The Common Core English Language Arts Standards (CCELA)

CHAPTER 6, LESSON 11: CHEMICAL REACTIONS AND ENGINEERING DESIGN

Reading Standards for Literacy in Science and Technical Subjects 6-8

LITERACY.RST.6-8.3
Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.

LITERACY.RST.6-8.4
Determine the meaning of symbols, key terms and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6-8 texts and topics.

LITERACY.RST.6-8.7
Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).

Students use the Activity Sheet to read and follow a multistep procedure to discover the amount of baking soda solution and calcium chloride to mix to achieve a target temperature but not to produce too much gas. Students interpret information in a chart to determine what temperature range to aim for and then record results from trials in a separate table.

Writing Standards for Literacy in Science and Technical Subjects 6-8

LITERACY.WHST.6-8.1
Write arguments focused on discipline-specific content.

a. Support claim(s) with logical reasoning and relevant accurate data and evidence that demonstrate an understanding of the topic or text using credible sources.

b. Use words, phrases, and clauses to create cohesion and clarify the relationship among claim(s), counterclaims, reasons, and evidence.
c. Provide a concluding statement or section that follows from and supports the argument presented.

*Students use the Activity Sheet to write about the criteria and constraints related to using a chemical reaction in the design of a portable reptile egg incubator. Students write about the advantages and disadvantages of using baking soda in the design of the incubator. Students also write about how the production of a gas can help improve the design of the device.*