

Background

Yellow starthistle grows up to five feet tall and blooms with bright yellow flowers. Look closely--the base of each flower is guarded by long, sharp spines that poke out in all directions. Seen from above, these spines look like the points of a star. Each spine is almost one inch long and as sharp as a sewing needle. That's starthistle's way of saying, "Don't touch me!"

Most animals won't try to eat starthistle because of the sharp spines. So when this weed takes over pasture, there's less food for livestock to eat. Even worse, yellow starthistle is poisonous to horses. If they eat it, a chemical in the plant causes "chewing disease." The chemical attacks the horse's brain, leading to nerve problems. Eventually, the horse will die.

A single starthistle plant can produce as many as 100,000 seeds, each with barbed hairs that cling to a passing animal's fur or person's socks and pants.

Many plants in North America sprout in the spring, but yellow starthistle seeds sprout in the fall and early winter, which gives them a head start on native plants when the weather turns nice. Each plant makes two kinds of seeds. One type of seed falls out of the flower as soon as they're ready to sprout. The other kind stays tucked inside the flower head until it dries out. Winter winds and rain shake the dry seed head and scatter seeds on the ground. This way, no matter what the weather or soils are like, some seeds are likely to get enough rain and nutrients, take root, and grow into adults.

Many flowers shrivel up and fall apart when the plant dies at the end of the growing season. But starthistle flowers don't change much as they dry out. In the olden days, people saw how long-lasting the flowers were and believe starthistle had magical powers.

Yellow Starthistle

This activity is directly tied to the eighth spread, pages 15 and 16, in the *What's In Your World?* publication located inside the back pocket of the activity tool kit.

Materials
(20 student
class-size)

- What's in Your World?* booklets (pp. 15-16) - 1 per student
- journal or notebook and pencil - 1 per student
- hand lenses - 1 per student, *What's In Your World?* activity tool kit
- pictures or examples of noxious weeds - 1 per pair of students
- parts of a flower diagram (Stamen, Anther, Filament, Sepal, Petal, Pistil, Stigma, Style, Ovary)
- flowers for dissection (wilted lilies or flowers with large parts, possible donations from flower shops) - 1 per pair or small group of students
- scissors, tape

Time Considerations

- Preparation - 30 minutes
- Activity - 70 minutes

Lesson Overview

- Back to Back Observations (30 minutes)
- Plant Life Cycle and Flower Dissections (40 minutes)

Look closely at the Yellow Starthistle -- the base of each flower is guarded by long, sharp spines that poke out in all directions. Seen from above, these spines look like the points of a star. Each spine is almost one inch long and as sharp as a sewing needle. That's starthistle's way of saying, "***Don't touch me!***" Students will take a closer look at this plant and other noxious weeds through back to back drawings. Students will also learn more about plants and the plant life cycle through flower dissections.

Levels

Grades 4-8

Subjects

Science, Art, Language Arts

Skills

Discussing, Identifying, Sketching, Examining, Describing, Observing

Concepts

Structures, functions, and behaviors of living things; life cycles and life processes; observation, scientific investigation, classification

Objectives

Students will use observation skills to describe noxious weeds. Students will use naturalist skills to draw noxious weeds. Students will identify distinguishing characteristics of noxious weeds. Students will learn the parts of a flower. Students will become more proficient at identifying noxious weeds.