Join the Science Sketches Community! Create your own video describing some cool science. This step-by-step guide walks you through the process. You can reach out to us with questions by emailing info@sciencesketches.org.

Step 1: Decide on your story and audience
- For example, you could:
  - Describe a very general science concept or classic experiment for the public
  - Describe your own project or an ongoing area of research in your lab
  - Make a video abstract for your recent publication

Step 2: Write the Script
- Identify the take-home message you want to convey to the audience and then decide what supporting information is essential to get your main point across.
- A two-minute script is only ~300 words, so make every word and sentence count. Write a draft of the script and *get input and feedback* from colleagues and friends.
- Simplify your language and avoid jargon. Try to minimize the number of words that these online tools define as complex and rewrite your script to explain things more simply: http://scienceandpublic.com/ &
  (Use Custom9300 setting) https://www.online-utility.org/english/simple_basic_helper.jsp
- Who is your audience? If it's the public, check if a non-scientist friend or family member can understand your main point. If it's science journalists or other scientists, check that someone outside your field gets it.
- Time yourself reading the script to make sure that it only takes 2 minutes.
- Continue to edit and revise until you have a final version that fits the above criteria.

Step 3: Create illustrations
- Design some illustrations that will go along with your script. The images don't have to be complex and you don't have to be a great artist. You can also write out key words and phrases that you want to emphasize.
- Come up with something for *everything* you say in the script. Sentences without an accompanying illustration or written keyword will feel like dead space when editing the video later.
- You will have plenty of time to draw your images clearly and write key phrases legibly because the video will be sped up to match the audio, so don't worry about how long it may take to draw something.
- Create a "storyboard" of your images and words on A4 (or 8 ½ x 11") paper to figure out how many sheets you will need and the best layout for each one. Keep in mind that your piece of paper will later be the size of a YouTube screen, so your words and illustrations should be large enough that they are still readable on a smartphone.
- Use thick markers instead of fine-point pens to make sure your writing is visible. *See Appendix 1* for a guide to how big your text should be.
- Make use of different colored markers to highlight your message and tie recurring objects or themes together.

Step 4: Record the audio
- Find a quiet space free from background noises. If you are recording in a lab, be especially aware of humming noises made by equipment and high-pitched noises coming from air vents.

- Also be aware of noises *you* might unconsciously make while recording: tapping fingers on tables or feet on the floor, rustling or moving the paper for your script, etc. Try to eliminate all of these noises.
- You can record your audio using something as simple as a smartphone. We usually use the iPhone Voice Memo app.
- Email the file to yourself.

Step 5: Record the video
- Find a well-lit room and prepare your recording space.
- Set up a video camera or smartphone to point straight down at a sheet of paper. For a video camera, we recommend using a tripod. For a smartphone, you can get creative with lab supplies – a lab clamp stand works really well for this purpose! (*see Appendix 2* for additional example set-up photos)
- Be aware of lighting and shadows as you set up your camera and stand.
- Tape down a background piece of paper and frame your shot.
- Now you just need to hit record and draw your images! We suggest going through the script or audio line-by-line as you draw to make sure everything is drawn in *exactly the same order* that you say it.

Step 6: Edit the video using your favorite software
- We now have a 2-minute video tutorial for the editing process: http://www.sciencesketches.org/single-post/2017/07/20/How-to-edit-your-Science-Sketch-with-iMovie
- Tip: if you want to add free background music, check out http://freemusicarchive.org/
- Import the video and audio files into your editing software. We use iMovie, and we have heard good things about Windows Movie Maker for PCs.
- Rotate all video clips as needed and mute them. If necessary, crop and white balance your source clips at this step as well, before you start chopping up the footage.
- Now you just need to speed up the video to match the audio. This requires strategically chopping the footage up so that you can manipulate the speed of small sections independently.
- Some helpful editing tools in iMovie include (under Modify in the menu bar):
  - Split Clip (cmd B)
  - Slow Motion
  - Fast Forward
  - Add Freeze Frame
- Export your movie when it is finished. File > Share > File…

Step 7: Submit your video!
- Send an email to submit@sciencesketches.org and we'll guide you through the file submission process. Soon after, you'll see your video on the sciencesketches.org website and YouTube channel!
- You can also host your video on your own/your institution's YouTube channel, and we would still love to feature it on sciencesketches.org, as long as it's 2 minutes or less!

Appendix 1: This is a guide to how big your text should be!

- # Minimum size (this is Arial 28).
- # Minimum weight: fine point Sharpie
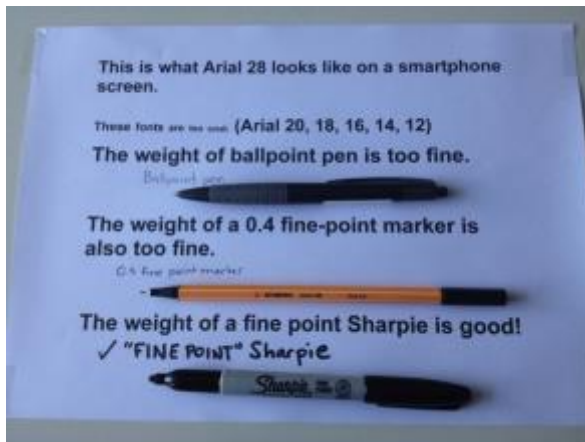
Appendix 2: Example set-up photos

video camera + tripod (on floor to reduce shaking) + light box (to reduce shadows)

lab clamp + smartphone

Ultrapod ii tripod + Shoulderpod phone clamp + something vertical + smartphone

leaning tower o' books + smartphone (last resort)

Script Writing Worksheet

1. **I want to tell the story of . . . (circle one)**

   My ongoing research project   My recent publication

   A basic science concept   A classic science experiment

2. **Who is your intended audience? (circle one)**

   General public audience   General scientist audience

3. **What's the big question that your work addresses?**

4. **Why is this question important? Why should this audience care?**

5. **In 1 to 2 sentences, write down the take-home message of your story.**

6. **Identify 2 to 3 key pieces of supporting/background information that would help the audience understand your message.**