You will now research a disease caused by a particular pathogen and a vaccine for that disease. Through this project, you will learn more about the purposes, benefits, and risks of various vaccines.

1. Decide whether you are going to work in a group or individually. If you work in a group, assign everyone specific roles and deadlines.

2. Pick one of the following diseases to research. Each of these diseases currently has at least one vaccine:
   - Measles
   - Rubella
   - Varicella (chicken pox)
   - Pertussis (whooping cough)
   - *Haemophilus influenzae* type b (Hib)
   - Meningitis
   - Poliomyelitis
   - Hepatitis B
   - Tetanus
   - Diphtheria
   - Cervical cancer (caused by HPV)
   - COVID-19
   - Another disease of your choice that has a vaccine, **with approval from your instructor**

3. Research the disease and its vaccine to answer the questions below.

Topic area	**Questions**
Disease description	A. What type of pathogen (virus, bacteria, etc.) causes this disease? B. What are the typical symptoms? C. What are the serious complications? How common are they? D. Who is most likely to get this disease or have serious complications?
Vaccine description	E. What vaccines are currently available for this disease? Which of these vaccines are you focusing on for your research? F. When was this vaccine introduced? G. What type of vaccine is it (live-attenuated, inactivated, subunit/recombinant, or toxoid)?
Vaccine impact (individual-level)	H. Does the vaccine prevent disease or reduce risk of serious complications? I. Are there any side effects associated with the vaccine? If so, how common are these side effects/how often are they reported?
Vaccine impact (population-level)	J. How many cases of this disease are reported per year (in your country or worldwide)? K. How does this number compare to the number of cases *before* the vaccine was available?

Make sure to record all the sources, including their years of publication, that you use during your research. **Your sources must be reliable.** If you have questions about how to identify reliable resources, check with your instructor. They may also provide some examples.

Present the results of your research in one of the following formats:

- A poster with a layout of your choice. Must fit on **one or two pages.**
- A recorded presentation that includes both text and visuals. Must be **under 2 minutes** long.
- Another format of your choice, **with approval from your instructor.**

Your project will be evaluated using the following rubric. (For the questions that the project must answer, refer to the table in Step 3 above.)

Dimension	**Target Goals/Criteria**
Disease description	The project answers Questions A–D.
Vaccine description	The project answers Questions E–G.
Vaccine impact (individual-level)	The project answers Questions H–I.
Vaccine impact (population-level)	The project answers Questions J–K.
References	• The project provides sources (with years of publication) for each piece of information. • The sources in the project are appropriate and reliable.
Presentation	• The information in the project is clear and understandable to others. • The project is neat and well-organized. • The project is the appropriate length (e.g., one or two pages for the poster, under 2 minutes for the recorded presentation).