

8th Grade Resources needed for JCESC Curriculum

ELA

Course Overview

In this course, students engage in skill units that increase vocabulary and comprehension. They are responsible for obtaining copies of:

- Bridge to Terabithia by Katherine Paterson
- Jacob Have I Loved by Katherine Paterson
- A Year Down Yonder by Richard Peck

All three books are Newberry Award Books. Students also read and examine informational text including newspaper columns, editorials, and warranties. Writing requirements based on the writing process are expanded to include persuasive and expository writing. A research paper is required. Students develop and present a variety of speeches.

[ENG_LA180_Required_Materials](#)

ENG_LA180: ENG_LA 180

You may purchase these books, or you may borrow them from your local library or school district.

Unit 06: Using Informational Text, Prewriting Research

Note cards

Unit 12: Oral and Visual Communications

Bridge to Terabithia by Katherine Paterson

Unit 25: Persuasive Writing

Jacob Have I Loved by Katherine Paterson

Math

Course Overview

In this course, students investigate the base-ten number system by reading, writing, representing, comparing and rounding whole numbers and decimals; compute with whole numbers using one and two-digit numbers; develop strategies for performing mental computations; and generate equivalent forms of fractions and decimals to estimate, add, and subtract decimals and fractions with like denominators. Students count money and make change; examine prime and composite numbers; make simple measurement conversions of units; solve multi-step problems; and develop strategies to find perimeter, area, and volume. In geometry, students investigate, classify, and model plane figures and solids. They plot locations in the first quadrant of a coordinate system and make transformations of slides, flips, and turns; use words, tables, and graphs to analyze patterns and relationships to make predictions and solve problems; represent unknowns as variables in equations and inequalities and relate how change in one variable affects the value of a related variable. Students gather and organize data in tables, charts, and graphs and make predictions based on interpretations and appropriate display of data; use mode, median, and range to describe characteristics of data; conduct simple probability experiments and make predictions of possible outcomes ordering events as impossible, unlikely, equal, likely, and certain-to-happen; and make lists to display all possible combinations of different sets of items.

- In addition, there are practice worksheets in many of the units that provide more practice on specific topics. To view a practice worksheet, click on the paper/pencil icon. The worksheet will appear on top of the unit's main page. When finished, select File/Close to close the worksheet. The main page of the unit will be visible once again. Students and teachers may work together to decide what worksheet(s) or part of a worksheet(s) can be used as a supplementary activity for the unit. The answer key for each worksheet is provided for the instructor's use.

Required Materials for Math 180

MATH180: MATH 180

Unit 12: Introduction to Geometry

Protractor

Unit 19: Similar Shapes

Ruler

Unit 20: Using Coordinate Geometry

Graph Paper

Unit 21: Transformations

Graph Paper

Unit 22: Relations and Functions

Graph Paper

Unit 23: Direct and Inverse Variation

Graph Paper

Unit 24: Graphs of Linear Equations

Graphing or Scientific Calculator and/or Graph Paper

Unit 25: Slopes and Constant Rates

Graphing or Scientific Calculator and/or Graph Paper

Unit 25: Slopes and Constant Rates

Graphing or Scientific Calculator and/or Graph Paper

Unit 26: Between the Set of Ordered Pairs

Graphing or Scientific Calculator and/or Graph Paper

Unit 27: Linear and Nonlinear Equations

Graphing or Scientific Calculator and/or Graph Paper

Unit 28: Simplify Algebraic Expressions

Graphing or Scientific Calculator and/or Graph Paper

Unit 29: Multi-Step Equations

Graphing or Scientific Calculator and/or Graph Paper

Unit 30: Systems of Equations

Graphing or Scientific Calculator and/or Graph Paper

Unit 31: Discrete and Continuous Data

Graphing or Scientific Calculator and/or Graph Paper

Unit 32: Collect and Compare Data

Graphing or Scientific Calculator and/or Graph Paper

Unit 33: Counting and Arrangements

Graphing or Scientific Calculator and/or Graph Paper

Unit 34: Compute Probability

Graphing or Scientific Calculator and/or Graph Paper

Unit 35: Probability

Graphing or Scientific Calculator and/or Graph Paper

Unit 36: Second Semester Final

Graphing or Scientific Calculator and/or Graph Paper

Social Studies

Course Overview

In this course, students will focus on European, British, French, and Spanish colonization of Americas, Indentured Servitude in Colonial America, Introduction of Slavery to the 13 Colonies, Development of Plantation System, The Colonial Assemblies; Northwest Ordinance, The Louisiana Purchase, Manifest Destiny, Causes of the Mexican-American War, Texas War for Independence; The Lewis and Clark Expedition; Selected Statistics on Slavery in the United States, States' Rights, Calhoun's Contribution, Taney and the Territories, Secession and the Confederate Constitution, State Rights in the Confederacy, Economies of the North and South, Dred Scott: Introduction, Impact of Dred Scott, Kansas-Nebraska Act; Frederick Douglass, John Brown (abolitionist), Missouri Compromise, Compromise of 1850, The Lincoln Douglas Debate, The Election of 1860, The South's Secession; Abraham Lincoln, General Robert E. Lee, Farewell to the Army of Northern Virginia, Ulysses S. Grant, The Emancipation Proclamation, The Battle Of Gettysburg; The Impeachment of Andrew Johnson, Reconstruction: Radicalism vs. Conservatism, 13th amendment, 14th amendment, black codes, Ku Klux Klan, 15th amendment; The Middle Colonies as the Birthplace of American Religious Pluralism, Religious Toleration in the Middle Colonies: A Trade-Off, Reacting to religious diversity, Religious Exclusivism, Pluralism & Inclusivism, How people respond to religious diversity, Exclusivism and religious freedom; Social, Economic, and Political effects of stereotyping and prejudice, Position Statement on Racism, Prejudice and Discrimination,

