



Scientific Storytelling

BIMODAL - Day 1, Session 2



Finding the story in your research

Crafting an engaging story is the foundation of science communication.

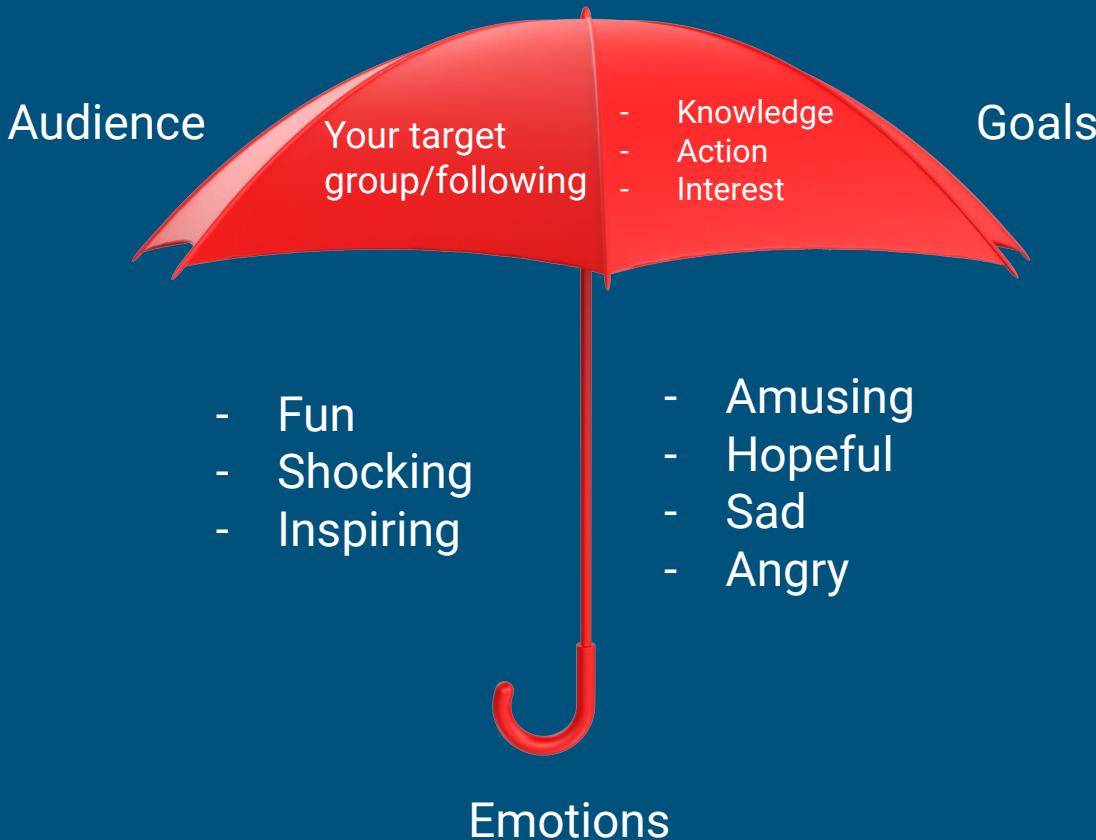
Stories are everywhere in science! You encounter stories every day.

Stories do not have to follow any particular format - they can be long or short, detailed or general.

Stories aim to tap into the emotions of the audience and elicit a response.

Your Science Communication Umbrella

Purpose



Examples of telling stories - written: long format

— News



CLIMATE & ENVIRONMENT

How Death Valley National Park tries to keep visitors alive amid record heat

By Noah Haggerty

Photography by Brian van der Brug

July 11, 2024 3 AM PT

↗ Share

21

Examples of telling stories - written: infographic

DR. JOHN COLEY

Research Highlight: If we can reduce human exceptionalism, we may be able to increase the rate that people engage in pro-environmental behaviors.

THE CROSSOVER BETWEEN PSYCHOLOGY AND ENVIRONMENTAL SCIENCE

Dr. Coley's work has evolved over time. His work began through basic research in human cognition, and what leads to differences in how people think. These studies lead him to apply what he was learning about cognition to how people learn science, specifically biology. This evolved into studying how people understand the environment, climate change and their place in the ecological system.

