**Supplemental File S2- Assessment**

**SciComm Assessment**

**Description**

The following is a short survey on what you learned during the Communicating Science unit.

You must complete this survey in order to receive the points you earn on the SciComm project and worksheet.

**Instructions**

1. Complete this after you have submitted your SciComm video and worksheet and before the start of your lab section during the week of November 12. No late work will be accepted.
2. You will complete this survey individually, meaning every person needs to complete the survey even though you worked in pairs to create the SciComm video and worksheet.
3. You are not graded on correctness, only completion in the survey. Therefore, you do not need to use external resources — just your brain.
4. The survey is timed (20-minute maximum) and must be completed in one sitting with one attempt.

**Settings**

* Show description before test
* Show instructions before test
* Single attempt
* Yes forced completion
* 20 minute time limit
* auto submit OFF
* Available the week of Nov. 5th labs
* Display until: Nov 17th
* Due date: before your lab section begins during the week of Nov. 12
* No don’t include in grade center (how will TAs know it’s completed?)
* No feedback to students
* Present- one at a time, prohibiting backtracking
* No random order

Questions are annotated according to Bloom’s taxonomy[[1]](#footnote-1) where BL1 represents Bloom’s Level 1- remembering and BL3 represents Bloom’s Level 3- applying.

**Questions**

*SciComm Concept Questions*

1. What are important **goals** when communicating science to the general public? (Select all that apply) (BL1)
   1. increasing awareness and knowledge
   2. boosting interest and excitement
   3. conveying competence
   4. conveying warmth and respect
   5. reframing issues
   6. listening and demonstrating openness
   7. conveying shared values
   8. showing a lot of information
2. Which of the following would be the best way to **engage** young children in a presentation about DNA? (BL3)
   1. Teach them to sing a song about DNA.
   2. Show pretty pictures of DNA.
   3. Show graphs of the relative proportions of nucleotide bases in DNA.
   4. Explain the experiment by Hershey and Chase that helped identify DNA as the genetic material.
3. Which of the following is the **LEAST** effective way to communicate science with a general public. (BL1)
   1. Present a lot of data.
   2. Tell a personal story about science.
   3. Talk about why this scientific information is important.
   4. Try to fill a gap in the audience's knowledge of science.
4. It is important that science is communicated with the general public (i.e., non-scientists). (BL1)
   1. True
   2. False
5. Which of the following is the **LEAST** important goal to strive for when planning to communicate science with the general public? (BL1)
   1. Get people interested in science.
   2. Inform someone of something they didn’t know before.
   3. Share science that you know about.
   4. Share science that you are excited about.
6. When doing SciComm on how carbohydrates are stored and accessed in the liver of mammals, which of the following would be the **LEAST** pertinent information to include in some way? (BL3)
   1. Cell walls of plants are made up of cellulose.
   2. Glycogen is a glucose polymer that is stored in the liver of mammals.
   3. Glycogen is broken down into glucose that is released into the blood to be accessed by cells.
   4. Cells take up glucose
7. Which of the following could be considered **jargon** in a presentation about carbohydrates? (Select all that apply) (BL3)
   1. blood
   2. glycogen
   3. sugar
   4. disaccharide
8. Which of the following series of words would be **MOST** appropriate when communicating science with the general public? (BL3)
   1. make, use, stop
   2. synthesize, utilize, thwart
   3. formulate, wield, forstall
   4. create, brandish, halt
9. You want to share your knowledge about the effectiveness of vaccines. Who would be the **MOST** appropriate audience for this presentation? (BL3)
   1. soon-to-be parents
   2. physicians
   3. bankers
   4. grandparents
10. When planning to communicate science with the general public, you should… (BL3)
    1. Try to find out what your audience is interested in and already knows about the topic.
    2. Wing it! Being spontaneous is seen as more fun.
    3. Talk about what your audience doesn’t know about, even if you don’t know much about it either.
11. You’ve been assigned to communicate science with the general public. Your goal is to listen and demonstrate openness. Which **mode** and **platform** would likely be the **MOST** effective? (BL3)
    1. Host a small gathering between scientists and the public at a coffee shop.
    2. Post a video presentation on YouTube.
    3. Post an infographic on Facebook and respond to comments.
12. You’ve been assigned to communicate science with the bankers from the general public with a goal to convey shared values. Which **style** would likely be the **MOST** effective? (BL3)
    1. Telling the story about why you care about this science and why it is important.
    2. Telling funny jokes to begin the presentation that are not relevant to the science.
    3. Making a metaphor about your favorite sports team.
13. Which of the following is the **MOST** effective way to communicate science with the general public? (BL1)
    1. Both the expert and audience should talk and really listen to another.
    2. The expert should do most of the talking.
    3. The expert should give the audience a chance to talk.
    4. The audience should listen quietly and politely.
14. Which of the following is the best example of an audience engaging with science? (BL3)
    1. Taking an audience bird watching
    2. Telling an audience about birds
    3. Asking an audience questions about their understanding of birds

*Self-report/Perceptions Questions*

On a scale of 1 (strongly disagree) to 5 (strongly agree), respond to the following statements.

1. Working on this unit, Communicating Science, improved my understanding of macromolecules.
2. Working on this unit, Communicating Science, improved my ability to effectively communicate science with the general public.
3. I found the explanations and question in the introduction helpful.
4. If you could change one thing about this unit, what would it be?

1. Bloom, B. S. (1956). Taxonomy of Educational Objectives: The Classification of Educational Goals, Handbook I: Cognitive Domain, New York: Longmans, Green. [↑](#footnote-ref-1)