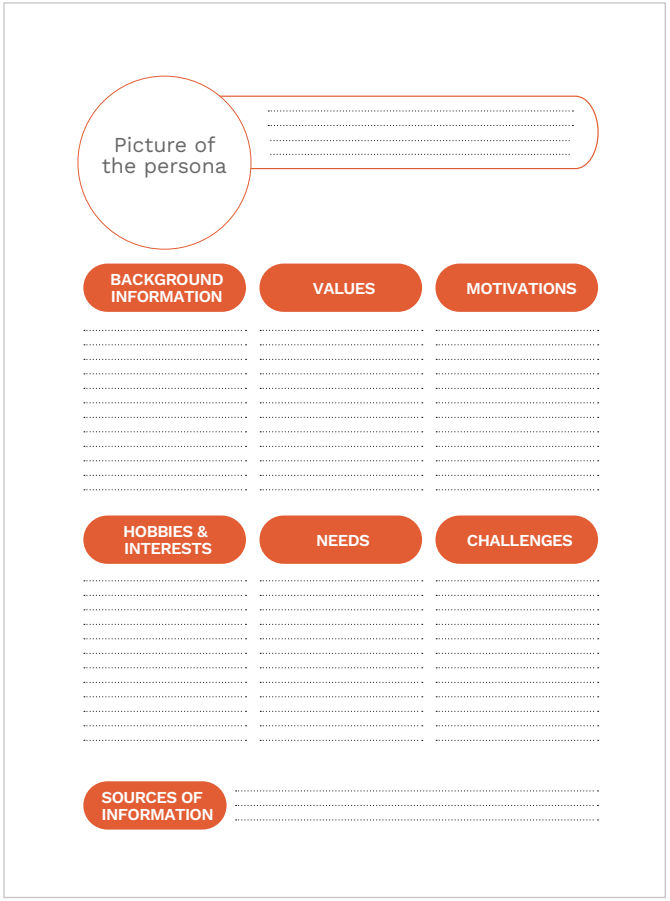
There are many approaches to defining your target audience, but the important thing is to always remember to tailor your communication strategies and content to effectively engage, educate, and inspire your intended recipients. The following exercises will help you choose the right language and level of complexity for your audience, as well as start to recognise that audiences have differing beliefs, values, needs, and motivations. And remember: if your target is "everybody", then it might as well be nobody!

2a. Who is your audience?

In this exercise, you will develop personas that represent your target audience. A persona is a description of a target audience that details their characteristics, and sometimes personality traits. They are intended to serve as a model for real target audiences to help communicators tailor their messages to them. For this exercise, you can either draw from the Message Box (exercise 1B), which provides a first sketch for a target audience, or start from scratch.

TIP BOX

You can also use any writing support (sheet of paper, tablet, etc.) to write down the answers to the questions without the template.



Download the persona template here

Exercises

Instructions

1. Reflect on the purpose of your science communication efforts. Are you aiming to inform, inspire, educate, or advocate? When you finish communicating, do you want the audience to go “Wow”, “Ick”, or “I need to take action”? Clarifying your goals will help you identify the appropriate target audience.
2. Now imagine you walk into a room and see one to three people representing your target audience(s). Who are they? Give each of them a name: each person represents one type of target audience (e.g., young consumers, the elderly, scientists, stakeholders, etc.).

TIP BOX

If until now you have thought of your audience as everybody who is not in your field, you can start by identifying broad categories of potential audiences. For example, health enthusiasts, or science-minded young people, etc. Defining a target audience is an iterative process – it may start broadly and become more specific as the researcher gathers more information and feedback!

3. Answer the questions below for each of the personas. For now you can use your imagination, but as you become more familiar with your audience, we recommend you engage with them directly for input (see step 5).
   - Background information: What is their age? Their gender? Their education and professional background? Their nationality/ location?
   - Hobbies & Interests: Why are they reading/ engaging? Are they interested in the specific food science field or science in general? What other hobbies and interests do they have?
   - Knowledge level: What is their level of knowledge in the subject matter? Are they familiar with scientific concepts and terminologies related to the field?
   - Communication preferences: What kind of information presentation do they prefer? Do they appreciate visuals (e.g., graphs, charts, diagrams) to aid in understanding complex concepts? Do they prefer written communications, or videos and audio? Are they comfortable with English or do they prefer their mother tongue? Which channels and platforms do they normally use?
4. Now that you have described the personas that represent your target audience, reflect on how you might communicate with them differently and why. Different audiences might impact your narrative structure, level of complexity and technical jargon, character presence, narrative voice, etc.
5. Go the extra mile! Do you know someone that could represent one of your personas? Ask them if you could talk with them for half an hour about your research. Explain that you want to understand your audience better in order to adapt your communication efforts to their needs. You can use the questions in step 3 to guide the conversation. Ask open-ended questions (those that can’t be answered by yes/no) that allow the person to go off on tangents. There is where you might find out the most interesting details! Your job is to listen attentively and ask a lot of follow-up questions to dig deeper. If possible, record the conversation or take notes.

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Exercises

Completed exercise by a FOODSTORIES workshop participant

Persona 1: Ahmed, a health-conscious young consumer.

- Background: Ahmed is a 28-year-old male living in a major city. He has a college degree and works in the marketing industry.
- Hobbies & Interests: Ahmed is very interested in health and wellness. He enjoys reading about the latest nutrition and food trends. He also likes to cook and experiment with new recipes.
- Knowledge level: Ahmed has a general understanding of scientific concepts but is not deeply familiar with technical food science terminology.
- Communication preferences: Ahmed prefers visually engaging content like infographics and short videos. He primarily consumes content on social media platforms like Instagram and TikTok.

Persona 2: Emma, a retired homemaker interested in nutrition.

- Background: Emma is a 68-year-old female retiree. She has a high school education and lives in a small town.
- Hobbies & Interests: Emma enjoys cooking and is interested in learning about healthy eating and nutrition. She is an active member of her local community center.
- Knowledge level: Emma has a basic understanding of nutrition but is not familiar with advanced food science concepts.
- Communication preferences: Emma prefers clear, easy-to-understand information presented in a conversational tone. She enjoys learning through interactive workshops and community events.

Exercises

2b. Empathising with your audience.

TRY THIS FOR

Preparing for a live interview or any other situation where it is likely you will receive difficult questions or for any story tackling either a controversial theme or vulnerable group.

If your topic is a controversial one, this reflective exercise on target audiences is especially relevant. Changing attitudes about something can be hard when it's connected to beliefs, values or group belonging, and you will need to put yourself in your audience's shoes and consider their needs, motivations, and challenges. As a researcher, you need to acknowledge that you are also playing by the same rules: you are part of science, an insider with agency, and thus you have a natural inclination to trust scientific knowledge and accept information that comes from peers and academic sources with ease, even when you might be unable to follow the methodology to truly judge if the information is sound. It's not about knowledge and facts, but about trust.

Sharing facts and evidence is often not enough. The following exercise will help you **find common ground connecting with and understanding audiences,** bridging the gap between facts and perception.

TIP BOX

You can also search for interviews or blog posts written by your target audience to get a fuller picture!

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Exercises

Instructions

1. Think about your target audience (or, if you also completed exercise 2A. Who is your audience?, the personas you created for it) and reflect on the following questions:
   - What do you think they have heard about the topic? From whom? Do they wholeheartedly believe these things or are they just part of a bigger value/group identity?
   - Is there a valid reason they might distrust science? Are their feelings and fears dismissed by those communicating facts?
   - What do you think are their concerns? Have they had or heard about any personal experiences that contradict the facts and evidence you are trying to convey?
2. Use the empathy map to visualize their perspectives and emotions. Remember, you are just trying to get to know your target audience/s, to see where they are coming from and what they feel and think. It's not only about what they say but what is behind their words.
   - What do they see? (Observations and environment)
   - What do they hear? (Influences and conversations)
   - What do they say and do? (Behaviours and communication)
   - What do they think and feel? (Beliefs and emotions)
   - What are their needs and wants? (Goals and desires)
3. Review all the details you have written about your target audience. What value/concern do you share that could help you to connect emotionally with them?

Empathy map

Download the Empathy map here

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Exercises

Completed exercise by a FOODSTORIES workshop participant

Audience: Migraine-sufferers looking for dietary advice to manage their condition.

What do they see?

- An abundance of conflicting dietary advice online, in books, and in media.
- Complex and sometimes confusing nutritional information on food packaging.
- Doctors' offices, pharmacies, and wellness centres with various posters about migraine management, often with limited focus on specific diet/nutrition advice.

What do they hear?

- Advice from doctors, neurologists, and dietitians about dietary triggers and recommendations.
- Reports on new studies linking diet and migraines, as well as advertisements for dietary supplements claiming to alleviate migraine symptoms.
- Testimonials and tips from fellow migraine sufferers in support groups, both in-person and online.

What do they say and do?