DR. COLEY LARGELY ATTRIBUTES THE IDEA OF APPLYING THEIR WORK IN BIOLOGY EDUCATION TO HOW PEOPLE LOOK AT CLIMATE CHANGE TO A GRADUATE STUDENT HE WORKED WITH IN HIS LAB

Dr. Coley feels incredibly supported by his colleagues in this interdisciplinary effort. Together, they're trying to break the boundaries of siloed science.

"JUST KEEP TRYING"

The biggest challenge has been finding the resources and financial support to do the research. Because this work does not fit into a pigeon hole, it can be frustrating when trying to find support to do this research, as much of academia is siloed. Nevertheless, Dr. Coley emphasized that he and his colleagues believe in their work and will keep trying.

OUTSIDE OF THE LAB

Dr. Coley spends much of his time outside of work rehearsing and performing in his band! He is a father to two daughters and also enjoys traveling!

I LOVE WHAT I DO

Something Dr. Coley is excited to continue studying is how people perceive themselves as a part of, or apart from, nature, and how that influences their decision making and perhaps whether or not they feel compelled to take care of the natural world. This spring Dr. Coley will be teaching a new course called Environmental Psychology that is an exciting addition to both departments!

NICOLE PECKHAM

MARINE BIOLOGIST AND PHD CANDIDATE

Nicole has been a part of the Kimbro lab since 2015. She started as a lab technician evaluating predation risk effects in Florida oyster reefs. She has conducted field work in salt marsh and oyster reef ecosystems.

A passionate and independent PhD Candidate at Northeastern University studying Marine Biology.

Author of: "A skewed literature review of predator-prey interactions in marine ecosystems" and "Few studies evaluate the contribution of predation-risk effects to natural field patterns".

Analyzed effects of non-consumptive predation risk on oyster physiology.

MAJOR MILESTONES

Nicole was inspired by marine scientists at Northeastern University to pursue her degree in Marine Biology. She was exposed to field research early in her studies and was immediately motivated to pursue a career in science.

Nicole researches non-consumptive effects on predator-prey interactions in shallow marine and coastal ecosystems. In the field, she evaluated physiological responses of oysters in St. Augustine, Florida. Currently, she is researching behavioral responses of green urchins to Jonah crabs in tanks at the Marine Science Center in Nahant, MA. Northeastern University provides resources and funds for her research.

Nicole has overcome several challenges as a woman in the scientific community when working as a field technician in Florida. She values independent work and her positive relationship with her mentor, David Kimbro. She is a creative who loves to problem-solve and is motivated by small victories.

Angela Jones

MARINE BIOLOGIST
ENVIRONMENTAL EDUCATOR

Currently studying ecology of sea urchin impacts from Jonah crabs on feeding habits of Green Urchins.

Graduated from undergraduate Three Seas program at Northeastern University in 2017.

Recently presented research on predator-prey interactions at the Gordon Research conference in Lucca, Italy.

Promote Accessibility

Uplift Others

Ask Questions

Drawing from her life experience into the marine sciences, Jone's recognizes the fundamental importance of creating opportunities for people of all backgrounds to engage in marine biology.

Education

While Jones did not grow up near the ocean, an early interest in zoology and access to a positive mentor guided her to Humboldt State University in Northern California where she would spend the next 10 years studying marine science. Her undergraduate and master's work focused on sea stars, throughout the Pacific Northwest. Looking at their disease die-off and spiral variations.

Imposter Syndrome

As a young Black woman in the marine science, Jones was not immune to imposter syndrome and others questioning her place in the field. Adopting resilience is a time-consuming process but is not without benefit. Moving into positions of leadership and teaching she aims to uplift the voices of those around her.

Currently, Jones is working with Helmuth Lab at Northeastern University's Marine Science Center. She is leading studies on elver grass and its benefits to the food chain. She aims to obtain her PhD and become a professor, with the hopes of providing accessibility to those in and outside the marine science field.

