

Example Activities for Learning the Scientific Process in Remote Settings

Scientific Process	Example Activities
Hypothesis Generation	<ul style="list-style-type: none">● Write a literature review and identify a gap in the literature. Write a hypothesis or research question to address the gap.● Create a series of structured reading assignments for students to connect concepts from lecture to the primary literature.● Ask students to make predictions and then watch a video of an experiment.
Experimental Methods	<ul style="list-style-type: none">● Share a video or simulation of the experimental procedure. Ask students to develop or annotate a lab protocol accompanied by reflection on use of the protocol or limitations.● Ask students to explain the reasons behind specific steps in a protocol to understand why specific procedures are performed.● Pose a hypothesis and ask students to identify experimental methods that could be used to gather evidence for the hypothesis.● Randomize the steps of a protocol and ask students to put into the correct logical order.
Data Analysis	<ul style="list-style-type: none">● Provide students with data in the format as if they collected it themselves.● Ask students to analyze a sample dataset and write a lab report.
Conclusion Making and Communication	<ul style="list-style-type: none">● Ask students to summarize and synthesize their analysis of the literature or of sample data sets through digital posters, presentations, blog posts, etc.