

Week 3: Designing the Mission

LESSON 7: HOW DO I MEASURE THIS?
GRADE LEVEL: 6-8
LENGTH: 2 DAYS

TEKS/SES:

Science

Grade 6

6.1.A 6.2.A 6.2.C 6.2.D 6.2.E 6.3.B 6.4.A 6.4.B

Grade 7

7.1.A 7.2.B 7.2.D 7.2.E 7.3.B 7.4.A 7.4.B

Grade 8

8.1.A 8.2.B 8.2.D 8.2.E 8.3.B 8.4.A 8.4.B

Full text versions of these TEKS are available at <http://ritter.tea.state.tx.us/rules/tac/chapter112/ch112a.html>

Math

Grade 6

6.8.B 6.11.A 6.11.B 6.11.C 6.11.D 6.12.A 6.13.B

Grade 7

7.13.A 7.13.B 7.13.C 7.13.D 7.14.A 7.14.B 7.15.B

Grade 8

8.14.A 8.14.B 8.14.C 8.14.D 8.15.A 8.15.B 8.16.B

Full text versions of these TEKS are available at <http://ritter.tea.state.tx.us/rules/tac/chapter111/ch111a.html>

Language Arts

Grade 6

6.2.A 6.2.B 6.6 6.10.D 6.12.B 6.17.A.ii 6.17.A.iii 6.22.A 6.22.B 6.24A 6.28

Grade 7

7.2.A 7.2.B 7.3.B 7.6 7.10.D 7.13.A 7.16 7.17.A.iii 7.17.A.iv 7.22.A 7.22.B
7.24.A 7.28

Grade 8

8.2.A 8.2.B 8.6 8.10.D 8.17.A.iii 8.17.A.iv 8.22.A 8.22.B 8.24.A 8.28

Full text versions of these TEKS are available at <http://ritter.tea.state.tx.us/rules/tac/chapter110/ch110a.html>

NATIONAL STANDARDS

Science

Science as Inquiry

- Abilities necessary to do scientific inquiry
- Understanding about scientific inquiry

Physical Science

- Properties of objects and materials
- Position and motion of objects

Science and Technology

- Abilities of technological design
- Understanding about science and technology
- Abilities to distinguish between natural objects and objects made by humans

History and Nature of Science

- Science as human endeavor

Math

Measurement

- **Understand measurable attributes of objects and the units, systems, and processes of measurement**
- **Apply appropriate techniques, tools, and formulas to determine measurements.**

Data Analysis and Probability

- **Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them**
- **Develop and evaluate inferences and predictions that are based on data**

Problem Solving

- Build new mathematical knowledge through problem solving
- Solve problems that arise in mathematics and in other contexts
- Apply and adapt a variety of appropriate strategies to solve problems
- Monitor and reflect on the process of mathematical problem solving

Communication

- Organize and consolidate their mathematical thinking through communication
- Communicate their mathematical thinking coherently and clearly to peers, teachers, and others
- Use the language of mathematics to express mathematical ideas precisely.

Connections

- Recognize and apply mathematics in contexts outside of mathematics

Representation

- Create and use representations to organize, record, and communicate mathematical ideas
- Use representations to model and interpret physical, social, and mathematical phenomena

Language Arts

- **NL-ENG.K-12.1 PREADING FOR PERSPECTIVE** Students read a wide range of print and nonprint texts to build an understanding of texts, of themselves, and of the cultures of the United States and the world; to acquire new information; to respond to the needs and demands of society and the workplace; and for personal fulfillment. Among these texts are fiction and nonfiction, classic and contemporary works.
- **NL-ENG.K-12.2 UNDERSTANDING THE HUMAN EXPERIENCE** Students read a wide range of literature from many periods in many genres to build an understanding of the many dimensions (e.g., philosophical, ethical, aesthetic) of human experience.

- NL-ENG.K-12.4 COMMUNICATION SKILLS Students adjust their use of spoken, written, and visual language (e.g., conventions, style, vocabulary) to communicate effectively with a variety of audiences and for different purposes.
- NL-ENG.K-12.5 COMMUNICATION STRATEGIES Students employ a wide range of strategies as they write and use different writing process elements appropriately to communicate with different audiences for a variety of purposes.
- NL-ENG.K-12.7 EVALUATING DATA Students conduct research on issues and interests by generating ideas and questions, and by posing problems. They gather, evaluate, and synthesize data from a variety of sources (e.g., print and nonprint texts, artifacts, people) to communicate their discoveries in ways that suit their purpose and audience.
- NL-ENG.K-12.12 APPLYING LANGUAGE SKILLS Students use spoken, written, and visual language to accomplish their own purposes (e.g., for learning, enjoyment, persuasion, and the exchange of information).