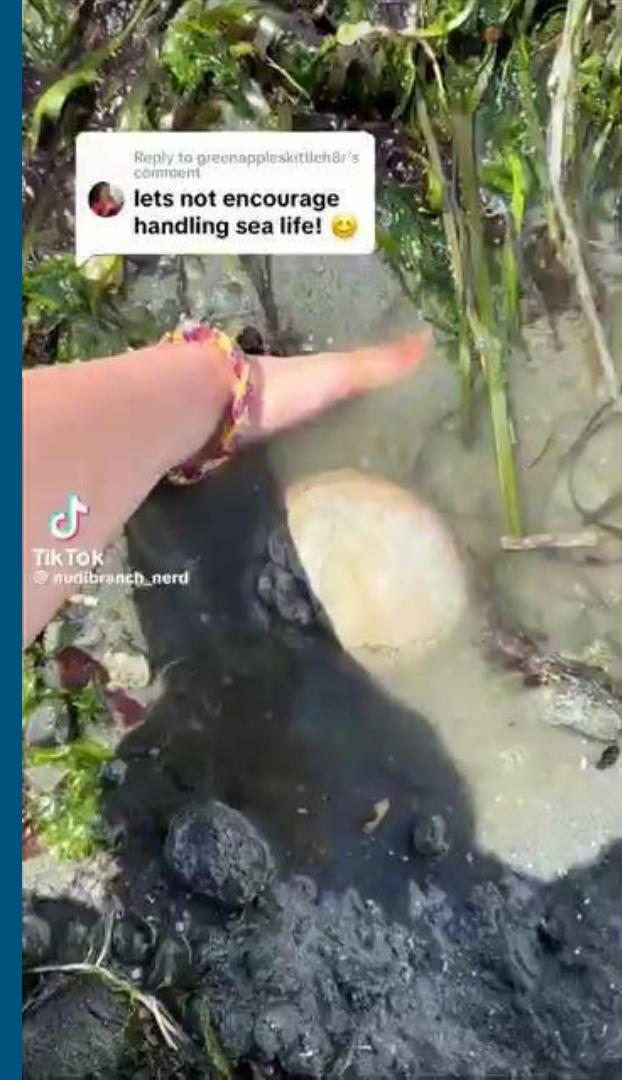
Current Work

Examples of telling stories - video

<https://www.wcvb.com/article/massachusetts-robotic-mussels-may-hold-key-to-saving-new-england-shoreline/45530026>



TikTok
@angelajordane



Examples of telling stories - Instagram



This summer I was working at Block Island Maritime Institute with Meghan Purcell; Meghan and I go out frequently to collect sea star data in the intertidal here on the island! I had posted a Sea Star with Wasting Disease. Angela Jones who is a PhD Student at Northeastern University studying the micromorphology in *Asterias* species, reached out to me to ask some questions about Sea Stars on Block Island. Along with Pooja Pednekar who is a recent Northeastern Masters student who has experience in the intertidal and subtidal all over from the Indian Ocean, Caribbean, Pacific, and now the North Atlantic! She now uses all of her experience for her sea star research and education, and Jen Nilsen a PhD student in climate education of high schoolers at Harvard! The conversation about Sea Stars, education and wasting disease brought us together. I really liked something Angela said when I met her, everyone has the tools to become a scientist they just need to know how to use them!

Sea Star Research & Collaboration

Angela is now studying the micromorphology in *Asterias* species in their spines and wreath organs which are very small structures that are often overlooked along with Pooja who is also helping with this research! While doing their research Sea Star Wasting was heavily prevalent. So, they are also interested in looking into the health of the sea stars (body shape and size, color and more). There is not much research on stars on the East Coast, especially on Block Island so this is where collaboration comes in on working together to look at the differences in these stars! Jen, who is studying education specifically about the environment is helping us do some amazing work on using stars to educate and bring people together in science! Which is so awesome to get people in the community involved, we are so excited to see where all of this will go!



Marine Educator:
Jasmine S.
@prjectfin



It's so inspiring to be surrounded by very smart and influential women in STEM! I am so grateful we all got to meet and now are collaborating!

Examples of telling stories - Twitter/X

Oklahoma Department of Wildlife Conserva  @OKWildlifeDe · Jun 3 ...
we are off on sundays

Rep. Forrest Bennett @ForrestBennett · Jun 2
@OKWildlifeDept I encountered this moderately sized caterpillar near our pollinator garden. Any idea what kind of butterfly it becomes?



