

# **Controversial Topics in Biology – Using Google Forms (to create surveys) and PollEverywhere (live polling)**

## **Summary:**

In this assignment, student will do background research about a controversial issue in Biology. They will then create a 12-15 question survey using Google forms which they will give to approximately 30 people. The idea is to compare two groups of people. For example, the student could compare the opinion of students in grade 10 who had not experienced dissection vs. senior science students about when & whether students should dissect in school. The data collected using Google forms can be used to automatically generate graphs to display the results of the survey. The student will then consider the results of the survey with their background research and either submit a short report (summary, data, recommendation) or do a class presentation. If they are doing a class presentation, the expectation would be that they use the website polleverywhere to collect some live data on a couple of key questions.

## **This assignment has 3 components:**

- 1) Background research
- 2) Student surveys using Google Forms
- 3) Presentation (incorporating a live poll using PollEverywhere) or written report

## **Presentation**

- Report on background research
- Report on data using data generated from the Google forms
- Combine data & research to make a recommendation
- Engage students with co-operative learning structures
  - Gather some real time data with PollEverywhere website during the presentation

## **Written report:**

- 500 word summary of background
- Survey & results (graphs & tables)
- 250 word recommendation, integrating survey findings with research

## **Sample Topics:**

1. CRISPR gene editing tool – does the ends justify the means?
2. Stem cell research (embryonic vs. adult)
3. Presumed consent (opt-out) vs. Opt in systems (Organ transplantation)

4. Cloning & surrogacy issues
5. Transgenic organisms/GMO (Genetically modified organisms)
6. Should we have zoos?
7. Dissection in high schools
8. Baby “factories” – surrogacy issues
9. Medical tests for insurability
10. DNA profiling at birth
11. Should extreme preemies be saved or allowed to die (start of life issues)?
12. Doctor Assisted suicide (end of life issues)
13. Primate cloning – should this be allowed?
14. Telomeres, cell clocks and telomerase – should researchers continue doing research that extends our lifespan?

### **Controversial Issues Project:**

Step 1: Choose a topic from list above or select another (with teacher approval)

Step 2: Create a survey (with teacher approval)

After students do their background research, they are ready to create 12-15 questions for their surveys. They should share their document with their teacher and get approval before creating their actual survey. Here are two instructional videos about how to create the student questions and easily display the data. Collecting the data can be very time consuming but if the students have access to multiple cell phones and/or ipads, they can collect all of the data that they need in one work period. Loading up their survey multiple times on the preview mode (allows multiple responses) and asking groups of people to fill in their survey can achieve all this.

### **Instructional videos:**

How to use Google forms – video #1

<https://youtu.be/U0SHK1RbZ5I>

How to generate pie charts and other graphs quickly and easily – video #2

[https://youtu.be/Bpg3qLoX\\_lQ](https://youtu.be/Bpg3qLoX_lQ)

Step 3: Choose the format - written or presentation

If the student is choosing to do a presentation, they can choose 1 or 2 live polling questions to ask the class. This can be done with the free website PollEverywhere. Each student or a pair of student needs access to a cell phone or ipad. The teacher

can borrow some from the school library for students who do not have a cell phone.

PollEverywhere is a free website that can be used for on the spot polling. The part that makes it different from other survey websites (like Google forms and Survey Monkey) is that the polling is live and students can see other people's responses, which is really interesting. In addition, students do not have to create an account and they can either text in their response or use a website. The video below shows you how to create a question in PollEverywhere.

New functions include creating a Wordle and, "on the fly" questions where you put in the information right while you are in front of the class. You can also download a poll to use and insert it in your slide deck, ready to use for presentation mode.

How to create questions in PollEverywhere – video #1

<https://youtu.be/6Ki13m7yfv0>

If you wanted to create a short video yourself about how to use any of these program or explain any other program, Screentastic is a good choice.

How to use Screentastic to explain things on your computer with a voiceover

[https://youtu.be/d9IRSplaj\\_A](https://youtu.be/d9IRSplaj_A)