- Trying different diets (e.g., low histamine, gluten-free, ketogenic) to see if they help reduce migraines.
- Keeping detailed records of dietary intake and migraine attack occurrences to identify potential triggers.
- Frequently asking healthcare providers, family, friends, and online communities for advice on managing migraines through diet.
- Actively participating in discussions and sharing personal experiences with diet and migraine management in support groups and social media.

What do they think and feel?

- Overwhelmed by the trial-and-error process of identifying dietary triggers and the inconsistency of information available.
- Hoping to find a dietary solution that will alleviate their migraines while feeling desperate for relief from chronic pain.
- Sceptical of conflicting dietary advice and wary of "miracle" cures or unproven supplements.
- Feeling isolated or misunderstood by those who do not experience migraines and may downplay their dietary struggles.

What are their needs and wants?

- Desiring effective strategies to manage and reduce the frequency and severity of migraines through diet.
- Wanting validation of their experiences and needs from healthcare providers, family, and the community.
- Looking for practical, simple-to-follow dietary recommendations that fit into their everyday lives without adding stress or complexity.
- Hoping for sustainable, long-term dietary changes that improve their overall health and reduce migraine occurrences.

What value/concern do you share that could help you to connect emotionally with them?

- Constantly trying to improve well-being and quality of life.
- Searching for clear and practical advice for a healthier diet and lifestyle.
- Struggling with some health problems.
- Seeking for support and validation while trying to adopt new habits.
- Shared frustration with ineffective solutions that increase complexity and stress.

Building your story

Exercises

3. The ABT of your story

(Created by Randy Olson)

The ABT Narrative Template is a tool developed by Randy Olson, a researcher turned Hollywood screenwriter, to organize the narrative structure of any story/idea into a single sentence using three connector words: *and* (A, the set up/agreement), *but* (B, the contradiction or problem), and *therefore* (T, the consequence or solution).

ABT is part of the IPCC Communication Handbook and is used widely by governmental institutions in the USA when communicating with the public. Creating your own ABT will help you develop your narrative intuition (what is a good story and what is not?) and clearly articulate the main idea or message you want to convey through your science storytelling, gaining an understanding of how to define and implement a narrative structure.

Instructions

1. Watch the **video** (2 minutes) introducing ABT.
2. Select a study you have been involved in or a science topic you would like to create your story about. You can also choose one of the following cases from the **FOODSTORIES Best Practices Collection**: Beta Bugs (pg. 21), Teaching science through stories (pg.30), What is your kitchen crime? (pg.78).
3. Summarize the research in a few sentences using the ABT (And, But Therefore) structure. Start with the "And" statement to provide context, followed by the "But" statement to introduce a challenge or problem, and conclude with the "Therefore" statement to present the core message or solution.

> _____ and _____ but _____
> therefore _____.

4. Go a step further: Use an AI tool like Chat GPT to generate alternative ABT summaries and compare them to refine and enhance your core message. You can start from this prompt: "Write an ABT (And, But, Therefore) summary for X (the key message/topic) directed to Y (target audience)". Consider playing with different target audiences or tones.

TIP BOX

If you have already completed the previous exercise 1b. The Message Box or any of chapter 2. Know your audience/s, you can keep working on the same topic for this exercise.

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Exercises

Completed exercise by a FOODSTORIES workshop participant

Young adulthood is a critical stage in life for building healthy eating habits that will support the individual throughout life. But recent evidence indicates that young adults experience the greatest magnitude of increase in the risk of overweight and obesity due to a series of unhealthy eating practices they typically take up on during this phase in life.Therefore, more research is needed to explore effective ways to facilitate healthy eating in this target group. Our study set out to investigate which messages about healthy eating are more likely to spark young adults' interest in healthy eating and support them in making healthier lifestyle changes.

Different example based on Beta Bugs, from the **FOODSTORIES Best Practices Collection**:

Soymeal and fishmeal are commonly used to feed animals. However, these contribute to deforestation, overfishing and biodiversity loss. Therefore, the role of Bug Breeders is extremely important: they provide more sustainable protein to feed animals by producing insects which require less land, food and water than other feed sources.

Exercises

4. Character development

A character is a person, animal, or being that plays a role in a story or narrative. For example, if you are writing a book about a superhero for children, the superhero is your character (and so is the villain!) and children are your target audience.

The following exercises will help you understand and **develop relatable and compelling characters to drive scientific narratives.** They will encourage you to think beyond the technical aspects of your work and consider the human element, which can make science more accessible to a broader audience. The exercises can also help you to weave key messages into the narrative by integrating them into the character's actions and challenges and develop an engaging non-human character when relevant.

4a. Character interviews

TRY THIS FOR

When you are thinking of creating a character-driven story that doesn't have you as the main character.

Bringing your research stories to life requires a deep understanding of the characters that inhabit them. In this exercise, you will conduct a fictional interview with one of the characters in your story, whether it be yourself, a fictional researcher, or a hypothetical person impacted by your work. By stepping into their shoes and examining their motivations, experiences, and perspectives, you can uncover new layers of depth and authenticity that will resonate with your audience.

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Exercises

Instructions

1. Identify a character within your research story that you would like to explore further. Are they a scientist, a subject of study, a community member affected by the research, or perhaps an advocate for a scientific cause? Understanding their role will help you shape their significance in the story.
2. Start asking questions to the character as if you would be interviewing them (you can either do it in writing or by recording yourself). The exact question will of course change depending on which character you are working on, but here are some examples you can use:
    - What is their personal history? What experiences have shaped their views and motivations? This could include their education, relevant life events, or cultural influences.
    - What drives this character? Are they motivated by a desire to solve a problem, contribute to the greater good, or perhaps pursue personal recognition? Understanding their goals will help you craft a compelling narrative arc.
    - What obstacles does your character encounter in their journey? These could be personal, professional, or societal. Highlighting these challenges can make your character more relatable and their journey more inspiring.
3. As you answer these questions, try to channel the character's unique voice, personality, and worldview and include new questions that come to mind.
4. Use what you have learned about your character to further develop it in the context of the broader research story.

TIP BOX

Imagine your character is a researcher who is studying the topic your story is about. You could ask them the following questions:
- How do they feel about the current challenges or issues their research addresses?

- What personal experiences or encounters shaped their passion for the subject matter?

- How do they envision the future impact of your research?

- What do they have to overcome? Every engaging story involves conflict or challenges the main character must face and overcome. Identify the obstacles, struggles, or problems your character encounters in your research project. This could be scientific hurdles, ethical dilemmas, or personal barriers.

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Exercises

4b. Understanding yourself as a character

TRY THIS FOR

A character-driven story where you are an active character in the story.

The exercise helps you see yourself as a character in your research story, adding another layer to your narrative. As a result, you'll create more engaging stories that connect with others, showing what happens behind the scenes in your work and making your research more impactful.

Instructions

1. Write about a person that is very different from you, if not opposite in some of their personal traits, but that you know reasonably well (or use your imagination!). Approach this with kindness, honesty and by including all the unsparing details that make them unique. Describe their mannerisms, their peculiarities, the things that set them apart from you (respectfully!).
2. Now, turn that gaze inward. Imagine that the person you just described is looking at you - what would they see? What are the quirks, the idiosyncrasies, the peculiarities that define your own character? Be unafraid to embrace the things that make you different, the traits that might seem strange to others. These are the very elements that can make your personal narrative so compelling.
3. Reflect on the traits and habits that make you unique. How can you include these personal aspects when you talk about your research? Consider which parts of your personality or way of doing things you can safely share with your audience. By revealing these relatable and human sides of yourself, you can give people a glimpse of what happens behind the scenes in science, making your stories more engaging and authentic.
4. This exercise can also be applied through the lenses of your research subject - be it an animal, a plant, or even an inanimate object. For example, you write about your research subject and your research subject then writes about you.

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Exercises

4c. Creating a non-human character

TRY THIS FOR

A character-driven story where one or more of your characters are non-human. This could be especially useful for visual storytelling (infographics, videos, posters, etc.).

Often for science stories, the true characters are non-human entities. They could be a molecule, a key element in your research project, or even a concept or phenomenon (e.g. the voyage of your research, with the struggle being, for example, funding issues).

Learning how to develop a non-human character is thus essential within science communication and storytelling.

Some examples of non-human characters can be found in the **FOODSTORIES Best Practices Collection**, such as “Cosmos” (pg. 39), where space is the main character.