78 1.1K 38K 999K

Madeline Eppley @MadelineGE... · 5/30/24 ...
Spent a lovely five days in SC with family and didn't work on anything PhD-related. Being mindful about rest has made me realize how important it is for being my best self & succeeding as a grad student.



Q 22 506

← Post

jeburnes (he/him) @jeburnes ...

What are some of the cool things we saw around the Boston Harbor Islands @YourIslandPark with our baited underwater video this summer? My amazing techs have made a highlight reel! youtube.com/watch?v=v1wnLM... @StoneLivingLab @BostonHarborNow @EnvSchool

YouTube



Summer 2024 BRUV Highlights
Some of the best and most exciting moments captured on our BRUVs during the Summer 2024 season!
Witness huge fishes, giant crabs, and fights over the

Examples of telling stories - multimodal

Blog + embedded video

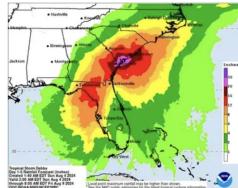
Field Stories: Coastal Resiliency in Georgia

8/26/2024

On a recent trip to Georgia, I found myself unexpectedly (and directly!) in the path of Tropical Storm Debby. The rainfall, flooding, and wind prevented me from visiting Sapelo Island, but I was still able to participate in a week long workshop about science communication and bioinformatics in Savannah with some fellow marine scientists.

While we experienced substantial rainfall in Savannah for several days, there was less flooding than initially forecasted. Given the circumstances, I was curious about the factors of coastal resiliency in Georgia that may have contributed to reducing the impact of flooding during Debby.

Having collected wild oysters from Georgia for my dissertation, I knew that there are expansive natural oyster reef structures along the coastlines in the greater Savannah area. Specifically, I know that native oyster reefs play a role in shielding the coast from storm surge and erosion.



Tropical Storm Debby was forecasted to bring close to 30 inches of rain to Savannah, GA, a record rainfall. Image credit: NOAA & Savannah Morning News



Some oysters live in intertidal areas where they are exposed to air during low tides. Some oysters occur deeper in the water column (subtidally) where they are fully covered by water. This reef is intertidal, where the oysters are exposed to air during low tides.

[0 Comments](#)

Archives

[August 2024](#)
[July 2024](#)
[June 2024](#)
[April 2024](#)
[March 2024](#)

Tags

[All](#)
[ADNA](#)
[AMNH](#)
[Awards](#)
[Fisheries](#)
[Genetics](#)
[Genomics](#)
[GitHub](#)
[Grants](#)
[Marine Science](#)
[News](#)
[Oysters](#)
[Parasites](#)
[Preprints](#)
[Protocols](#)
[Science](#)
[Communication](#)
[Websites](#)
[Workshops](#)



Some wild local oysters near Savannah, GA. Some oysters occur deeper in the water column (subtidally) where they are fully covered by water. This reef is intertidal, where the oysters are exposed to air during low tides.

With a growing number of people living in coastal areas along the Atlantic and Gulf coasts of the US, it's imperative to better understand coastal mitigation strategies in the face of rapidly intensifying storms and climate change events. Natural oyster reefs are ecosystem engineers that provide a physical barrier which mitigates storm surges and prevents successive erosion. Beyond physical factors, filter-feeding oysters also clear bacteria that enters the water through storm drainage and runoff. Oyster reefs also provide valuable structural habitat for many marine species. This habitat is the foundation for biodiverse ecosystems coastal and healthy fisheries that remain resilient to extreme climatic events (Chowdhury et al 2021).

To investigate additional factors of coastal resilience in Georgia, I visited Tybee Island, just east of Savannah, with other workshop attendees. While there, we were inundated with heavy rain and wind, but we were able to identify several features of the landscape that, in part, play a role in buffering the coastline from storms.

I teamed up with scientists [Damián Santiago-Sosa](#), [Paul Okrah](#), [Darrian Talamantes](#), and [Mai Fahmy](#), who shared their expertise on resilient coastal ecosystems and how marine scientists study these coastlines in the video that we created!

