

Week 5: Designing and Building

LESSON 12: FINAL DESIGN
GRADE LEVEL: 6-8
LENGTH: 1 DAY

TEKS/SES:

Science

Grade 6

6.2.A 6.2.B 6.2.C 6.3.B 6.4.A 6.7.A 6.8.B 6.11.B

Grade 7

7.2.A 7.2.B 7.2.C 7.3.C 7.4.A 7.7.A

Grade 8

8.2.A 8.2.B 8.2.C 8.3.C 8.4.A 8.6.C 8.8.C

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.A 6.8.B 6.10.D 6.11.A 6.11.B 6.12.A 6.12.B

Grade 7

7.9.A 7.13.A 7.13.B 7.13.C 7.14.A 7.14.B

Grade 8

8.14.A 8.14.B 8.14.C 8.15.A 8.15.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 6.10.A 6.14.A 6.14.B 6.14.C 6.14.D 6.14.E 6.17 6.20 6.21.A 6.21.B 6.21.C
6.25 6.28

Grade 7

7.2.A 7.2.B 7.10.A 7.14.A 7.14.B 7.14.C 7.14.D 7.14.E 7.17 7.20.A 7.20.B.i 7.20.B.ii 7.21
7.25.A 7.25.C 7.28

Grade 8

8.2.A 8.2.B 8.10.A 8.12.A 8.12.B 8.14.A 8.14.B 8.14.C 8.14.D 8.14.E 8.17.A.iii 8.20.A 8.20.B
8.21 8.25.A 8.25.B 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 and changes of properties in matter
- Motions and forces
- Transfer of energy

Science and Technology

- Abilities of technological design
- Understanding about science and technology

Personal and Social Perspectives

- Science and technology in society

History and Nature of Science

- Science as human endeavor
- Nature of science
- History of science

Math

Geometry

- **Specify locations and describe spatial relationships using coordinate geometry and other representational systems**
- **Use visualization, spatial reasoning, and geometric modeling to solve problems**

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

- Solve problems that arise in mathematics and in other contexts
- Apply and adapt a variety of appropriate strategies to solve problems

Communication

- Organize and consolidate their mathematical thinking through communication
- Communicate their mathematical thinking coherently and clearly to peers, teachers, and others
- Analyze and evaluate the mathematical thinking and strategies of others;

Connections

- Recognize and use connections among mathematical ideas
- Understand how mathematical ideas interconnect and build on one another to produce a coherent whole
- Recognize and apply mathematics in contexts outside of mathematics

Representation

- Create and use representations to organize, record, and communicate mathematical ideas
- Select, apply, and translate among mathematical representations to solve problems
- Use representations to model and interpret physical, social, and mathematical phenomena

Language Arts

- NL-ENG.K-12.3 EVALUATION STRATEGIES Students apply a wide range of strategies to comprehend, interpret, evaluate, and appreciate texts. They draw on their prior experience, their interactions with other readers and writers, their knowledge of word meaning and of other texts, their word identification strategies, and their understanding of textual features (e.g., sound-letter correspondence, sentence structure, context, graphics).
- 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-12.6 APPLYING KNOWLEDGE Students apply knowledge of language structure, language conventions (e.g., spelling and punctuation), media techniques, figurative language, and genre to create, critique, and discuss print and nonprint texts.
- 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).