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Exercises

Instructions

1. Choose a central component, concept or phenomenon from your research as the basis for your non-human character. This could be a molecule, a theory, or any other non-human character. For example, if you are studying the sustainability of legumes, the legume can become your character.
2. First, you are going to consider the character's type and role:
    - Consider the type of character you want to create: Is it an exciting new food? Or a nutrient? Is it the wise old DNA structure?
    - Determine the character's role and how it will fit into the overall narrative you want to build around your research.
3. Now you will start brainstorming about your character to make them more relatable to the audience. Record yourself discussing the character out loud:
    - Use personification to assign human traits and behaviours to your non-human character. For example: 'The moon seemed to glare at me through the window'.
    - Explore anthropomorphism by portraying your character as behaving or appearing human-like. For example: 'the moon, a large round faced being'.
4. Listen back to the recording and establish if this character is interesting and engaging to the audience and if it can convey the message you want to highlight.
5. Now you can develop the character further:
    - Develop the characters' attributes, motivation and goals.
    - Identify the characters' strengths and weaknesses, and how these will influence the story.
    - Explore how the character can help explain or explore the science behind your research.
6. Finally, present your character to a friend or colleague and get feedback on its effectiveness. Refine the character as needed to improve its engagement and communication of the science.
7. Repeat the character development for any additional character!

TIP BOX

Keep in mind your target audience and how the character can effectively communicate the science behind your work. For example, in the best practice of STEM Learning (**FOODSTORIES Best Practices Collection**, page 30), the target audience are children. To teach them about planting and growing, the story of *Jack and The Beanstalk* is used, with magic beans as the character.

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Exercises

Completed exercise by a FOODSTORIES workshop participant

Character: The Microbiome, nature's little helpers

Character type: The microbiome is a community of helpful and industrious microbes

Role: The microbiome's role is to improve the sustainability of soybean agriculture, enhance the nutritional value of the crop, and benefit human health.

Attributes:

- Resilient
- Collaborative
- Health-promoting
- Multifaceted
- All-encompassing
- Holistic
- Interconnected

Motivation:

- To inform more sustainable agricultural practices for soybeans.
- To improve the nutritional quality of soybeans.
- To enhance human health through better nutrition.

Goals:

- To support soybean crops with beneficial microbes.
- To enrich soybeans with essential nutrients.
- To promote a healthy gut microbiome in humans.
- To be better understood so that it can contribute more precisely to human and environmental health goals

Strengths:

- Enhances soil fertility
- Boosts nutrient content in crops
- Promotes digestive and overall health

Weaknesses:

- Much is unknown
- Sensitive to environmental changes

The Microbiome, a diligent team of tiny helpers, works tirelessly to improve our environment and health – from the farm to the gut! In the soybean fields, the microbe communities in the soil enhance soil fertility and nutrient uptake, leading to sustainable farming practices that reduce the need for harmful chemicals, while also helping us be more precise with energy use. In response, these nutrient-rich soybeans not only contribute to a sustainable food source but also promote a healthy gut microbiome in humans, boosting our overall well-being. Thanks to these microbiomes, we are making steps towards a greener planet and healthier lives, one soybean at a time!

Exercises

5. Developing your narrative structure

TRY THIS FOR

When you are thinking of developing a full-fledged story for an article or spoken setting.

A well-structured narrative improves the impact and effectiveness of your science storytelling, but there are many ways you can choose to tell a story. Once you have your ABT (see exercise 3. The ABT of your story), you can **experiment with different narrative structures commonly used in storytelling** and acquire a deeper understanding of when it is appropriate to use them. Keep in mind that, in practice, narrative structures often overlap, so a story can have traits from more than one type.

Instructions

1. Before starting, we recommend you complete the ABT exercise (exercise 3) and at least one of the character exercises (either 4a, 4b or 4c) if you haven't already.
2. Based on your ABT, try to write a skeleton of your story based on each of the following narrative structures:
    - **The Hero's journey**: This narrative structure follows a protagonist's journey through different stages, including a call to adventure, challenges and obstacles, and a resolution. The setup (A) establishes the context and introduces the main characters and their goals. The confrontation (B) presents the challenges and conflicts faced by the characters. The resolution (T) brings a conclusion to the story. *Example: Think about how you can adapt this structure to your research story by casting yourself or another researcher as the protagonist on a journey, facing challenges and obstacles before ultimately making a breakthrough discovery.*
    - **In Medias Res**: This approach starts the story in the middle of the action rather than beginning with the setup. An *in medias res* narrative plunges the readers directly into a pivotal moment or conflict, capturing their attention right away and making them eager to learn how the characters arrived at this critical juncture. Example: Consider beginning your research

Continues in the next page

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Exercises

story with an intriguing or surprising finding, and then provide the necessary context and explanation afterward. An interesting starting point is a moment where the protagonist is facing a tough choice.

- **Personal narrative**: This structure involves incorporating personal experiences and anecdotes into your research story. Example: Start by sharing a personal story or experience that led you to embark on the research journey or influenced your interest in the topic. Connect your personal narrative to the broader context of your research, explaining how it shaped your approach, motivations, or perspectives. Use your personal experiences to engage the audience emotionally and make your research story relatable and human centred.

3. Among the drafts that you just wrote, choose the narrative structure that you think aligns best with your science story and the message you want to convey.
4. Go the extra mile! Outline the main sections or chapters of your story based on the chosen narrative structure and create a simple storyboard (check the right side of the page for a template). No need to draw, you can also just describe the sections/chapters in writing.
5. Seek feedback from others, such as colleagues or science communication experts, to further refine and improve your research story's structure and effectiveness.

TIP BOX

Having trouble getting started? Start writing without thinking! You can use the **Dangerous App** (if you stop writing, the text disappears) to help you put ideas down without overthinking it. Just set a timer for 5 minutes and write without thinking for each of the structures mentioned above.

Note: See exercise 7 to further develop the storyboard adding emotional connection.

Title of the scene	Title of the scene	Title of the scene
Title of the scene	Title of the scene	Title of the scene

Download storyboard template here

Exercises

Completed exercise by a FOODSTORIES workshop participant

The Hero's journey: John is 18 years old. A lot is currently changing in his life. He has just left his parents' home to live alone in a uni dorm, trying to find his way between academic performance, changes in interpersonal relationships, and everyday responsibilities that have started to pile up. Within this muddle of changes, eating healthily is the least of John's concerns. John is now on his second year at the uni. He is 10kg heavier as he has been eating a lot of junk food and soft drinks since he started his studies. According to longitudinal evidence, John's weight gain increases his risk for developing chronic diseases in later life. Therefore, it is important to support John in developing healthy eating practices during this difficult stage in life. Our study was set out to investigate which messages about healthy eating are more likely to spark young adults' interest in healthy eating and support them in making healthy lifestyle changes.

In Medias Res: John is a second-year uni student and lives alone in a uni dorm. He has gained 10kg since he left his parents' home to start with his studies. The last year he has been mainly eating junk foods and soft drinks and has not been paying attention to his eating habits, which have gone down a bad road. Trying to find a balance between academic performance, changes in interpersonal relationships, and everyday responsibilities has been quite challenging for him. John's weight gain increases his risk for developing chronic diseases in later life, according to longitudinal evidence, therefore it is important to support John in developing healthy eating practices during this difficult stage in life. We have set out a study to investigate which messages about healthy eating are more likely to spark young adults' interest in healthy eating and support them in making healthy lifestyle changes.

Personal narrative: Starting as a uni student was a quite demanding and frustrating period in my life. I was 18, I had just left my parents' home to live alone in a uni dorm, and i was trying to find a balance between academic performance, changes in interpersonal relationships, and everyday responsibilities. Eating healthily was the least of my concerns. After the first year, I had already gained 10kg and was not paying attention at all at my eating habits. I was eating junk food and soft drinks almost everyday. I was feeling sluggish, depressed, and started having signs of anxiety. I knew something had to change and this is when i started looking for resources about healthy eating. According to epidemiological evidence, young adults experience the greatest magnitude of increase in the risk of overweight and obesity and longitudinal evidence indicate that weight gain during young adulthood increases the risk for developing chronic diseases in later life. So, apparently what I was experiencing as personal failure was something that affected many people of my age and an important matter to be addressed. I was fascinated by this topic and I could see numerous opportunities to achieve a positive impact in the society. We are currently setting out a study to investigate which messages about healthy eating are more likely to spark young adults' interest in healthy eating and support them in making healthy lifestyle changes.

Strengthening your story

Exercises

6. Narrative voice

TRY THIS FOR

A new take on any story you are used to talk about your research.

Narrative voice refers to the perspective from which a story is told, such as first-person (I, we), third person (he, she, they), or even a combination of different voices.

Your academic experiences have probably taught you to talk about your research in passive voice and third person, but in science communication, we usually want to use an active voice and explore different narrative voices. This exercise will help **you find the most suitable perspective for your science story**, effectively engaging your audience, and delivering your scientific message in a compelling and relatable manner.