Check out our video on features of resilient coastlines such as sand dunes, bacteria, and biodiversity! These resilient features similar among many coastlines in different marine environments, so next time you're on the coast, see how many of these features you can identify.



We encountered strong winds & rain on Tybee Island from Tropical Storm Debby!

COASTAL
RESILIENCE



ON TYBEE
ISLAND, GA

Finding the story in your everyday science

We always have new days ... these new experiences = new content!

Ways to find the story every day:

- Journal prompts
- Write down what you notice around you
- Challenge yourself to describe your day using random adjectives
- Remember that any small moment can spark inspiration for a story

Finding the story in your research

1 sentence: What is a current project that you're working on? (Or, what is one class you've taken?)

Finding the story in your research

1 sentence: What is a current project that you're working on? (Or, what is one class you've taken?)

1 sentence: What is your favorite part of the project so far?

Finding the story in your research

1 sentence: What is a current project that you're working on? (Or, what is one class you've taken?)

1 sentence: What is your favorite part of the project so far?

1 sentence: What would you want your best friend to know about the project?

Finding the story in your research

1 sentence: What is a current project that you're working on? (Or, what is one class you've taken?)

1 sentence: What is your favorite part of the project so far?

1 sentence: What would you want your best friend to know about the project?

1 sentence: What action would you want a stranger to take after hearing about your project?

Finding the story in your research

1 sentence: What is a current project that you're working on? (Or, what is one class you've taken?)

1 sentence: What is your favorite part of the project so far?

1 sentence: What would you want your best friend to know about the project?

1 sentence: What action would you want a stranger to take after hearing about your project?

1 sentence: What did you do at work/school your most recent workday?

Struggling to find content?

You can repost content online multiple times or have the same story across multiple audience levels.

Stories stay relevant over time, so you can post again and again using one story.

- Tell the same story to different audiences at different levels
- For example, one social media post per day with the questions we just answered = 5 days of content.
- Repost blog or social media posts a year later (eg. seasonal stories)
- Post the same content across multiple platforms

Let's practice crafting a story!

Group Storytelling: Moon Snail Example

Moon snails are one of the largest snail groups in the world and known for having large, round shells that look like the moon

- Large bodies that stick out of the shell
- However, the snail can bring the entire body back into the shell
 - So the snail doesn't dry out (desiccate) during low tide periods
 - Also to protect the body from predators!
- They live on the sandy bottom of the seafloor



Group Storytelling: Moon Snail Example

Moon snails are one of the largest snail groups in the world and known for having large, round shells that look like the moon

- Initial thoughts?
- What type of story can we tell?
- What type of emotion do you feel or want others to feel based on the information you have been given?
- Discuss for two minutes



© Ralph Fuller

Group Storytelling: Moon Snail Example

Moon snails are one of the largest snail groups in the world and known for having large, round shells that look like the moon

