Validity

Scientists won't trust a experiment's findings if the experiment produces different results when repeated, or if the experiment can't be conducted by other scientists. If an experiment is repeatable and reproducible, and the results answer the hypothesis, then the experiment is considered valid.

Key Facts

- ✓ **An experiment is repeatable if the same person recreated the experiment using the same equipment and they collected similar results.**
- ✓ **An experiment is reproducible if different people conducted the same experiment with different equipment and similar results were collected.**
- ✓ **If an experiment is repeatable and reproducible, and the results answer the hypothesis, then the experiment is considered valid.**

	First try	Second try
Repeatable If the same person repeated the experiment using the same equipment and collected similar results, the experiment is repeatable.		
Reproducible If a different person conducted the experiment using different equipment and observed similar results, the experiment is reproducible.	 30 ml	 30 ml
Same results? If the experiment is repeated and reproduced and produces the same results, then the experiment is valid.	12/13/14	12/13/14

Precise Equipment

It's important to use equipment that can measure quantities precisely. For example, a pipette where you can clearly see measurements in increments of 1 ml along the side (rather than a measuring cylinder with increments of 5 ml) will ensure that you can measure the same quantity when you repeat your experiment, so your results are likely to be the same.