Instructions

1. Consider the following questions:
   - What emotions or impressions do you want to evoke in your audience? Do you want to convey a sense of authority and expertise, or do you prefer a more conversational and approachable tone?
   - Are there any specific characters or individuals involved in your research that could contribute to the narrative voice and become a narrator?
2. Based on your answers in step 1, experiment with different narrative voices by rewriting sections of your science story using different perspectives. Based on the answers to the questions in step 1, consider the following options:
   - First-person narrative: Use “I” or “we” to convey a personal or intimate experience. This can help create a sense of connection and authenticity.
   - Third-person narrative: Use “he,” “she,” or “they” to provide an objective viewpoint. This can lend a more authoritative or informative tone.
   - Multiple voices (for advanced science communicators): Incorporate different perspectives within your storytelling to present a well-rounded view of the topic. This can involve including quotes or anecdotes from researchers, participants, or experts.
3. Read each version aloud and evaluate how each voice affects the overall tone, engagement, and clarity of your storytelling. Put yourself in your audience’s shoes. How does their experience of the story change depending on the version? Consider the following:
   - Does it resonate with your target audience and their preferences?
   - Does it enhance or hinder the understanding and engagement of your audience?
4. Optional step: ask ChatGPT to become your audience. Pitch your openings together with the following prompt: “You are a X (target audience background information), how would you experience this story differently depending on the following versions? (insert versions)”. Play around with ChatGPT impersonating different target audiences.
5. Reflect on the observations from step 3 and choose the narrative voice that best serves your science story.

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Exercises

7. Emotional connection

TRY THIS FOR

Any settings in which you want to connect with your audience more deeply, such as in those with live audiences.

The following exercise will help you **understand the importance of establishing an emotional connection with your audience** and gain knowledge of the various sensory descriptions for greater engagement.

Establishing an emotional connection enhances audience engagement, increases the relatability of your science story, and fosters a deeper understanding and retention of the information presented. There are many ways to establish an emotional connection, whether it be through character development, a powerful resolution, or by using a certain tone or other stylistic devices.

Instructions

1. If you have completed exercise 5, pick up your storyboard again. Alternatively, pick a science story you know well, and divide it into scenes (roughly) following this template.

Title of the scene	Title of the scene	Title of the scene
Emotion/s	Emotion/s	Emotion/s
Sensory descriptions	Sensory descriptions	Sensory descriptions

Title of the scene	Title of the scene	Title of the scene
Emotion/s	Emotion/s	Emotion/s
Sensory descriptions	Sensory descriptions	Sensory descriptions

Downlaod template of Storyboard with emotional connection here

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Exercises

2. For each “scene”, identify and write down the core emotions you want your audience to experience, emotions such as curiosity, awe, empathy, concern, or inspiration. When the reader is going through the scene, do you want them to experience surprise? Or disappointment, sympathy, shock, or disgust? The objective is to map out the emotional journey you want your audience to take from the beginning to the end of your story.
3. Reflect upon your choices. Given the risk of obscuring perspectives by oversimplifying complex scientific issues, storytelling requires constant ethical reflection, especially when it comes to establishing emotional connections.
4. Now engage your audience’s senses by incorporating vivid sensory descriptions into your storytelling. For each scene, consider where in your story you can add some of the following sensory details:
    - Visual: Paint a picture with words describing the colours, shapes, and visual details related to your research or the environment you are discussing.
    - Auditory: Use sound-related imagery to evoke emotions or create a sense of atmosphere. Describe the sounds associated with your research or the setting of your story.
    - Tactile: Describe textures, temperatures, or physical sensations that might be relevant to your research or the experiences you are sharing.
    - Olfactory: Evoke scents or smells that can transport your audience into the story or create a sensory connection to your research.
    - Gustatory: If applicable, describe tastes or flavours that are relevant to your research or the experiences you are portraying.

Your storyboard should now be telling an emotional and sensorial story!

TIP BOX

Make a list of 3 stories you know that provoked the same response in you that you want to evoke in your readers or listeners. For example, if you’re writing a speech for a science communication event, brainstorm 3 memories of when you felt entertained or in awe by another researcher’s speech. What do you think s/he did to make you feel that way?

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Exercises

Completed exercise by a FOODSTORIES workshop participant

Title Scene: Inciting Incident

Scene: John has just left home to start as a uni student.

Emotion: Curiosity

Title Scene: Progressive Complications

Scene: Living alone in a 3 by 3 uni dorm and trying to find a balance between academic performance, changes in interpersonal relationships, and everyday responsibilities was quite challenging for him. Eating healthily was the least of John's concerns.

Emotion: Empathy

Title Scene: Crisis

Scene: John is now on his second year at the uni. He is 10kg heavier as he has been eating a lot of greasy junk food and sugary soft drinks since he started his studies. Few days ago, he came across an article discussing how weight gain increases his risk for developing chronic diseases in later life.

Emotion: Surprise

Title Scene: Climax

Scene: John had realised that something had to change long time ago, but this was the turning point. He passionately started looking for resources that could help him start to eat better. He was amazed by the amount of useful information he could freely access online targeted specifically at people of his age and addressing the main challenges he was also encountering.

Emotion: Inspiration

Title Scene: Resolution

Scene: John felt understood and supported. He took a deep relaxing breath and started making small everyday changes, which gradually made him feel much better!

Emotion: Optimism

Exercises

8. Creating a compelling opening

The following exercise will help you **understand how to use a hook to spark your audience's curiosity.** Crafting a compelling opening helps engage the audience and make your science communication more memorable, setting the tone for the rest of your science story.

TIP BOX

You might want to experiment with creating an opening before having a proper draft for your story, but we suggest that you come back to refine your opening once your story has taken form.

Instructions

1. Choose a science story that you are familiar with or that you prepared for the previous exercises.
2. Imagine you are starting a conversation with a friend about it. Write at least 5-10 opening sentences or paragraphs that can grab their attention and make them curious to learn more. Here are some ideas:
    - Framing your topic as a **"What if"**: Use the power of imagination and emotion by framing your scientific topic as a "What if" question. This invites the audience to consider possibilities and elicits a stronger emotional response. The question could be, for example, about the results of your research ("What if XX existed?", such as "What if scientists developed a product that did X?") or the absence of whatever you are researching ("What if XX didn't exist?").
    - **Rule of 3**: This principle is based on the idea that a trio of entities is more satisfying for the human brain, its combination of brevity and rhythm making the content more memorable. Think about common phrases such as "veni, vidi, vici", speeches such as "Government of the people, by the people, for the people", or slogans such as "Faster, Higher, Stronger". To use it, identify three key points/ findings/elements from your food science research and play around with them to make the title snappy.

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Exercises

- **Rule of 3, comedy version**: In comedy, this rule is used slightly differently by creating an expectation with the first two words/ concepts and then using the third to break the pattern and create an unexpected twist that captures the audience's attention and creates intrigue. To use it, identify three key points or findings from your food science research, two should create the expectation of a pattern, and the third should break it. For example, "I study bread, vegetables, and astronauts", or "This is a story about two scientists, a lab rat, and a rock star".
- **Use the "AB"** of ABT (see exercise 3): Start with the present situation (AND) and the challenge/problem (BUT) to immediately set the scene for your audience. For example, "Some dairy farmers have long observed that music impacts the mood, AND in turn the milk production, of their herd BUT until now we didn't know why and how this happened".

3. **Optional step:** ask ChatGPT to become your audience. Pitch your openings together with the following prompt: "You are a X (target audience background information), how would you react to the following openings in an article about X (topic)?". Play around with ChatGPT impersonating different audiences.

WARNING

Some audiences will only read the opening paragraph (much like an abstract for a scientific paper) so be mindful to ensure it maintains the balance between accessibility and scientific accuracy, so that it does not sensationalise your research.

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Exercises

Completed exercise by a FOODSTORIES workshop participant

Based on “What is your kitchen crime?” from the **FOODSTORIES Best Practices Collection** (pg. 78**)**

Cooking, eating, and then getting sick-doesn’t sound appealing, does it? Yet, it happens more often than you might think... and the most common place? Right at home, in your kitchen! You might be wondering how this occurs. Is someone breaking in and poisoning my meals? Not quite—the true culprit is often the cook themselves.

Each year, there are around 43,000 cases of food poisoning, largely because many young people, like you and me, aren’t aware of how to properly prepare certain food products. If you’re curious whether you might be one of those cooks who isn’t following proper kitchen etiquette—like incorrectly washing raw chicken—you can take this quiz to find out!

Exercises

9. Create an analogy for a complex concept

(Created by Marlit Hayslett for a Lifeology course)

By comparing or representing complex information in more familiar terms, analogies can be easier to grasp for audiences that lack the foundations of the science we are trying to communicate. Using an analogy allows us to draw on knowledge already present in the audience's mind, bypassing the need to dig into the basics.

The following exercise will give you a process to use whenever you want to **create new analogies that you can use to bridge the gap between complex scientific concepts and everyday experiences,** making your science more accessible and engaging to a broader audience, without leading to oversimplification or misrepresentation.

This exercise was created by **Marlit Hayslett** for a Lifeology course on creating analogies. Check the **free open course** for a in-depth explanation of the exercise.

Instructions

1. Identify a scientific topic or concept you want to communicate that may be difficult for a non-expert audience to understand.
2. Specify your audience and include a few details about their profile. E.g. A young person in their 20s trying to learn more about what is behind their cup of coffee.

