let's talk science outreach | parlons sciences sensibilisation

On-demand Video Creation Guide

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Development Team

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Section 1: Introduction

The intent of this guide is to supplement the Let's Talk Science Outreach Volunteer Training Handbook to give you additional tools to engage youth specifically through on-demand video outreach activities.

If you have not participated in Let's Talk Science Outreach Volunteer Training, please contact your site coordinator.

This manual describes how to prepare on-demand video content (no live interaction) for youth and educators, typically in response to an educator request. Live virtual outreach (such as through Zoom/Google Meetups) and written content (such as an article explaining a science concept) are also good ways to reach youth online, and are covered in separate resources available from the national office.

Examples of On-Demand Videos

- Pre-recorded activity demonstrations.
- Adaptations of in-class workshop kits/experiences.
- Other educator tools/instructional content on activities to do at home.
- Guest speakers and presentations without Question and Answer sessions or where reliable connectivity may be a concern.

Outreach Site Featured Content vs Nationally Featured Content

With 50+ Outreach sites across Canada, the Let's Talk Science national social media platforms are unable to broadly share, retweet and/or promote all content across Canada; however, all volunteer video content is aggregated on Wakelet.

Please reach out (outreach@letstalkscience.ca) if you would like to receive more information about potential upcoming opportunities to work with us to develop content to feature on our national platforms.

Section 2: Before Developing Your Video

- ☐ Check with your site and/or regional coordinator to ensure that similar content does not already exist from the national office or has been created by another Outreach site.

- Other good places to check are the Let's Talk Science YouTube channel and Wakelet, which aggregates all volunteer created videos.

☐ Start by identifying the concept you want to convey, before focusing on visuals or formatting.
- Ask your site coordinator about the Activity Development Workshop for tips on selecting an age-appropriate concept and moving from concept to activity.

☐ Consider who your intended audience is (e.g., educators, parents, or direct to youth) and where you plan to share your content (e.g., your local outreach website, local Outreach site social media accounts or by email).

☐ Choose a platform that is appropriate for your audience. Try to select a platform where viewership can be tracked (e.g., YouTube) so you can easily understand its impact.
- Consider if the audience has any accessibility issues such as limited access to the Internet to stream videos, for example.

☐ Ensure content includes STEM background information and an accurate explanation of what you are presenting in the piece – for something that could/will be shared virtually and indefinitely, it is more important than ever to ensure accurate STEM information.

☐ Get someone to review/proofread your content. As a volunteer, send it to your site coordinator first – they should also send the content to the regional coordinator for a quick check (we commit to responding within 1-2 business days).

☐ When developing static content, use the term 'guardian' or 'adult' instead of 'parent.' Caregiver is also acceptable.

☐ Think carefully about the availability of materials in a home or school environment. Where possible, suggest alternatives to materials.
- E.g., suggest rolling and taping scrap paper into a tube if a child doesn't have access to a paper towel roll.

- ☐ Try to include suggestions for continuing or expanding the learning to inforce the STEM connection in the video.

Section 3: Video Creation

List of Recommended or Required Materials

Required

- ☐ Camera/phone
- ☐ Space to film
- ☐ Tripod/way to support and stabilize your camera
- ☐ Material for the demonstration
- ☐ Let's Talk Science t-shirt
- ☐ Creativity!

Optional

- ☐ Extra lights
- ☐ External microphone
- ☐ Extra memory or storage for your camera/phone

Part One: Writing Your Script

Refer to **Appendix 1** for Script Writing Template and Tips.

- ☐ Identify the concept you want to teach in your video.

- ☐ Brainstorm ways to convey the concept that are hands-on, age-appropriate, and relevant for youth. See if there are existing Let's Talk Science activities that support the concept you plan to teach (check the resources on letstalkscience.ca, and the Hands-on Activities Database in the Portal). The manual can give you some ideas of how to structure your video.

- ☐ Test your hands-on activities. Make sure you can successfully do the activity multiples times without issue before recording.

- ☐ All activities must follow the Safe Activities and Presentations Guidelines (including wearing appropriate personal protective equipment at all times), and the Interaction with Minors Policy. These are located in the Volunteer Portal and the Volunteer Training Workbook. Remember that volunteers cannot be alone with youth, even online. Make sure another adult is always present.

☐ Write a simple, chronological script. This could be a word for word script of the entire video or bullet points highlighting the key concepts and steps to follow.

Extra Tips

- Introduce yourself as a "Volunteer with Let's Talk Science at [your post-secondary institution]".
- Add proper disclaimers such as "Ask an adult for help and permission if you'd like to try this at home".
- Ensure content aligns with the Let's Talk Science Communications Guidelines. Online, even more than in person, you are representing Let's Talk Science in a format that can be saved, shared and spread widely. Our national Communications team is available to help with branding, messaging, proofreading, etc. (contact the national office, outreach@letstalkscience.ca).
- Keep in mind that changes throughout the creative process happen all the time - you can always make changes and additions along the way!

