

Information for Missouri Regional Advisory Committee

Kansas Science Standards Related to RAC Goal #4

Link to 2013 Kansas Science Standards (KCCRSS):

https://community.ksde.org/LinkClick.aspx?fileticket=MCOLp_kHGNU%3d&tabid=5785&mid=14106

Kansas Science assessments occur at grades 5, 8 and 11

Relevant Topics:

- Water cycle
- Water conservation principles
- Actions impacting water quality and water quantity

Grade 2

2-LS2-1: Plan and conduct an investigation to determine if plants need sunlight and water to grow

Grade 3

3-LS4-4. Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change

3-ESS3-1. Make a claim about the merit of a design solution that reduces the impacts of a weather-related hazard.

Grade 5

5-ESS2-2. Describe and graph the amounts and percentages of water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth.

5-ESS3-1. Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment

Middle School (Grades 6-8)

MS-LS2-1. Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.

MS-LS2-3. Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.

MS-LS2-5. Evaluate competing design solutions for maintaining biodiversity and ecosystem services.

MS-ESS2-4. Develop a model to describe the cycling of water through Earth's systems driven by energy from the sun and the force of gravity.

MS-ESS3-1. Construct a scientific explanation based on evidence for how the uneven distributions of Earth's mineral, energy, and groundwater resources are the result of past and current geoscience processes.

High School (Grades 9-12)

HS-LS2-6. Evaluate the claims, evidence, and reasoning that the complex interactions in ecosystems maintain relatively consistent numbers and types of organisms in stable conditions, but changing conditions may result in a new ecosystem

HS-LS2-7. Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.

HS-ESS2-2. Analyze geoscience data to make the claim that one change to Earth's surface can create feedbacks that cause changes to other Earth systems.

HS-ESS2-5. Plan and conduct an investigation of the properties of water and its effects on Earth materials and surface processes

HS-ESS2-7. Construct an argument based on evidence about the simultaneous coevolution of Earth's systems and life on Earth.

HS-ESS3-1. Construct an explanation based on evidence for how the availability of natural resources, occurrence of natural hazards, and changes in climate have influenced human activity.

HS-ESS3-3. Create a computational simulation to illustrate the relationships among management of natural resources, the sustainability of human populations, and biodiversity.

HS-ESS3-4. Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.

HS-ESS3-6. Use a computational representation to illustrate the relationships among Earth systems and how those relationships are being modified due to human activity

Relevant Kansas Science Education Organizations

Kansas Association of Teachers of Science (KATS)

Website: kats.org

email: KATS.org1967@gmail.com

Kansas Association for Conservation and Environmental Education (KACEE)

Website: kacee.org

Email: info@kacee.org

Kansas Association of Biology Teachers (KABT)

Website: kabt.org

Email: kelly@tuel.com (Kelley Tuel, president-elect)

Kansas Earth Science Teachers Association (KESTA)

Facebook page: KESTARocks

Other Relevant Sites and Resources

thewaterproject.org - includes lesson plans for various grade levels

Kansas Water Quantity & Quality PBL: <http://www.kabt.org/2018/06/25/pbl-water-quantity-and-water-quality/>