TIP BOX

Why is step 2 important? Because an analogy makes use of what is in your audience's head, and this is never a blank slate. For example, baseball analogies will usually not be understood by Europeans, and zombie analogies might carry **unwanted firearm links** due to popular culture.

3. Define the 3-5 characteristics for your complex concept that you want your audience to understand (see the next page for an example).

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Exercises

4. Choose an everyday item/process that shares similar characteristics with your concept. There might be many ways to represent the same topic/concept and each way may form different emotional and logical connections in the minds of your audience.
5. Check that your everyday item aligns with your complex concept on a minimum of 3 questions (see template). It's recommended to use at least "What is it?" and "What is the purpose?", any further questions can be selected depending on your concept.
6. Test your analogy on a friend and review and refine your work, ensuring that the analogy enhances the narrative and contributes to the overall understanding of the scientific topic. Try to argue as to why certain representations are more appropriate than others, depending on different analogies.

TIP BOX

When it comes to numbers, sometimes it is enough to just reframe them so they are easier to grasp. In "Public University Lectures: Coffee", from our **FOODSTORIES Best Practice Collection**, for example, mentions that the coffee produced in the so-called coffee belt amounts to 31,000 cups of coffee per second. What would be some other ways of representing the amount of coffee produced? In this case, you could adjust the base unit of mass from cups of coffee to e.g. kilograms or tonnes, or you could adjust the timeframe from seconds to days or years.

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Exercises

Completed exercise by a FOODSTORIES workshop participant

1. Identify a scientific topic or concept you want to communicate that may be difficult for a non-expert audience to understand.
   The food system, which includes all the steps and processes that bring food from the farm to the table.
2. Specify your audience and include a few details about their profile. E.g. A young person in their 20s trying to learn more about what is behind their cup of coffee.
   High school students (aged 16-17) who are curious about where their food comes from and how it gets to their plates.
3. Define 3-5 characteristics for your complex concept that you want your audience to understand.
   - Interconnected: The food system is interconnected, meaning changes in one part (like a bad harvest or transportation issues) can affect everything else.
   - Adaptation: It can change and adapt based on outside influences like climate change or economic factors (like price increases).
   - Need for collaboration: It needs collaboration from many different people and organizations—farmers, transporters, retailers, and consumers—all working together.
4. Choose an everyday item/process that shares similar characteristics with your concept.
   The human body, which also relies on multiple interconnected parts working together.
5. Check that your everyday item aligns with your complex concept on a minimum of 3 questions.

Summary analogy:

Imagine the food system as a human body. Just like your body has different parts—like your heart, lungs, and stomach—that need to work together, the food system has many steps that need to coordinate smoothly. If one part of your body, like your lungs, isn't working well, it can affect everything else. Similarly, if a drought affects crops, it can lead to higher prices and less food availability. Both systems—your body and the food system—depend on everything functioning together and adapting to changes in the environment around them.

	Characteristics of the complex concept – food system	Characteristics of everyday process – human body (system)
WHAT IS IT?	A network of interconnected activities that brings food from farms to people.	A network of interconnected cells, tissues, and organs that work together to keep your body functioning.
WHAT IS THE PURPOSE?	To feed and nourish people while balancing environmental, social, and economic factors.	To sustain life by maintaining processes like digestion, circulation, and respiration, keeping the body healthy.
WHAT ARE THE ELEMENTS/ ACTIVITIES?	People (farmers, transporters, retailers, consumers), resources (land, water), and external factors (climate, policies) that impact food production and distribution.	Cells, tissues, organs (like the heart, lungs, and stomach), and external factors (like stress, nutrition, and pollution) that affect how the body functions.
WHAT HAPPENS WHEN SOMETHING CHANGES?	If there's a drought, for example, food production slows down, which can lead to higher prices and less food availability.	If you don't get enough oxygen (say from air pollution), your lungs can't function properly, affecting the whole body.

Exercises

10. Working on your jargon

One of the biggest hurdles you might face as a researcher when speaking to a non-expert audience is learning to **communicate complex scientific concepts using accessible language.**

The following exercises will give you immediate feedback on how much technical jargon you use when talking about your research/field (sometimes without even realizing it!). And remember, as Alan Alda said, “A broad audience is not going to have spent their lives studying your subject in the detail that you’ve spent your life studying it. They’re not stupid for not knowing this stuff. They just haven’t directed their attention to the subject.” It’s not about “dumbing down” but reaching out through a common language.

Choose between exercise 10a (basic) or 10b (more challenging) depending on your experience with dejargoning!

10a. Dejargoniser

TRY THIS FOR

Making sure a speech or written article for a non-expert audience is free of as much jargon as possible.

The Dejargoniser is an automated tool that analyses a text and gives a score based on the amount of jargon identified. Its aim is to help researchers adapt their vocabulary for a variety of audiences, dividing words into three levels: high frequency/common words; mid-frequency/normal words; and jargon/rare and technical words.

Instructions

1. Open the following **link**.
2. Select a scientific concept related to food science or a topic of your research that you consider complex and try to explain it (type it in the box) using as little jargon as possible.
3. Click send! Mid-frequency words will appear in orange, and jargon will appear in red.
4. Now edit to have as little red (jargon words) as possible. Ideally, jargon should represent maximum 5% of your text.

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Exercises

10b. UpGoer challenge

TRY THIS FOR

Any setting where your audience is young, has limited English or to challenge your coworkers!

The UpGoer challenge encourages researchers to explain complex concepts using only the most common and accessible words. The idea is not to use the text as such (your audience might require/ accept more complex vocabulary), but to challenge yourself to peel off all jargon and still be able to explain the topic.

Instructions

1. Open the follow **link**.
2. Select a complex scientific concept related to food science and try to explain it (type it in the box) using only the ten hundred most common words in the English language.
3. Click send! Under the box you will see in red all the words that are not one of the 1000 most used.
4. Keep refining the text until you are happy with the amount of jargon (some words might be still in red, but necessary, such as a name).
5. Optional step: use ChatGPT or a similar AI tool to see how you compare with artificial intelligence! Once you have written your summary, use the following prompt: “Explain X (the concept or topic) using only the 1000 most common words in English”. How does the text differ from yours?

TIP BOX

You can check **here** 30 abstracts developed by scientists for the AGU 2018 meeting. Stuck? Use the **Everyday Words for Public Health Communication** glossary from the CDC to search for alternative words when substituting jargon.

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Exercises

Completed exercise by a FOODSTORIES workshop participant

Original paragraph: Microorganisms, including bacteria, yeasts and viruses, inhabit various areas of the human body including the skin, nose, mouth and the gut. In particular, the microorganisms in our gut play a central role in regulating digestive health, with recent research suggesting that gut bacteria may relate to wider aspects of health including obesity, metabolic functions and even mental well-being. So, what exactly are gut bacteria, and how do they impact overall health?

Upgoer paragraph: Microorganisms are living things that are too small to be seen by our eyes, but they are found every where in the world, and they live on many areas of the human body like the skin, nose, mouth and the stomach. These tiny life forms play an important part in managing the way our bodies break down food. Studies have found that that how they work may have a relationship to wider well-being - from the stomach to the rest of the body, and even to the brain. So, what exactly are these small living things, and how do they control our lives and how we feel?

Exercises

11. Create a #betterposter: visual storytelling

(Created by Mike Morrison)

TRY THIS FOR

A scientific conference or thesis presentation.

Storytelling is about representing ideas, and as such, stories may take countless forms beyond language. In fact, in science communication information is often represented visually through e.g. models, posters, drawings, pictures, and infographics. The following exercise is all about visual storytelling and the representation of ideas in a context you might be familiar with: an academic poster session.

In the following exercise, we will be exploring the concept of the #betterposter, created by Mike Morrison, a psychology PhD student, as an approach to designing **more effective and visually engaging scientific posters.**

MATERIALS

Video explaining the #betterposter concept in-depth (20 minutes)	Short video for the activity (3 minutes)	#betterposter template
watch	watch	link

#betterposter template

Exercises

Instructions

1. Reflect on a research project or topic you would like to present on an academic poster (alternatively, choose a past poster you created).
2. Optional: Watch the 20-minute video on the #betterposter (extra points for identifying all the storytelling elements used in the video!).
3. Gather the necessary materials: download the online template or prepare pen, markers, and paper (ideally an A2).
4. Start watching the 3-minute video and pause after each section is explained to design the section in your poster. If in need of inspiration, search for other #betterposters online!
5. Seek feedback from others, if possible, to identify strengths and areas of improvement.
6. Once you are familiar with the concept and key principles of the design, such as clear hierarchy, minimal text, and effective visuals, you can keep experimenting beyond the boundaries of the template! For example, try to create a new poster based on the same research topic that targets a completely different audience (see exercises 1b. “The message box” and 2a. “Who is your audience?”). Which changes would you make? You can find many examples by googling “better poster”.

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Maintaining scientific integrity

Exercises

12. Embedding data in your storytelling

TRY THIS FOR

A social media reel, a longer video, or a podcast episode.

