

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.