Lesson: Causation

Learning Outcomes	• **Define** key terms: controls, confounding and extraneous variables (knowing). • **Explain** how laboratory (true) experiments can demonstrate causational relationships (understanding). • **Identify** examples of relationships between variables that could not be studied in a laboratory (Critical thinking).

Laboratory (true) experiment: An experiment that controls for extraneous variables and isolates the IV as the only variable affecting the DV. This allows for causational relationships to be determined between variables.

Extraneous variable: Any variable other than the IV that could affect the DV.

Rememberol™

Coming soon to a pharmacy near you!

I need your help. I've developed a drug called Rememberol that I think will help students remember more when they're studying. I think that especially IB students would appreciate it. But how can I know for sure that this drug works?

Your Task: I'm hiring you as part of my Research and Development (R&D) team at Rememberol Inc. You and your team have to design an experiment that will test to see if Rememberol actually helps students learn more after studying.

Research/Null hypothesis:_____

_____

Independent variable:_____

_____

Dependent variable:_____

_____

Treatment Group:_____

Control Group:_____

Extraneous Variables

Working with your group, identify possible extraneous variables that could affect the results of your experiment.

Possible extraneous variables:

Choose at least two of your extraneous variables and explain how they could be controlled. In other words, how could you make sure that they don't affect the results of one group more than the other?

EV:_____

Control:_____

_____

EV:_____

Control:_____

_____

EV:_____

Control:_____

_____