Storytelling is a fantastic way to tell complex science information in a way that audiences can relate to and recall. However, as a scientist it is imperative that you embed data into storytelling that is factual, clear and relatable for the audience. For example, P values are not often understood by a lay audience. However, if the data is converted into a less complex way the audience will pay attention to this data and possibly change behaviours, if this is your aim.

As social media has become one of the leading ways for people to get their news and information, audiences engage with videos more than most other forms of media. Thus, the following exercise focuses on **effectively incorporating data into engaging science communication for a lay audience** through the medium of short social media videos. That said, the exercise works well for other types/formats of science communication, such as a podcast. Feel free to adapt it to your own needs!

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Instructions

1. First, choose the topic you are going to use to create a one-minute video script for a social media platform like Instagram or TikTok.
    - If you have your own research: you will create a one-minute video highlighting your research, including data points.
    - If you don't have/want to use your own research: Imagine you're in a new role as a social media manager for a company that sells plant-based protein bars. You want to educate a lay audience about the importance of complete proteins and the role of amino acids. If you are not knowledgeable about this topic, you can use **this study** to draw the information.
2. Choose your audience. You can choose between the following or come up with your own! Just remember to be specific. If you did the "Who is your audience?" exercise (exercise 2a), this is a great place to use it. Otherwise, here are some examples to inspire you:
    - Young adults (18-24 years old) who are interested in fitness and nutrition but are not necessarily science oriented.
    - Older adults (45-60 years old) who are looking to incorporate more plant-based proteins into their diet for overall health benefit.
3. Think the key data you want to include. If you follow the example given in step 1, they could be:
    - The role of amino acids in building muscle and the different life stages.
    - The concept of complete vs. incomplete proteins.
    - The amino acid profile of your plant-based protein bar.

TIP BOX

Use metaphors or analogies for complex concepts (see exercise 9. Create an analogy for a complex concept). Humour is a good way to engage audiences in short videos, but is it the tone you are going for?

Continues in the next page

Exercises

4. Now turn the data points into text that you imagine would fit the narration of a video. Keep it short and sweet and focus on only 1-2 key data points delivered in an engaging way.
5. Finally, think about which visuals might fit the content you have developed. Need some inspiration? See these **examples** of clever ways to represent scientific facts!
6. Use the data to build a fun and informative video script (view table on the right).
7. Validate your script using ChatGPT or a similar language model to understand. This step might help ensure the scientific information is being interpreted accurately and communicated effectively for your target audience:
   - Paste your script, and immediately after, add the prompt: 'This is a script for a social media video. What is the main message you learned from this script if you were a lay audience and what are the statistics you have learned from this script?'
   - Request suggestions on how to present the data in a more memorable or relatable way using the following prompt: 'Now highlight the main data points of the previous video script in a more memorable way'.
8. Based on step 7, edit and refine your script if necessary!

Description	Time	Narration	Visuals
OPENING HOOK	0-5s	[Grab attention with a thought-provoking question or statement] e.g. "Want superhero strength from eating a delicious bar?"	[Dynamic visuals to captivate viewers' interest]
PROBLEM IDENTIFICATION	5-15s	[Highlight a common pain point or challenge] ''Different protein requirements in different life stages."	[Visuals depicting the identified problem]
DATA	15-25s	[Introduce your product or service as the solution] '' Introduce the product/ concept of amino acids as the building blocks of protein."	[Show a teaser of the solution, hinting at benefits]
KEY FEATURES HIGHLIGHT	25-35s	[Highlight the key features that set your solution apart]	[Visually showcase the features with animated graphics]
DATA HERO	35-45s	[Provide a brief overview of how the solution works] Why is this bar better than others?	[Mention any statistics you have; how do you present this data? Infographics, percentages, animation, bar charts?]
BENEFITS AND VALUE PROPOSITION	45-55s	[Articulate the benefits the consumer will gain] 'What is the bar good for?"	[Visuals demonstrating positive outcomes and advantages]
CALL TO ACTION	55-60s	[Encourage a specific action, such as a sign-up or trial]	[Display a clear call-to-action and relevant visuals]

Download the video script template here

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Exercises

13. Misinformation mashup: a science media challenge

Misinformation, defined as the act of giving wrong information about something, is a pervasive challenge across all scientific fields, including food science. Ensuring your research story does not leave room for misinformation or misconceptions is crucial. Unchecked, these can be used to promote views that are misaligned with the scientific evidence, potentially causing offense or backlash against you, your research, or the industry.

By actively monitoring how your science stories are received, you can **identify and address characteristics of misleading or sensationalized** content. This will help you avoid these pitfalls when writing for media outlets or other public-facing communication channels.

Instructions

1. Locate a recent media article from any newspaper or magazine that you regularly encounter. The article can be in any language and should cover a food science topic that you believe may be exaggerating or sensationalizing the research findings.

2. Read the article and analyse its headline and content starting with the headline. Is this fact or fiction?
   - Sensationalized language: Does the headline use exaggerated claims or trigger words (e.g., “miracle cure”, “shocking discovery”)?
   - Missing context: Does the headline provide enough information to understand the research?
   - Focus on anecdotes: Does the headline rely on personal stories instead of scientific evidence?
3. Now focus on the article itself and identify clues that help differentiate fact from fiction. This could include:
   - Author credentials: Who wrote the article? Are they a scientist qualified to discuss the topic?
   - Sources cited: Does the article cite reputable scientific journals or rely on unknown sources?

Continues in the next page

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Exercises

- Evidence presented: Does the article support its claims with data and research findings?
- Balance and objectivity: Does the article present a balanced view of the topic or promote a particular agenda?
- Missing information: Is there any information you think should be included?

4. Now, we are going to give the message a makeover:
   - Locate the original scientific paper that the media article is based on.
   - Craft a new, more factual headline and article that accurately represents the research findings and their implications, whilst staying engaging.
   - Alternatively, write a short article about the topic of the paper, ensuring the content is jargon-free, engaging, and targeted to a general audience.
5. Use ChatGPT to analyse your revised article, asking questions like “What is the key message in this article?” and “What audience does this article appeal to?” to ensure the scientific information is being conveyed effectively.

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Exercises

Completed exercise by a FOODSTORIES workshop participant

Article: Yes, Teflon Flu Is Real – Here's How to Lower Your Risk

Headline: stating a 'fact' from the beginning and using buzz words (instead of Polymer Fume Fever which is explained later in the article though) and not putting it into context (whether there is already enough research done on that matter). Sub headline 'because this is an illness you don't want to get' sounds a bit unprofessional.

Author: Korin Miller, health journalist. She only has an education in journalism, though she states that she is in constant communication with 'top doctors' and specialists.

Sources: The article provides only one study from the Oregon Health and Science University (published by the National Library of Medicine) and some links to different poison centers (and some of them don't work).

Missing information: there is no indication of how often it happens and if there are actual long-term damages. The studies state that there is still a lack of evidence and that there needs to be more studies conducted on that matter.

New headline: Protect Yourself in the Kitchen: Understanding Polymer Fume Fever and How to Prevent It.

Conclusion: the article seems to over dramatize the 'flu' – the most effective remedy, according to the article, is taking in some fresh air and drinking water.

Exercises

14. Communicating risk in food science

The following exercise will guide you through a structured approach to i**dentifying potential communication risks, developing targeted messages, and integrating them into your storytelling.** By proactively addressing consumer concerns, you can build trust and effectively share the value of your food science research. While storytelling may not always be suitable in crisis situations, when used correctly, it can be a powerful tool for changing attitudes and behaviours.

TIP BOX

When communicating scientific information, always keep in mind these 5 key factors of effective risk communication: trust, transparency, early announcement, active listening, and strategic planning.

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Instructions:

1. Choose what you want to communicate about, either your own research or a topic you understand well.
2. The first step is to put yourself in your audience's shoes by brainstorming risks. Write down 4-5 risks related to your topic.
3. Now we are going to develop a communication strategy to tackle the risks you identified. Based on your brainstormed risks, choose the two biggest concerns you think consumers would have about your chosen topic.
4. For each concern, write down two clear and concise messages that address it directly. Focus on the benefits for consumers and keep the language simple and easy to understand.
5. Pick one channel (social media, website, public forum) and briefly explain why it might be suitable for reaching consumers (think about who the customers are) with your messages. For example, you might choose a specific social media platform because it allows for targeted messaging and engagement, or a certain website because it provides a centralized hub for in-depth information and resources.
6. Look up some real-world examples of communication strategies for similar topics. See how they address consumer concerns and compare them to your own messages. Are they addressing common consumer concerns directly and transparently? Are they aligning the messaging with the target audience and their values?
7. Once you have clearly defined the concerns and messages to address them, you need to build these into your story. If it is a major concern, it is worth addressing it in the introduction, while smaller issues can be weaved throughout the story. Alternatively, you could choose risk as the protagonist of the story.
    - *The processing method and additive concerns could be woven into the middle of the story, providing more detailed information and reassurance to the audience as they learn about the product.*
8. The goal is to seamlessly integrate risk communication messages into the storytelling, addressing concerns proactively. Experiment embedding concerns at different points of your story and reflect on what works best by putting yourself in your audience's shoes.