Discrimination, Institutionalized Discrimination and Responses, Racism, Origins of racism, Institutional racism, Permanent Frontier, Indian Removal, Protection of the Frontier, Permanent Land Lost, A Long History of Treaties, The Reservation System, Native American Lands Sold under the Dawes Act, Treaties Between the United States and Native Americans; Enslavement of Africans in America; History of Women's rights and diverse people in the U.S.; Geography: Places and Regions/Human Environmental Interaction; Factors changing geographic patterns in the United States; Economics and the Civil War; Regulations of the Economy; Role of Government; Rules and Laws of Government; The United States Constitution and the Bill of Rights; How a bill becomes a law; Citizenship rights and responsibilities; The American Revolution; Obtaining information, and problem solving.

*no additional resources needed

Science

Course Overview

Students taking this course will explore space and plate tectonics as they continue to draw conclusions from scientific evidence that support theories related to the change of Earth's surface. The student will acquire knowledge to describe how positions and motions of objects in the universe cause predictable and cyclic events. Students explain that the universe is composed of vast amounts of matter and that it is held together by gravitational force. They explore equipment to study the universe - telescopes, probes, satellites and spacecraft. Motion of objects, effects of forces on objects, and how waves (sound, water and earthquake) transfer energy are explored. Students will be able to explain how extinction of a species occurs when the environment changes and its adaptive characteristics are insufficient to allow survival. Students design a solution to a problem or design and build a product, given certain constraints. Technological influences on the quality of life are also explored in this course.

SCI180: SCIENCE 180

Unit 02: Gravitational Forces

Flat Magnet (the stronger the better)

Ball bearing (at least 8mm)

Large piece of cardstock (1ft. x 3ft.)

Unit 03: Asteroids and Comets

Pictures of craters from the moon and mars (printed from the internet is best)

Safety glasses

Large tub or aluminum pan

Fine white powder (sand, flour, sugar, etc.)

Sieve sifter, large spoon, or cheese cloth to sprinkle the dark powder

Two same sized balls of different weights (e.g., marbles, ball bearings, gum balls, grapes, etc.)

Small irregularly shaped rocks

Tape measure

Toothpicks

3X5 index card (to smooth the surface of the powder)

Newspaper or drop cloths

Paper and pencils for sketches of craters
Paper to design a data chart

Unit 09: Models of the Earth

World map
A globe
A measuring device (preferably a metric ruler)

Unit 13: Our Dynamic Earth: What Causes Major Geological Events?

Salt dough
Plastic soda bottle

Baking pan
Red food coloring
Liquid detergent
Baking soda
Vinegar

Unit 14: Creation of Landforms

Plastic coffee can lid or Frisbee
Two pieces of sandstone and two pieces of limestone
Small bottle of vinegar with dropper
Dirt and small rocks
An assortment of leaves, rocks, shells, twigs
Small plastic containers with holes punched in the bottom (to form a “rain cloud”). Note: Containers from frozen lunches or small plastic margarine containers make excellent clouds.

Unit 19: Wave Energy

Plastic or metal slinky
Meter tape
Safety goggles/glasses
A partner

Unit 20: Vibrations and Waves

Tall and narrow glass jar with a tight-fitting lid

Cold tap water

Blue food coloring

Vegetable oil

1m of 2cm-wide un-stretched elastic

25 plastic drinking straws

Stapler and staples

8-10 books

2-3 rubber bands

Making tape

Ruler

Felt-tip pen

Unit 20: Five Kingdom System and Cells

N/A

Unit 21: Basic Functions of Cells

One raw egg, apple cider vinegar (any vinegar will work), yogurt container with a lid
plastic sacks, twist ties, jello, gelatin, boiling water, large mixing bowls, spoons
plastic "tupperware" sandwich containers, canned fruits, paper and writing implement

Unit 22: Cell Differentiation

N/A

Unit 23: Asexual Reproduction

N/A

Unit 24: Sexual Reproduction

N/A

Unit 25: Cell Differentiation

Unit 25: Cell Differentiation

Crayons, 2 quarters, 2 nickels, 2 dimes, 2 pennies
2 flower pots, soil, potato (with “eyes”) for planting

Unit 26: Interaction among Organisms; Symbiosis

Meter sticks, metric rulers, poster board, markers, photographs of ecosystems

Unit 27: Bacteria, Viruses and Human Health

N/A

Unit 28: Quality of Life and Technology

N/A

Unit 29: Robots and Machines

Drawing supplies, building construction sets or household junk, boxes, rods, tongue depressors, pipe cleaners, etc.

Unit 30: Impact of Technology on Society

N/A

Unit 31: Designs Using Technology and Problem Solving

Toothpicks and mini marshmallows