Reed Experiment Matrix

Variables used in reed experiments

independent	*dependent*	*control*	*extraneous*
	response	staple	cane quality
	resistance	gouge dimensions	
	pitch	tie length	
	stability	reed length	
	tone	scrape	
		shape	
		tight sides	
		cane diameter	
		cane grower	
		gouger	

- Independent variables answer the question "What do I change?"
- Dependent variables answer the question "What do I observe?"
- Controlled variables answer the question "What do I keep the same?"
- Extraneous variables answer the question "What uninteresting variables might mediate the effect of the IV on the DV?"

To use this chart to create meaningful experiments and therefore data, move 1 of the control variables to the independent column. Keep a record of the measurements for each of the control variables . Tie, scrape and finish a reed. Observe what changes in the dependent variables.

An **experiment** is a methodical trial and error procedure carried out with the goal of verifying, falsifying, or establishing the validity of a hypothesis. Experiments vary greatly in their goal and scale, but always rely on repeatable procedure and logical analysis of the results. A child may carry out basic experiments to understand the nature of gravity, while teams of scientists may take years of systematic investigation to advance the understanding of a phenomenon.

An **experiment** is a method of testing - with the goal of explaining - the nature of reality. Experiments can vary from personal and informal (e.g. tasting a range of chocolates to find a favourite), to highly controlled (e.g. tests requiring complex apparatus overseen by many scientists hoping to discover information about subatomic particles).

A **hypothesis** (from Greek Ὑπόθεσις; plural **hypotheses**) is a proposed explanation for a phenomenon. The term derives from the Greek, Ὑποτιθέναι – hypotithenai meaning "to put under" or "to suppose". For a hypothesis to be put forward as a scientific hypothesis, the scientific method requires that one can test it. Scientists generally base **scientific hypotheses** on previous observations that cannot satisfactorily be explained with the available scientific theories. Even though the words "hypothesis" and "theory" are often used synonymously, a *scientific hypothesis* is not the same as a .scientific theory A **working hypothesis** is a provisionally accepted hypothesis proposed for further research.[