Exercises

Completed exercise by a FOODSTORIES workshop participant

Topic: Plant-based protein products

Key communication risks:

• Potential concerns about the nutritional profile and completeness of the plant-based protein compared to animal-based protein.

• Questions around the processing methods used to create the plant-based protein and whether any additives or chemicals are involved.

• Worries from consumers about the availability and affordability of the plant-based protein compared to traditional meat-based options.

• Uncertainties around the environmental impact and sustainability of large-scale production of plant-based proteins.

• Regulatory challenges and approval processes that could delay the market introduction of the plant-based protein.

Identified two biggest concerns:

• Nutritional profile and completeness of the plant-based protein.

• Processing methods and additives used.

Messages:

• Clear, concise message: “Our plant-based protein is formulated to provide a complete amino acid profile and essential vitamins and minerals comparable to traditional animal-based proteins.”

• Benefit-focused message: “Enjoy the protein benefits you need with the added sustainability of a plant-based option.”

Channel:

Website short article

Concerns/messages weaved into the story:

• For the major concern around the nutritional profile and completeness of the plant-based protein, I could address this upfront in the introduction. This sets the stage for the audience and establishes trust by addressing a key concern head-on.

• The processing method and additive concerns could be woven into the middle of the story, providing more detailed information and reassurance to the audience as they learn about the product.

• The processing method and additive concerns could be woven into the middle of the story, providing more detailed information and reassurance to the audience as they learn about the product.

Learn more about storytelling and science communication

What is science communication?

Science communication refers to the practice of informing, educating, and engaging a non-expert audience with scientific information, discoveries, and concepts. The goal of science communication is to **increase scientific literacy and awareness, as well as to foster dialogue and understanding between the scientific community and the general public.**

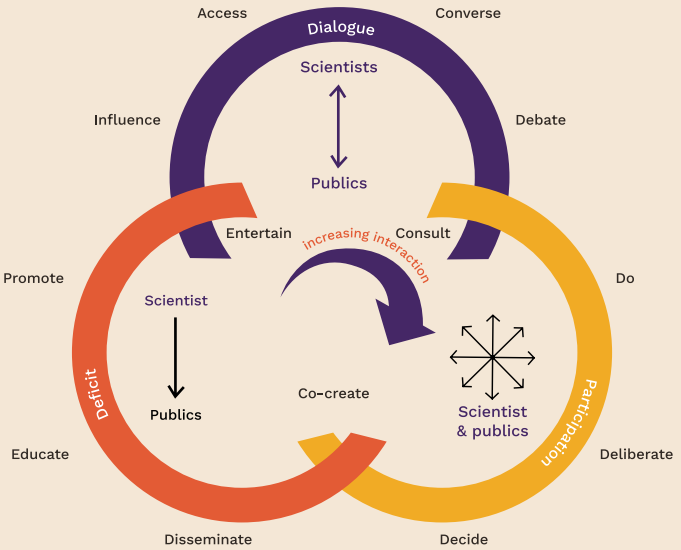
Science communication can take many forms, such as:

- popular science writing and journalism
- public lectures and presentations
- science museums and exhibits
- social media and online content
- workshops and outreach events

Effective science communication involves translating complex technical information into accessible and engaging formats for non-expert audiences. This **requires an understanding of the target audience's existing knowledge, interests, and concerns.** Thus, science communication is generally understood to be based on three main models (see image on the right):

- Deficit Model: represents a one-way dissemination of information, where the public is seen as lacking knowledge and needing to be persuaded or "filled in" on scientific innovations and issues. This approach assumes the public is inherently hostile or ignorant, and that providing more information will lead to greater acceptance of new scientific developments.
- Dialogue Model: envisions a two-way interaction, where science takes into account the diverse needs and perspectives of the public. Through engagement and consultation, they can provide valuable input and feedback on scientific topics, shaping the direction of research and discourse.
- Participation Model: goes a step further, involving the public as an active, three-way partner with the scientific establishment. Here, the public plays a role in framing the agenda, negotiating the meanings and implications of science, and collaboratively shaping the issues at hand.

These models represent an evolution in how we conceptualize the relationship between science and the public, moving from a top-down, deficit-driven approach to one of meaningful dialogue and shared participation. Effective science communicators often draw on a combination of these models, adapting their approach to the specific context and audience.



Credits: **Rethinking science communication models in practice**

What is storytelling?

For this toolbox, in the context of science communication, we refer to storytelling as the **art of crafting a compelling narrative around scientific concepts, discoveries, or processes.** Thus, the goal of storytelling in science communication is to make complex, technical information more engaging and accessible to the audience, while still preserving the accuracy and integrity of the science.

Storytelling often includes the following elements:

- Relatable characters
- Dramatic plot points
- Vivid descriptions
- Emotional appeals
- Metaphors and analogies

What can make storytelling, like any other art form, rather difficult is the fact that there is not a singular answer to how one should do it. There might be as many ways to write a story as there are stories in the world. For this reason, storytelling remains an ill-defined term that is attached to many different approaches. However, even small, strategic additions of narrative devices can enhance the accessibility and impact of scientific communication.

Are “narrative” and “story” the same thing?

What exactly is narrative, and how does it differ from story? **Narrative is how we choose to tell a story.** We apply different narratives to the same story all the time. A narrative structure might simply describe the scientific process of developing a new vaccine, while the specific story could be about the challenges a research team faced and how they overcame them. An easy way to remember the difference between story and narrative is that you can have multiple narratives to tell the same story. For example, you can have a narrative that reshuffles the order of the events in a story (e.g., starting from the middle or end) as a device to make it more interesting. Or a narrative can use different points of view (of the protagonist, antagonist, neutral person) to tell the same story.

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Why use storytelling in science communication?

Storytelling is a powerful tool for making complex scientific information more accessible and engaging for public audiences. **Stories activate emotional centres in the brain, making the content more memorable and impactful by grounding technical concepts in relatable, real-world examples and narratives.** This helps lay audiences better comprehend and retain the facts.

Good communication is particularly important in an age of information overload and scientific misinformation. Stories can cut through the noise, making essential scientific knowledge more understandable and relevant to diverse public audiences. By humanising research and its societal implications, storytelling can foster greater public interest, trust, and engagement with the scientific process.

Yet, as with all forms of science communication, **it's critical that the storytelling remains grounded in sound, verifiable evidence.** The balance between engaging narratives and scientific rigor is nuanced, but essential for maintaining public trust. In the end, the appropriate level of storytelling or the applicable storytelling techniques one might utilise will depend on the context.

Is using storytelling ethically sound in science communication?

Storytelling differs from traditional, didactic science communication by incorporating narrative elements like characters, emotions, and relatable examples to convey complex concepts. This focus on engaging and connecting with the audience on an emotional level can make the information more accessible and impactful. However, researchers must be vigilant to ensure that storytelling techniques do not introduce inaccuracies, oversimplifications, or logical fallacies. **Storytelling in science communication is ethically sound when it accurately represents scientific information and does not compromise scientific integrity.** The balance between compelling narratives and scientific rigor is crucial.

Examples of effective, ethical storytelling in science can be found in the **FOODSTORIES Best Practices Collection**, which highlights case studies where researchers successfully used storytelling to illuminate their work without compromising its integrity.

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What are the benefits of using storytelling to communicate your science?

1. Humanising research: Stories provide a human context to scientific endeavours, helping the audience connect with the people behind the work and understand its real-world impacts. This can foster greater empathy, trust and interest in the research. On **FOODSTORIES Best Practices Collection**, for example, the "PhD Stories" case strengthens the human side by asking speakers to talk about their passions and interests while presenting their research topics.
2. Improving accessibility: Narrative techniques can simplify complex concepts and technical language, making scientific information more comprehensible for lay audiences. Stories also tap into universal human experiences, providing relatable frames of reference.
3. Enhancing memorability: Research has shown that people are more likely to remember information presented in a narrative format. The emotional resonance and vivid imagery of stories helps the content stick in an audience's mind.
4. Inspiring action: Compelling stories can galvanise interest, understanding and even behaviour change around scientific issues. Narratives that highlight the personal or societal implications of research findings may motivate the public to get involved or support related initiatives.

Our **FOODSTORIES Best Practices Collection** features several case studies that illustrate these benefits in action. For example, "The secrets of your food" (pg. 50) shows the process of farm to fork in a relatable and clear way for the audience to engage and remember, and "Teaching Science Through Stories" (pg. 30) makes science relatable to children by using popular stories, such as Jack and the Beanstalk and Red Riding Hood.

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Doesn't storytelling distort science?