- Initial thoughts?
-



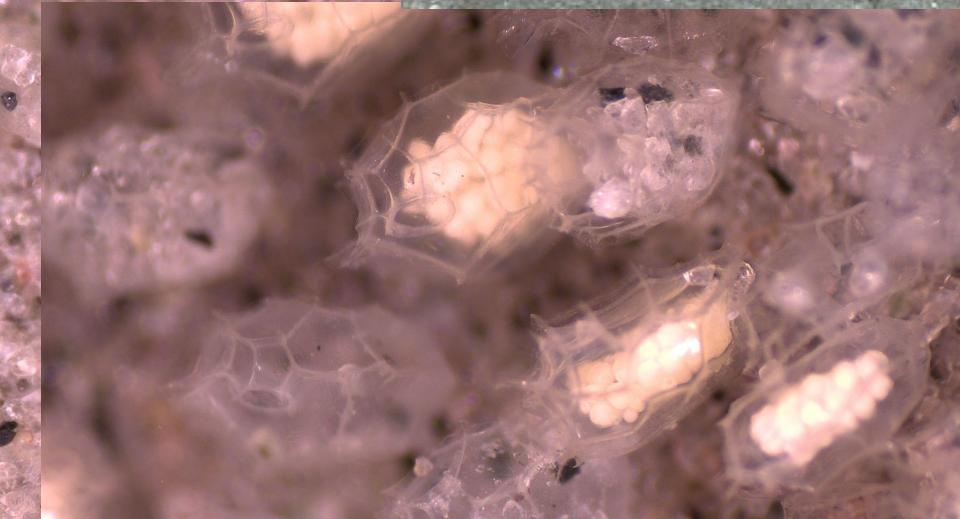
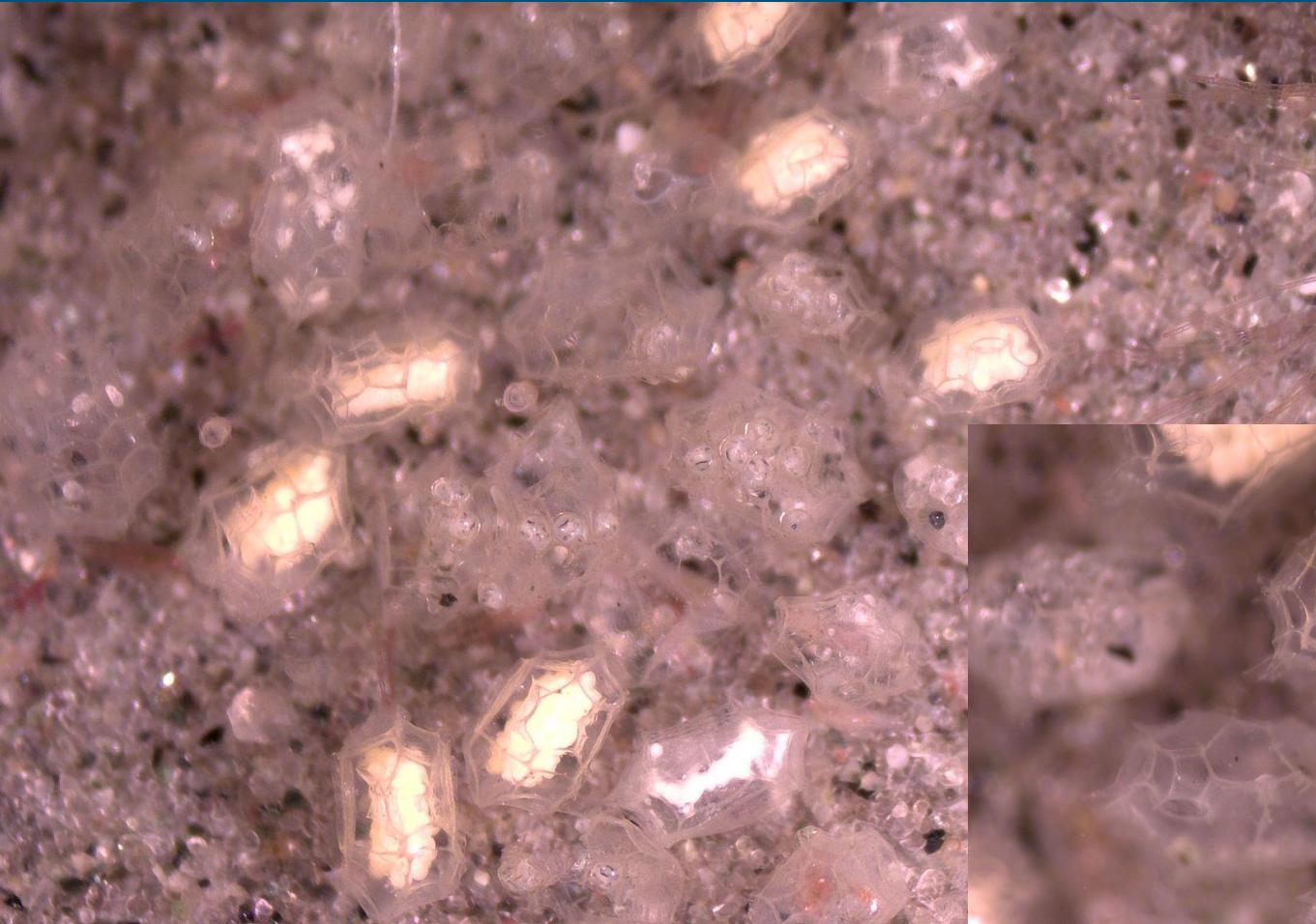
Group Storytelling: Moon Snail Example

- Moon snail sand collar
- How do they reproduce?

