
Shrub-Steppe Landscape Poster

RATIONALE:

Oftentimes students are taught concepts in isolation and out of context. Using the Shrub-Steppe Landscape Poster, each teacher can:

- expand the concepts covered in current life/earth science units as well as enable students to recall and share knowledge from previous units and their own life experiences.
- provide opportunities to make connections between classroom concepts and the real world.
- springboard into daily discussions about science as it relates to current events, geography, math concepts, etc.
- create a dynamic and ongoing document of what students observe and learn over time.
- enable pre-assessment, formative and summative assessment opportunities to inform instruction.
- allow concepts to be revisited and expanded upon through increasingly sophisticated additions to the Landscape Poster at each grade level.
- provide a common reference point for accessing prior knowledge and constructing new knowledge.
- allow students to construct their own learning as the teacher guides student interactions with the use of questioning strategies.

Key concepts developed through use of the poster are focused on energy transfer driven by the sun.

GUIDELINES:

These guidelines are merely suggestions. You may choose to be very specific or quite broad in your use of the Landscape Poster.

Location

Be sure to hang the Landscape Poster in a highly visible and student accessible area to achieve ultimate student interaction.

Pre-Assessment

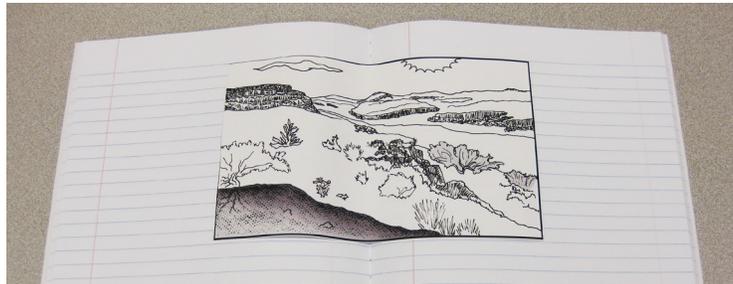
Before beginning a unit, assess students' prior knowledge by allowing them to talk about and/or record what they know about the images they see in the Landscape Poster.

Shrub Steppe Species (S³) Cards

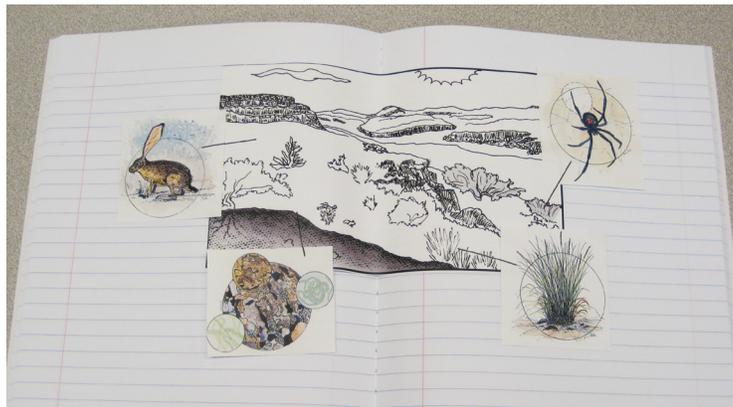
Basic Strategies

How many sets of S³ cards you make will depend on how you choose to use them. At a minimum, a class set of 42 cards (6 per page) will allow for Landscape Poster discussions and food web games. Laminated cardstock will be most durable, and can be attached to the Landscape Poster or the wall around it with a loop of tape.

In the science notebook, each student should have a blackline copy (2 per page) of the Landscape Poster attached to a two-page spread.

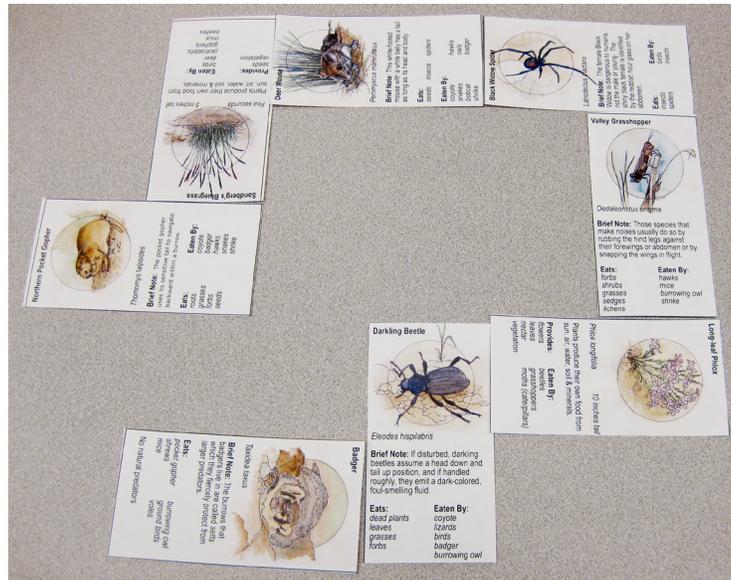


A set per student of the mini Shrub-Steppe Species cards (12 per page) should be then be kept in an adjacent envelope or self-seal plastic bag.