Maintaining scientific accuracy and integrity is paramount when incorporating storytelling techniques. This is why researchers must thoroughly understand the concepts they are communicating and fact-check information. It's critical to consult subject matter experts, especially for sensitive topics that may carry strong emotional resonance or ideological baggage.

Ultimately, storytelling in science communication is about simplifying information for accessibility while retaining the essential scientific integrity. It is a fine line to walk, but it helps to always present scientific findings within the appropriate context, avoiding unsubstantiated claims. Careful language choices, such as using an active voice and selecting words precisely, can also help preserve scientific rigour. With practice, researchers can develop the skills to craft engaging narratives that captivate audiences while remaining firmly grounded in verifiable evidence.

Below some specific tips:

- Avoid sensationalism or exaggeration that goes beyond the evidence.
- Ensure the narrative arc does not gloss over important nuances or caveats.
- Maintain a clear distinction between objective facts and interpretive elements.
- Don't let the storytelling detract from the core scientific message you're trying to convey.

Our **FOODSTORIES Best Practices Collection** provides several examples of how researchers have successfully navigated this balance. In a "Pint of Science" event, for instance, a researcher on Bioinformatic was able to **distil findings about biomarkers** into a relatable narrative that highlighted the human side and real-world applications, without oversimplifying the underlying technical details.

Is storytelling not suitable or too simplistic for technical or specialised fields of science?

While the complexity of the subject may require more careful translation and simplification, storytelling techniques can still be effectively applied to make information in technical or specialised scientific fields more accessible and engaging for broader public audiences.

The key is for researchers to deeply understand their subject, identify the core concepts and messages they want to convey, and then carefully select the most appropriate storytelling techniques to bring those ideas to life. This may involve breaking down complex processes, using analogies and metaphors, or emphasizing the human element of the research. With practice and experimentation, scientists in any field can learn to wield the power of storytelling to enhance the audience understanding and engagement with their work.

What kind of language should be used in storytelling?

The guiding principle is clarity and accessibility over literary flourish. You do not need a high-level vocabulary or beautifully crafted prose to tell an effective story. In fact, some of the most impactful narratives ever told, like those of Ernest Hemingway, were written using relatively straightforward, high-school level English.

That said, certain language choices can greatly impact the effectiveness of your storytelling. Here are some tips:

- Use an active voice: Sentences constructed in the active voice (e.g. “The researcher discovered...” vs. “The discovery was made...”) tend to be more concise, vivid and engaging.
- Select words carefully: Choose precise, descriptive language that paints a clear picture for the audience. Avoid overly technical jargon or flowery language that could obscure meaning.
- Consider narrative voice: Decide whether a first-person, third-person, or other narrative perspective will best serve your storytelling goals and connect with your target audience.
- Incorporate sensory details: Weave in descriptive details that allow the audience to visualise, hear, smell or otherwise experience the scenes and events you are describing.
- Emphasise the human element: for example, on Beta Bugs (pg.20), from our **FOODSTORIES best practice collection**, Lindy’s character is the main driver of the story’s narrative. Instead of explaining the work in a general / factual way, it is explained from the characters perspective, which adds an emotional connection.

TIP BOX

For more background knowledge, check out the following section “Additional resources”.

Quality criteria

The exercises presented in this guide have been selected based on the following storytelling and science communications quality criteria. These criteria were originally developed for the FOODSTORIES, **"Storytelling in Food Science Communication - Best Practices Collection"**, to ensure the case studies presented in it serve as high-quality examples of ethical science communication initiatives that incorporate storytelling elements. In some of the exercises we refer to the FOODSTORIES Best Practices Collection as a supplement source of examples for when participants do not have other research topics to write about.

Each exercise pertains to one or more of these predetermined storytelling quality criteria and/or science communication quality criteria.

In other words, the learning objectives of each exercise addresses these criteria to provide a more holistic understanding of storytelling in science communication.

By grounding the exercises in the project's quality criteria, the aim is to ensure a consistent, comprehensive approach to developing practical storytelling skills for effective science communication.

STORYTELLING QUALITY CRITERIA

BEGINNING/MIDDLE/END

The story is structured following the classical Aristotelian tripartition: beginning/middle/end.

PROTAGONIST/CHARACTER

The story presents one or more protagonist/character.

DIFFICULTIES/CONFLICT

The protagonist/character is involved in an initial situation and needs to overcome difficulties, emerging barriers or face conflict.

RESOLUTION/MORAL

The story shows a final resolution/moral.

SCIENCE COMMUNICATION QUALITY CRITERIA

Source: www.questproject.eu

TRUSTWORTHINESS AND SCIENTIFIC RIGOR

SCIENTIFIC

Communication is based on reliable, rigorous scientific information and sources. References to scientific sources are added.

FACTUAL

Communication is accurate, objective and fact-checked.

BALANCED

Comments by independent experts are provided to key claims. Voices of key stakeholders are represented.

TRANSPARENT

Communication provides sufficient information about the scientific process. Communication is honest about the funding and affiliations.

PRESENTATION AND STYLE

CLEAR

The language is simple and accessible. Communication has a clear focus and outlines key messages.

COHERENT AND CONTEXTUAL

Communication provides a wider context for topics. Communication is coherent in its structure and style.

SPELLBINDING

Communication is emotionally engaging and makes full use of the format's capabilities.

INTERACTING WITH THE AUDIENCE

Communication involves the audience in a dialogue and treats them respectfully.

CONNECTION WITH SOCIETY

PURPOSEFUL AND TARGETED

Communication has a clearly defined objective, is knowledgeable about its audience and is tailored to reach the target groups.

IMPACTFUL

Communication generates changes in the society and its individuals.

RELATABLE

Communication addresses real-life questions and problems and relates scientific results to the everyday lives of people.

RESPONSIBLE

Communication is socially or politically conscious and follows ethical standards.

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Additional resources

Resources

Here you will find additional resources to familiarise yourself with storytelling and science communication.

Books and Journals

- Bloomfield, E.F. (2024) **Science V. Story: Narrative Strategies for Science Communicators. University of California Press**.
- D. Jones, M. and Anderson Crow, D. (2017) **'How can we use the "science of stories" to produce persuasive scientific stories?', Palgrave Communications**, 3(1), p. 53.
- Dahlstrom, M. F. (2014). **Using narratives and storytelling to communicate science with nonexpert audiences.** Proceedings of the National Academy of Sciences, 111(Supplement 4), 13614-13620.
- ElShafie, S. J. (2018). **Making science meaningful for broad audiences through stories. Integrative and Comparative Biology, 58(6), 1213-1223.**
- Fischer, P., & Thies, B. (2023). Stories as a tool in science communication: an experimental analysis. International Journal of Science Education, Part B.
- Jamieson, K.H., Kahan, D.M. and Scheufele, D.A. (eds) (2017) **The Oxford Handbook of the Science of Science Communication. Oxford University Press**.
- Joubert, M., Davis, L. and Metcalfe, J. (2019) **'Storytelling: the soul of science communication', Journal of Science Communication,** 18(05), p. E.
- Molthan-Hill, P. et al. (eds) (2020) **Storytelling for Sustainability in Higher Education: An Educator's Handbook. 1st edn. Abingdon, Oxon ; New York, NY : Routledge, 2020.: Routledge**.

Online Resources

- **Ethical Storytelling Resources**
- **Journal of Science Communication (JCOM)**
- Podcast: **Science Will Win: Live from SXSW - Scientific Storytelling: The Audio Advantage**
- **Sci Comm Society**
- **Science Communication Toolkit: Telling the Story of Science**
- **Storytelling for Nonprofits**
- Webinar: **Storytelling as a tool in science and science communication**
- **Risk know-how** on risk communication

Resources

Sci Comm Models

- Kelly, A. (2020) **How Scientists Communicate: Dispatches from the Frontiers of Knowledge. 1st edn. Oxford University PressNew York**.
- Metcalfe, J. (2019) **'Rethinking science communication models in practice'. The Australian National University.**
- Models', in D. Cheng et al. (eds) **Communicating Science in Social Contexts. Dordrecht: Springer Netherlands,** pp. 119–135.
- Wendo, C. (ed.) (2022) **Science Communication Skills for Journalists: A Resource Book for Universities in Africa.** GB: CABI.

What is Storytelling? Why use storytelling?

- Dahlstorm, M.F. (2014) 'Using narratives and storytelling to communicate science with nonexpert audiences', Proceedings of the National Academy of Sciences of the United States of America, 111(4)
- Joubert, M., Davis, L. and Metcalfe, J. (2019) **'Storytelling: the soul of science communication', Journal of Science Communication, 18(05),** p. E.
- Storr, W. (2020) The science of storytelling. Paperback edition. London: William Collins.

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- **Storr, W. (2020) The science of storytelling. Paperback edition. London: William Collins.**

Is narrative and story the same thing?

- Dahlstorm, M.F. (2014) 'Using narratives and storytelling to communicate science with nonexpert audiences', Proceedings of the National Academy of Sciences of the United States of America, 111(4)

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