Part Two: Preparing a Shot List

☐ Make a shot list. Go through your script scene by scene and ask yourself what type of image or footage best captures each part. Add each shot with a simple one line description and type of shot (e.g., close up of the materials, close shot of your hands, wide shot, etc.) to a checklist.

Part Three: Preparing Your Space and Yourself

☐ Ensure nothing inappropriate is visible in your background.
  - Check that you have a neutral background without anything defamatory, political, religious, controversial or age inappropriate showing.
  - Avoid open backgrounds where other people may suddenly be visible (talk to your roommates to avoid them walking into your space during filming).

☐ Ensure that there is no background noise.

☐ Set up your lighting. Natural light is a great option. If you do not have any additional lighting sources, try to pick a spot next to

(but not in front of) a window, or head outside to film (watch out for wind noise). You can also make good use of everyday household lamps.

- ☐ Wear a Let's Talk Science t-shirt (and real pants - not pajama's!)

- ☐ Complete the activities at least once before recording to ensure you are comfortable completing them and that you have all the required materials.

Part Four: Setting Up Your Camera

- ☐ There are three main settings that are important to optimize your footage and they are frame rate, aspect ratio and resolution. We recommend uploading footage in 30 frames per second (fps), at 1920x1080p in an aspect ratio of 16:9.
    - Some phones will not have many options available, however the default 1080p (HD) setting should work well for your filming needs.
    - These settings are found in the main settings app under "camera" on iPhone (not in the camera app itself), and under the settings wheel inside the camera app on most android phones.

- ☐ Use a tripod or phone holder and setup your camera at roughly eye height whenever possible.
    - Filming without a tripod is also possible (some alternatives are placing your phone or camera on a stack of books, against the windowpane, against a heavy object on your table/desk, etc).
    - If you have the option and are working alone, it can be very helpful to use the front-facing camera so you can see your position within the frame; however the rear cameras are often times significantly higher quality and you may not have the option to use the front camera.

- ☐ If possible, use an external microphone while filming to ensure high quality audio.

Part Five: Recording Your Footage

- ☐ First and foremost, HAVE FUN. If you are enjoying yourself, so will your audience. Smile and convey enthusiasm. Tip: revisit

and reshoot the first few scenes after a little time has passed. You will almost always notice you have loosened up and bit and found your comfort zone after a bit of time in front of the camera.

- ☐ Using your shot list, mark off what is done so you have a better idea of what you need to do next.

- ☐ Don't hesitate to do multiple takes.

Part Seven: Editing Your Video

There are many options available if you intend to edit your film as opposed to filming in one continual shot. Below are some recommendations based on your comfort level and experience:

Beginner Options

1) Windows Video Editor / iMovie – very straight forward to use and built right into your computer! iMovie is a great entry to video editing.

2) Your built-in video app on your phone! Most if not all phones now come with a built-in editor that can do all the basics of trimming, splicing clips together and adjusting audio/adding music.

Beginner/Intermediate Options

1) Filmora9 – Beginner friendly software.

2) Video Studio Ultimate by Corel – Another great beginner friendly software.

Advanced Options

1) Davinci Resolve 16 – A highly recommended editor but it will take time to learn.

2) Apple Final Cut Pro X – Easy to use.

3) Adobe Premiere Pro

Other Optional Resources

Let's Talk Science Intro and Outro clips are available. Please contact our Communications Team at communications@letstalkscience.ca.

Extra Tips

- If you are adding fair use/royalty-free music, make sure your music volume is not loud. It can be difficult for people with sensory disabilities to watch the video if there is too much loud background noise.
- If you are adding graphics with text in your video, ensure that the contrast is high (e.g. white background, black text) to assist people with low contrast sensitivity such as seniors or people with color blindness.

Section 4: After Developing Your Video

☐ Ensure all videos have closed-captioning to comply with AODA requirements. If you upload to YouTube, it can automatically generate captions but it is best practice to review captions for accuracy (auto-generated captions often have errors).

☐ Once the video is finalized, you can upload the clip to your Outreach site's YouTube channel or webpage (ask your site coordinator). There is also a national YouTube channel. Reach out to your site and/or regional coordinator for more information about having your content featured on a national platform (not all content is featured in this way).

- If uploading to YouTube, upload the clip as unlisted first, and send it to your site coordinator to review. Once approved, you can make it public and then share it with your community. An unlisted clip can be shared with an educator – someone simply requires the link to access the unlisted video.
- **Important Safety Note:** if uploading to YouTube, turn comments off. Marking the video as "For Kids" will automatically disable comments and advertising.
- As an optional step, you can add a thumbnail to the clip when uploading the video to make it look more professional.

☐ If your activity has supporting documents (e.g., worksheets, supplemental resources, etc.), contact your site coordinator for information about uploading supporting documents to your local Outreach site microsite and linking to these resources in the YouTube description section. Please note that there may be file

size limits so contact your site coordinator beforehand. You can also send them as an attachment in an email to the educator who had requested the static content. YouTube videos can be embedded into your microsite by your site coordinator as well.

☐ For promotion of live events and on-demand content, please connect with your site and/or regional coordinator particularly if your promotion plans extend beyond your city/immediate geographical area.

