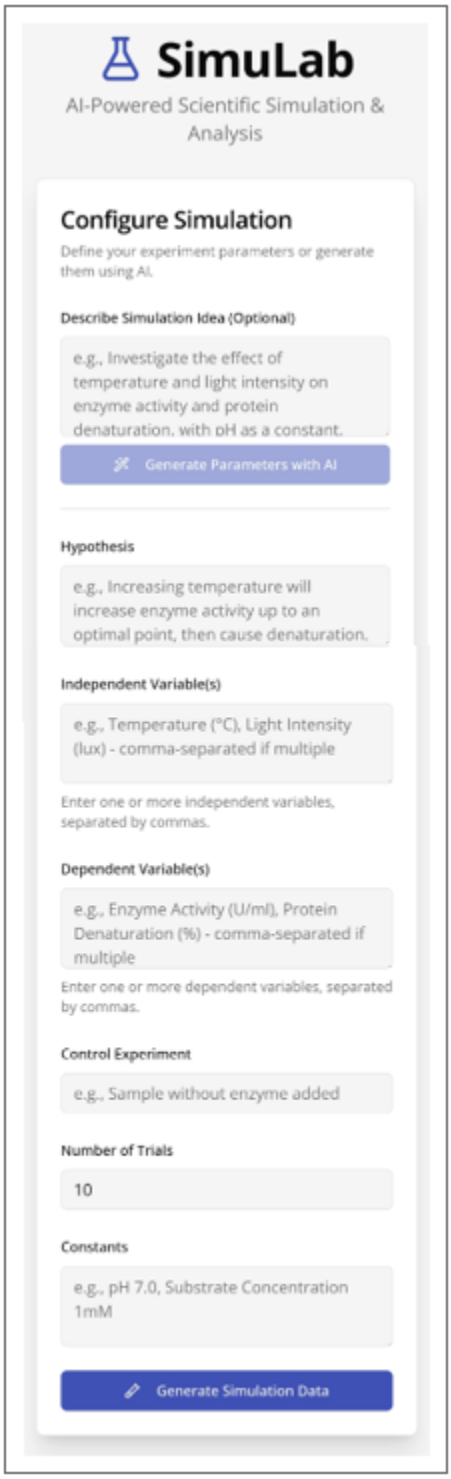
How to set up SimuLab

SimuLab Setup

Open the Simulab app on your computer or cell phone using this link -it may be blocked on school devices.

https://studio--simulab-vy62s.us-central1.hosted.app/



At the top you can type in your research question

Do not hit generate parameters

Type in your **hypothesis** for your Lung Volume Experiment. This should be specific to your experiment and measurable.

Independent variable (IV) - input your independent variable (the variable your change) make sure you include include your control variable as well, separate each variable with a comma so the AI knows each is a separate entity

Dependent Variable (DV) - dependent variables are those that you measure so you need to include units of measure and separate each variable with a comma.

What is your **control**? - This is the test of what would normally happen if nothing was changed.

Number of **trials**? This is how many times your experiment is run. It is important to have a lot of trials if you want to do any analysis. You can run up to 100, but the SimuLab may get laggy.

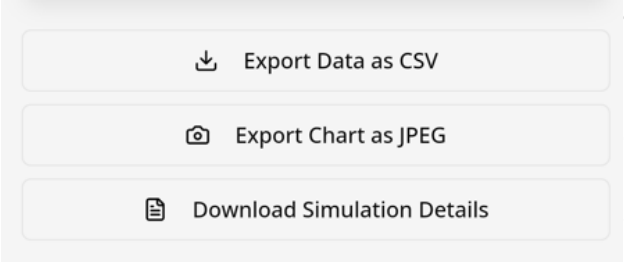
What are your **constants**? These are variables that are kept the same across all the experiments/trials. An example might be room temperature or humidity.

Hit Generate Simulation Data

The AI Simulation will run

It will provide an AI explanation of the results, a data chart, a graph options menu and graph

Under the graph options menu are three buttons, Download each of these three files to preserve your data and prompts. Create a Link and add your links here.



Data CSV:

Chart:

Simulation Details:

SimuLab Data Generation

SimuLab will output a data table with your data and the number of trials you requested. Sometimes it may give you more data than you expect - this is ok. If you get data that is not what was expected, recheck your hypothesis, IV, DV to make sure you typed in everything correctly including appropriate units.

Create a table **summarizing** the simulated data **and your live data**

	Average Age	Average Height	Average Weight	Average Fitness level	Circumference of the balloon with	
					normal breath (cm)	deep breath (cm)
Average Live Female Students						
Average Live Male Students						
Average Simulated Female Students						
Average simulated Male Students						

SimuLab Data Analysis

Create a graph of the Simulated Data and your collected live data showing how the data was similar or different. **DO NOT use the graph from the SimuLab**

Conclusion (Post-Experiment Evaluation)

Using both datasets write a conclusion for your experiment answering the following questions in the box to the right. Please use complete sentences, with excellent grammar, and spelling.

Claim - (A claim is a statement that answers the research question.) Make a claim that answers your research question about the lung capacity in your "live" experiment compared to that of the SimuLab data.	
Evidence - (Evidence is found in the experimental design and in the data from the experiment. List 3 pieces of evidence that would support your claim.) Below are some sample prompts: - Did the heavier or taller people always have more reserve air capacity in the "live" data vs. "SimuLab" data? - What about vital capacity in the "live" data vs. "SimuLab" data? - Did physical fitness have a bearing on the results of either the "live" data vs. "SimuLab" data?	
Reasoning - (Reasoning explains the "Why" of the claim.) Take each piece of evidence from above and explain how it supports the claim and why you saw these results in your live data or SimuLab data. Also Answer the following: - Did your SimuLab data correspond to your "Live" data or were there significant differences? - What are your thoughts on the expected outcome vs the simulated outcome?	