

Scientific Inquiry **skills** are happening in your science class most every day!

When does a student have an opportunity to ...

When????

| | | | |
|---------------------------------------|--------------------------|---|---|
| Form a Question, Hypothesis or Claim? | Learn Background Science | Describe the background knowledge or preliminary observations that are relevant to an investigation. | Any science lesson |
| | Claim or Question | Identify or write a question, hypothesis or claim that can be answered or tested by doing a scientific investigation. | Any science lesson |
| | Purpose | Describe and explain the purpose of an investigation so it can be understood. | Any lab-based lesson |
| Design an Investigation? | Propose a Design | Make sure a design is logical, safe and ethical. | <i>Student-directed</i> lab-based lesson |
| | Review Design | Collect the right kind of data to help answer the question or test the hypothesis or claim. | <i>Student-directed</i> lab-based lesson |
| | Communicate Design | Describe a general plan and include details on the procedures used for a test. | <i>Student-directed</i> lab-based lesson |
| Collect or Present Data? | Collect Data | Record measurements or observations carefully and correctly. | Any lab-based lesson |
| | Show Data | Create an organized display for observations or measurements. | Any lab-based lesson |
| | Analyze Data | Transform data for displays (e.g. graphs, tables, calculations) that can be used for interpretation. | Any lab-based lesson |
| Analyze or Interpret Results? | Report Results | Report the results, identify patterns and use science knowledge to propose explanations. | Any lab-based lesson |
| | Review Results | Review design of procedures and suggest improvements, if possible. | Any lab-based lesson |
| | Support a Conclusion | Use results to make conclusions that address the question, hypothesis or claim. | Any science lesson |

Claim: An approach where a scientific statement is made and then is supported or refuted by the collection of evidence. (Claims should be based in science, have predictive value)

Test: an investigation of data gathered via controlled experiments, observational or field studies, or analytical inquiry.