



Next Generation Science Standards

Middle School – Effects of Fire on the Prairie (Hulbert Plots)

Overarching Themes

Energy

- a. Discuss potential (stored) energy vs. kinetic energy (energy in motion). Which plots have the most stored energy and why? How is this energy transferred when it is burned? (MS-PS3-2)
- b. How can heat energy be more efficiently transferred – which surfaces are the warmest? Darker or lighter surfaces? (MS-PS3-3)
- c. Take a look at the amount of fuel and the relative transfer of kinetic energy. How does temperature of the transfer process relate to the amount of fuel? (MS-PS3-4)
- d. Note that when the kinetic energy of an object changes, the energy is transferred to or from the object. (MS-PS3-5)

From Molecules to Organisms: Structures and Processes

- a. Note how environmental and genetic factors influence the growth of organisms (availability of water and sunlight, for example – what plants grow even during a drought?). (MS-LS1-5)
- b. Note the importance of photosynthesis in the flow of energy and the decomposition in the cycling of nutrients in a system. (MS-LS1-6) (MS-LS2-3) (MS-ESS2-1)
- c. Discuss how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism. (MS-LS1-7)

Ecosystems: Interactions, Energy, and Dynamics

- a. See how the abundance and biodiversity of life is affected by the availability of resources – water, light, nutrients. (MS-LS2-1)
- b. See how different kinds of life interact between each other and affect each other across multiple ecosystems. (MS-LS2-2)
- c. See how changes to the physical or biological components of an ecosystem can affect populations (i.e. how fire changes the composition of the plants present) (MS-LS2-4)
- d. Think about what can be done to an ecosystem to improve biodiversity. (MS-LS2-5).