Logging On-Demand Video Content on the Volunteer Portal

At the time the video is created:

- Use the "Log Non-activity hours" form to capture volunteer hours used to create the content.
- Include a link to the content in the Description field, along with any notes on the intent/plans for the content and sharing it.

If the video is shared with a specific group (e.g., a request from an educator or community group):

- Log the interaction as a regular outreach activity to capture school, educator and number of participant information (get this information from the educator)
- Include "Online Event" in the Keywords field.
- Answer the questions as best you can.
- When logging volunteer hours, include minimal preparation and delivery time (e.g., 0.5), as the time associated with its creation has already been captured above.

Appendix 1: Script Writing Template and Tips

Below is a script template you can use and modify to help film your video.

How to read a script

- On the left-hand side you will find the name of the different scenes to help you keep track of what you are filming
- On the right-hand side you will find instructions for editing, such as switching between scenes, if applicable.

HOST (*that's you!*), Let's Talk Science team member wearing a Let's Talk Science t-shirt.

HOST

TIP: Wait 2-3 seconds after clicking 'record' to begin speaking to account for lag.

Hello everyone, my name is [*blank*] and I am a Let's Talk Science volunteer at [*post-secondary institution*]. I study [*1-2 sentences about what you study*]! Today we're going to be talking about [*state the topic*].

TIP: If you are recording in parts and combining clips, pause for 2-3 seconds after each section.

If you make a mistake and are comfortable trimming/splicing clips, state: "I'm doing that part again" or some other verbal cue, wait 5-6 seconds, and restart that specific part rather than re-recording everything.

DISSOLVE TO:

Let's Talk Science INTRODUCTION VIDEO, if applicable

FADE TO:

Scene 1: INTRODUCTION

HOST

Have you ever wondered [*start with an open-ended question about the topic*]. Today we're going to find out!

If you would like to follow along, ask an adult or caregiver for permission and gather the following materials. (Optional: insert pause screen image after materials are listed to give participants time to gather the necessary materials).

ACTIVITY 1: [Name of Activity]

If you are doing multiple activities, you will need to complete multiple versions of "Scene 2: Materials" and "Scene 3: Hands-On". You need to complete each section once per activity.

CUT TO:

Scene 2: MATERIALS

HOST

For this/the first activity you will need:

List materials one by one and only use common household materials. Offer alternatives when available. For this part, try to see what you have access to without buying any new supplies, that can give you an idea of what students may have. But remember that not everyone has access to as many resources at home. If you are unsure about access to a material, or if there are safety concerns about a particular material, please contact your site coordinator.

Be specific and include warnings when needed.

- ➔ *A glass cup, we need to be careful with it!*
- ➔ *A 30-centimeter ruler.*

➔ *It can be helpful to include a written list of materials as well.*

CUT TO:

Scene 3: HANDS-ON

HOST

Begin explaining activity to the audience while hands-on with the materials.

If you are using a pre-existing kit, feel free to use the included guide to help you along. What is the first step the manual takes? If you were doing this in-person, what is the first instruction you would give?

TIP: Some of the strategies you can use to organize your script are:

1. Indicate actions with yellow
   e.g., To start, we will … [action].

2. Indicate pauses with yellow if you, the speaker, are pausing to give the viewer a moment to think, or by telling the viewer to pause the video.

3. Integrate explanation with action. In other words, demonstrate what you are talking about visually!

4. Indicate what you are filming/focusing on with the camera in red text. These include your shot views which describe what is in frame (i.e., what can be seen on your do we mean "screen"?).

CUT TO:

ACTIVITY 1: [Name of Activity]

CUT TO:

Scene 3: HANDS-ON

TIP: Try to limit yourself to 5 minutes per video unless requested otherwise by an educator.

DISSOLVE TO:

Scene 4: CONCLUSION

HOST

Summarize activities in 1-2 sentences. Summarize key ideas in 1-2 sentences (refer to workshop/activity objectives as a guide if using a pre-existing kit).

After this video, you can … *[suggest an extension or multiple. Try to include at least one that can be completed independently].*

With your caregivers' permission, share what you find with us on social media (Tip: clickable links to social media can be added via annotations in YouTube)! Thank you for joining us and we'll see you next time.

TIP: Stay still for a few seconds after you finish recording before ending the video to make it easier to trim the video to the correct ending.

DISSOLVE TO:

DIGITAL ENDING SCENE list of social media and links to other Let's Talk Science content, if applicable

FADE OUT.

General Recommendations

- It is recommended that you record your audio and video simultaneously.

- During the editing stage, you may realize things sound better in a different order / or want to omit parts of the script. Don't be afraid to reorder the scenes. You can create different versions of the script as well!
- If using overhead tabletop recordings to demonstrate materials and/or the presenter's hands: minimize the amount of still time where the viewer has a still view with nothing happening. If you have a portion of time where no actions are being taken:
    - Switch to recording yourself speaking.
    - Show different angles of objects created/being used.
    - Complete tasks, such as taping together parts of a model.
    - Insert visual graphics and images to keep the audience engaged and highlight key points