

Spotted Knapweed Activities

Ranch Land Money Rodeo
Play Audio Track #17

(20 minutes)

Levels

Grades 4-8

Subjects

Science, Mathematics, Art

Skills

Designing, Identifying, Assessing, Solving

Concepts

Structure and functions of living things;
interactions among technology, science and society

Objectives

Students will learn economic considerations used to
plan a land management strategy for infested land.
Students will learn how to assess and solve questions
using mathematics.

Materials (20 student class-size)

What's in Your World? CD audio track #17
(inside the back cover) - 1 per class
flash card of Spotted Knapweed (inside the back
pocket of the What's In Your World? activity tool
kit) - 1 per student
Monopoly money and make believe County Letter
drawing paper and markers -1 per student

Time Considerations

Preparation - 5 minutes
Activity - 20 minutes

Lesson Overview

- Ranch Land Money Rodeo
(20 minutes)

Background

Weed infestations expand when nothing is done to
manage their spread. The number of weed seeds
grow exponentially. Many farmers and ranchers
move to metropolitan areas vacating their tradi-
tional lifestyles because the expense of managing
weed populations exceeds the value of their land.

In the Jackson Hole Weed Management Area of
Wyoming alone, \$1,500,000 is spent each year tea-
ting noxious weeds. *How much money does your
county, or local farmer spend each year?*

Combining management methods is known to re-
duce the overall cost of managing weeds. Integrating
all the management tools gives the environment a
better chance to retain vigor. *If you were a land
manager - what would you pay?*

RANCH LAND MONEY RODEO LESSON DETAILS

STEP ONE. Tell the students to form 4
groups with 5 in each group. Pass out a
piece of drawing paper and a marker to
each student. Ask each student to draw
their dream ranch on 100 acres. Tell them
they have 5 minutes to complete the
drawing.

STEP TWO. Give each student \$5,000
in Monopoly money. Tell them that the
money represents ranch profit last year
after all bills were paid. Next, give each
student a fake letter from the county
weed district explaining to them that they
have a noxious weed problem. If you have
time, make each letter represent a differ-
ent weed or a different amount of weeds.

STEP THREE. Write on the board a list
of labor and material costs for manage-
ment. These are estimates and vary by
vendor.

- \$80 per hour herbicide application
- \$100 per hour mechanical methods
- \$350 for 100 biological control insects
and the labor to distribute them
- \$120 per hour cultural control using
farm equipment, gas and labor
- \$0 for volunteers to hand pull weeds

Explain to the students that they may
want to use two or three methods to
manage their noxious weed problem.

STEP THREE. Tell each group to agree
on two or three methods, estimate how
much time each method will take, and
multiply the hourly rate for the method
to come up with a total cost. Collect the
total cost in Monopoly money from each
group and ask the students to compare
who spent what and why.

*Why is hand pulling not appropriate
for all weed species?* (only hand pulling
tap rooted plants is effective-rhizomatous
root systems send out signals to grow
more shoots when hand pulled)

*When do you need to read the label on
the herbicide package?* (every time)

*Could you combine distribution of bio-
logical control insects for the center of
the large infestation and apply herbi-
cide around the perimeter to keep it
from spreading?* (this is highly effective
on leafy spurge in some sites)

Explain the difference between mechani-
cal methods using large equipment such
as bull dozers, and cultural methods such
as seeding machines, tillers, mowers.
Some land managers suggest that visible
results from your management actions
will take about three years to see.