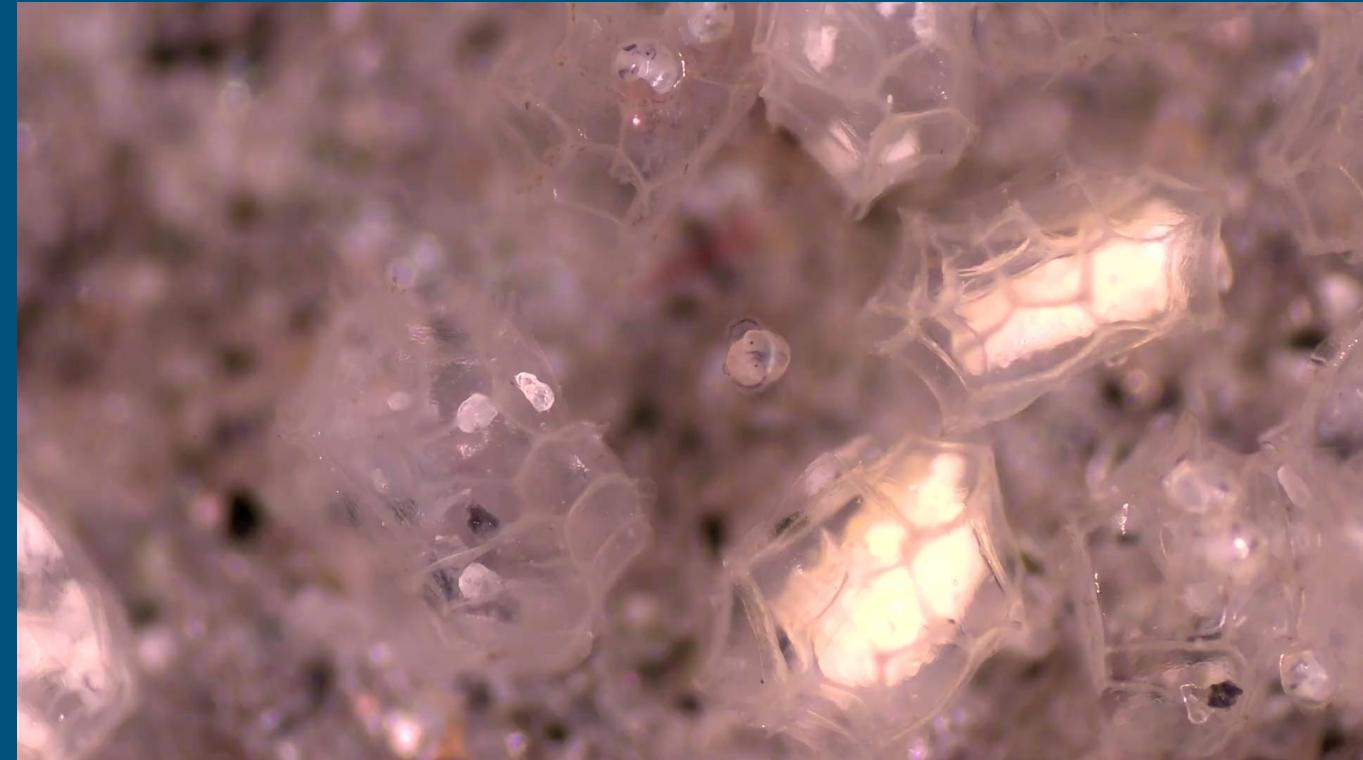


© Ralph Fuller

Group Storytelling: Moon Snail Exan...



Group Storytelling: Moon Snail Example



Group Storytelling: Moon Snail Example

Now what story do we tell?

What sort of medium works best to tell this story?

- For the creator
- For the viewer
- For the different audience types
- Discuss for two minutes

Group Storytelling: Moon Snail

Now what story do we tell?

What sort of medium works best to tell this story?

- For the creator
- For the viewer
- For the different audience types
- Discuss for two minutes

