

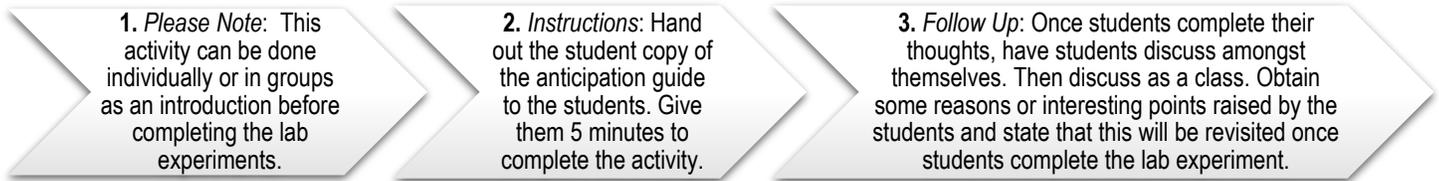


Purpose: To introduce to students some of the issues, debates, and discussions that involve Toxicology in society and on a daily basis.

Timeline:
20 Minutes

Learning Goal 1

Educator Instructions:



Educator Record of Student Results:

Statement	(Agree/Disagree)
All the substances at home can be dangerous and unsafe to use	_____ / _____
Exposure to specific substances can affect my DNA and/or pass down defects to the next generation	_____ / _____
Testing animals is the only way we can determine what is safe or harmful for us	_____ / _____
The more vitamins and nutrients I take, the more healthier I will be	_____ / _____
All medications and drugs are harmful to me	_____ / _____
The water I drink, the air I breathe, and the food I eat are all safe and healthy for me	_____ / _____

Follow up Activity (after students complete one of the high school biotechnology lab experiments):

- 1) Write out the questions in the front of the class in their lab groups.
- 2) Provide students with the handout "**Follow Up: Reflection Guide.**" Give them five to ten minutes to complete their thoughts again.
- 3) Discuss the results as a class and have them complete a reflection to see how their opinions may have changed. The students can submit this to you as part of your assessment and evaluation.

Learning Activity: Anticipation Guide



Environmental Toxicology is a multidisciplinary field of science where you study the effects of various substances on living organisms and the environment. This field plays an important role to help maintain and protect our environment.

Instructions: Please check whether you agree or disagree with the statements below about Toxicology. Select your choices on the right column (agree or disagree). Later on, you will revisit these statements and see if your opinions will change.

Statement	✓ Agree (After)	✓ Disagree (After)
Most of the substances at home can be dangerous and unsafe to use		
Exposure to specific substances can affect my DNA and/or pass down defects to the next generation		
Testing animals is the only way we can determine what is safe or harmful for us		
The more vitamins and nutrients I take, the more healthier I will be		
All medications & drugs are harmful to me		
The water I drink, the air I breathe, and the food I eat are all safe and healthy for me		

Follow Up: Once you are done the checklist, discuss your results with one or two of your classmates and make notes about your thoughts and the thoughts of others.

My Thoughts	Thoughts of your Classmates

Follow Up: Your educator will discuss the results with the class. Make any additional notes below.

Follow Up: Reflection Guide



Instructions: Now that you used one of our biotechnology kits, go back to your initial anticipation guide and check whether you agree or disagree with the statements below about Toxicology. Select your choices on the right column (agree or disagree).

Statement	✓ Agree (After)	✓ Disagree (After)
Most of the substances at home can be dangerous and unsafe to use		
Exposure to specific substances can affect my DNA and/or pass down defects to the next generation		
Testing animals is the only way we can determine what is safe or harmful for us		
The more vitamins and nutrients I take, the more healthier I will be		
All medications & drugs are harmful to me		
The water I drink, the air I breathe, and the food I eat are all safe and healthy for me		

Once you are done the checklist, think about your lab experiment and the results you obtained. Discuss the following in the space below:

- What did you learn about toxicology based on the experiment you completed?
- Based on your answers from your initial anticipation guide and follow up reflection, what changed in the way you view toxicology? Will it affect your daily living?

Once you are done your reflection, submit it to your educator for assessment and evaluation.