The S³ Cards can be useful tools for a variety of learning experiences, including:

- the development of food web games such as:
 - o Card-Sorts: producers and consumers; plant and animal; etc.
 - o Go Fish where pairs constitute a simple food chain,
 - o Dominoes where cards are placed in a way that shows a food chain or food web relationship.



- illustrating the relationships between species;
- a way to illustrate energy transfer both on the poster and in student notebooks;
- a jumping-off point for research (e.g. research different hawks in the shrub steppe);
- an exciting way to stimulate writing;
- providing multi-purpose trading cards.

Interdisciplinary Strategies to Scaffold Learning for All

- Vocabulary words can be displayed to add meaning to scientific drawings or as labels to parts of the Landscape Poster. Use 3 x 5 cards or Post-It Notes® to add vocabulary and/or labels. You could also use a vis-à-vis marker to write directly on a laminated version of the Landscape Poster.
- Students can role play the meaning of a vocabulary word to gain a deeper understanding of the word.
- Display words in a Word Wall for student reference. Having visual clues to draw on helps the brain retrieve and recall information.

- As you proceed through your unit, you or your students can add pictures (sketches or photographs) to the Landscape Poster.
- Yarn, pipe cleaners or paper arrows can be used to show the flow of energy, food webs, food chains, or to show relationships between organisms.
- Three-dimensional items include realia, (real objects such as seeds, pressed plants, insects, etc. as well as newspaper and magazine pictures and articles), pop-ups designed by students, pockets to hold cards, and foldable items.

Interdisciplinary Strategies

- Using non-fiction trade books and science reference books will provide opportunities for extended learning.

Enhancement Activities

- Scale
 - o Scale can be discussed as to size variations due to perspective in the Landscape Poster. Ex: Sagebrush in foreground is large, while snowcapped mountain in background is small.
 - o Student drawings will be larger in scale than the actual Landscape Poster.
- Stick puppets
 - o Students can make animal and plant puppets to use with the Landscape Poster.
- Digital photographs throughout the year
 - o Photographs allow students to capture their learning and can serve as a notebook reference of what changes throughout the seasons.

Connections to the Washington State Science Standards

This list of science standards are strongly connected to classroom use of the Landscape Poster. There are many additional standards that can be addressed through intentional use by the classroom teacher. Reading and writing skills are integral to the use of the Landscape Poster, therefore through integration you are meeting literacy standards.

STANDARDS FOR GRADE K-1

EALR 4: Life Science

Big Idea: Ecosystems (LS2)

Core Content: Habitats

Students learn that all plants and animals live in and depend on habitats. Earth has many different habitats, and these different habitats support the life of many different plants and animals, including humans.

Big Idea: Biological Evolution (LS3)

Core Content: Classifying Plants and Animals

Students learn that some objects are alive and others are not, and that many living things are classified as either plants or animals based on observable features and behaviors. Plants and animals are further classified into smaller groups such as insects and trees. Even these groups can be further subdivided. Classification provides a way to organize and find patterns in the amazing diversity of plants, animals, and the nonliving environment.

STANDARDS FOR GRADE 2-3

EALR 2: Inquiry (INQ)

Core Content: Conducting Investigations

2-3 INQE Model	Models are useful for understanding systems that are too big, too small, or too dangerous to study directly.	Use a simple model to study a system. Explain how the model can be used to understand the system.
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EALR 4: Life Science

Big Idea: Ecosystems (LS2)

Core Content: Changes in Ecosystems

In prior grades, students learned that all plants and animals live in and depend on habitats. In grades 2-3, students learn that ecosystems include plant and animal populations as well as nonliving resources. Plants and animals depend both on each other and on the nonliving resources in their ecosystem to survive. Ecosystems can change through both natural causes and human activities. These changes might be good or bad for the plants and animals that live in the ecosystem, or have no effect. Humans can protect the health of ecosystems in a number of ways.

**STANDARDS
FOR GRADE 4-5**

EALR 2: Inquiry (INQ)

Core Content: Planning Investigations

4-5 INQF Models	A scientific <i>model</i> is a simplified representation of an object, event, <i>system</i> , or process created to understand some aspect of the <i>natural world</i> . When learning from a <i>model</i> , it is important to realize that the <i>model</i> is not exactly the same as the thing being modeled.	Create a simple <i>model</i> to represent an event, <i>system</i> , or process. Use the <i>model</i> to learn something about the event, <i>system</i> , or process. <i>Explain</i> how the <i>model</i> is similar to and different from the thing being modeled.
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EALR 4: Life Science

Big Idea: Ecosystems (LS2)

Core Content: Food Webs

In prior grades, students learned that ecosystems include both plant and animal populations as well as nonliving resources; and that plants and animals depend on one another and on the nonliving resources in their ecosystem to survive. In grades 4-5, students learn how ecosystems change, and how these changes affect the capacity of an ecosystem to support populations. Some changes in ecosystems are caused by the organisms themselves. The ability of any organism to survive will depend on its characteristics and behaviors. Humans also play an important role in many ecosystems and may reduce negative impacts through thoughtful use of natural resources. Concepts related to ecosystems, including food webs, make it possible for students to understand the interrelationships among various forms of life and between living things and their environment.