Wild World of Pest Management: IPM For Youth
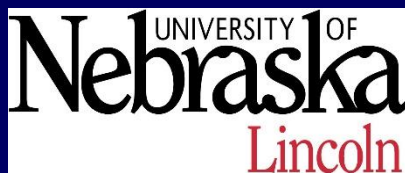
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Wild World of Pest Management

❖ **An IPM program for youth (~25 min.)**

   ❖ **Audience: 5th through 7th grades**

   ❖ **Primary audience**

      ❖ **5th graders**

      ❖ **Most receptive age and learning level**

❖ **"Wild World" content closely coincides with school programming**

   ❖ **In natural sciences, biology**

   ❖ **In history of U.S., geography**

Delivery Settings
Day Camps / Shade Trees / Parking Lots / Classrooms / 4-H Camps

Presentation Approach / Delivery

- ❖ **Highly Interactive with audience**
- ❖ **Incorporates many visual aids**
  - ❖ **Live Corn snake**
  - ❖ **Madagascar Hissing Cockroaches**
- ❖ **Includes "Lesson Plan"**
  - ❖ **Distributed to teachers at start**
  - ❖ **Teachers encouraged to reinforce teaching points later in the classroom**

Topics Covered: Wild World of Pest Management

❖ **What is a pest?**

❖ **Types or groups of pests (4)**

❖ **Nature's pest controls (4)**

❖ **Optional methods (IPM – 6 methods) of pest management which includes pesticides)**

❖ **Pesticide types – be responsible user**

   ❖ **Naturally occurring**

   ❖ **Synthetics**

Setting The Stage: The Pest Discussion

❖**First, a question**
  ❖**Are pests dead or alive? Yes, alive.**
❖**A pest is a pest because it does something that we do not like**
  ❖ **To students: describe some actions that a pest does that we do not like. Don't name a pest.**

Typical Pest Descriptions

❖ "Something that bites or stings"

❖ "They bother me"

❖ "Eat things"

   ❖ Like what?

      ❖ "Crops, garden vegetables"

❖ Can pests eat holes in your house? Yes!

❖ Conclusion:

   ❖ You've defined a pest!!

      ❖ A living thing that injures or annoys people, damages their property, or damages the environment
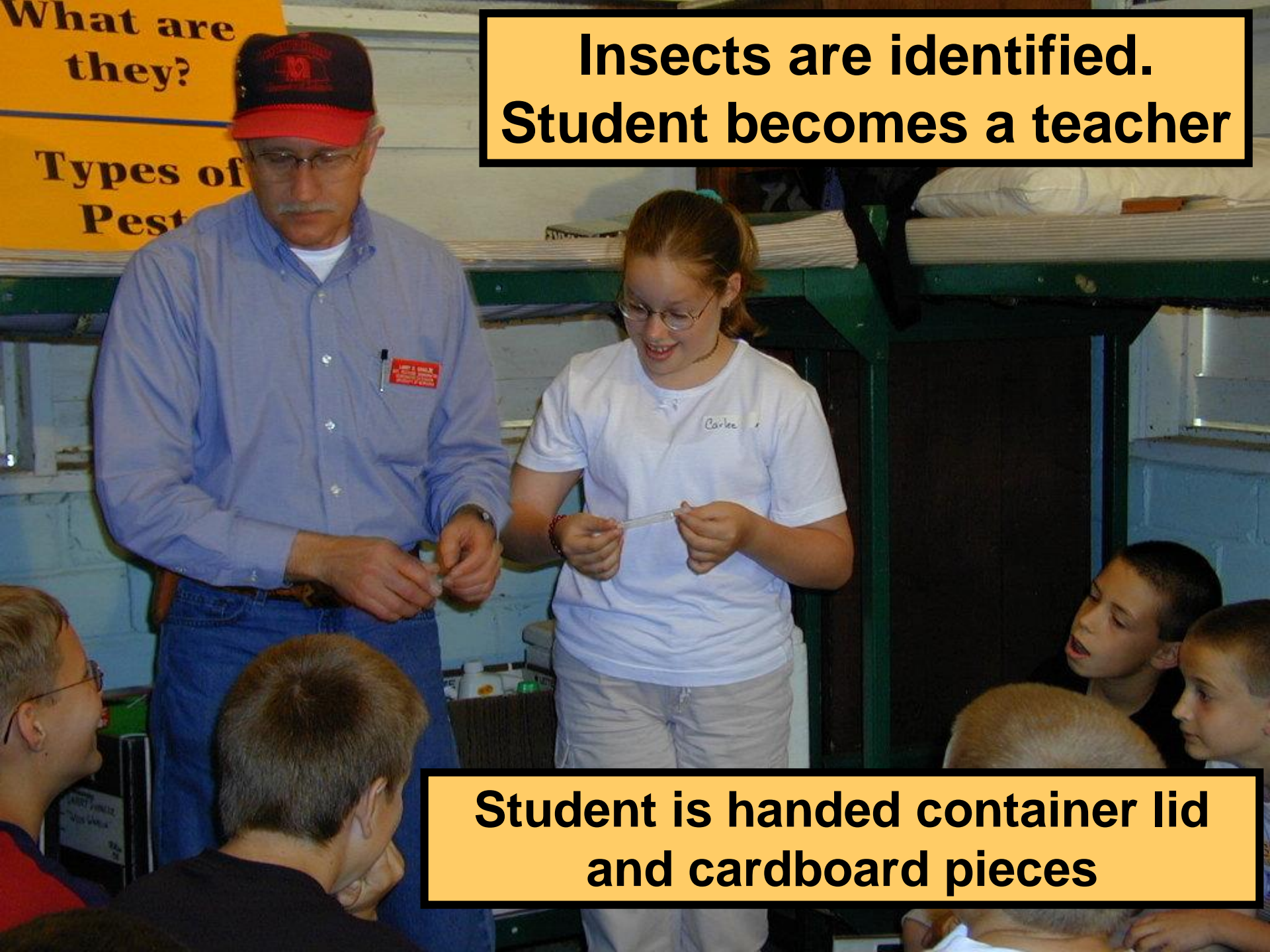
Types of Pests

❖ **Today, we'll talk about four large groups or types of pests**

❖ **What would be the name of one of these groups?**

Pests - What are they?

Types of Pests

Insects are identified.
Student becomes a teacher

Student is handed container lid
and cardboard pieces

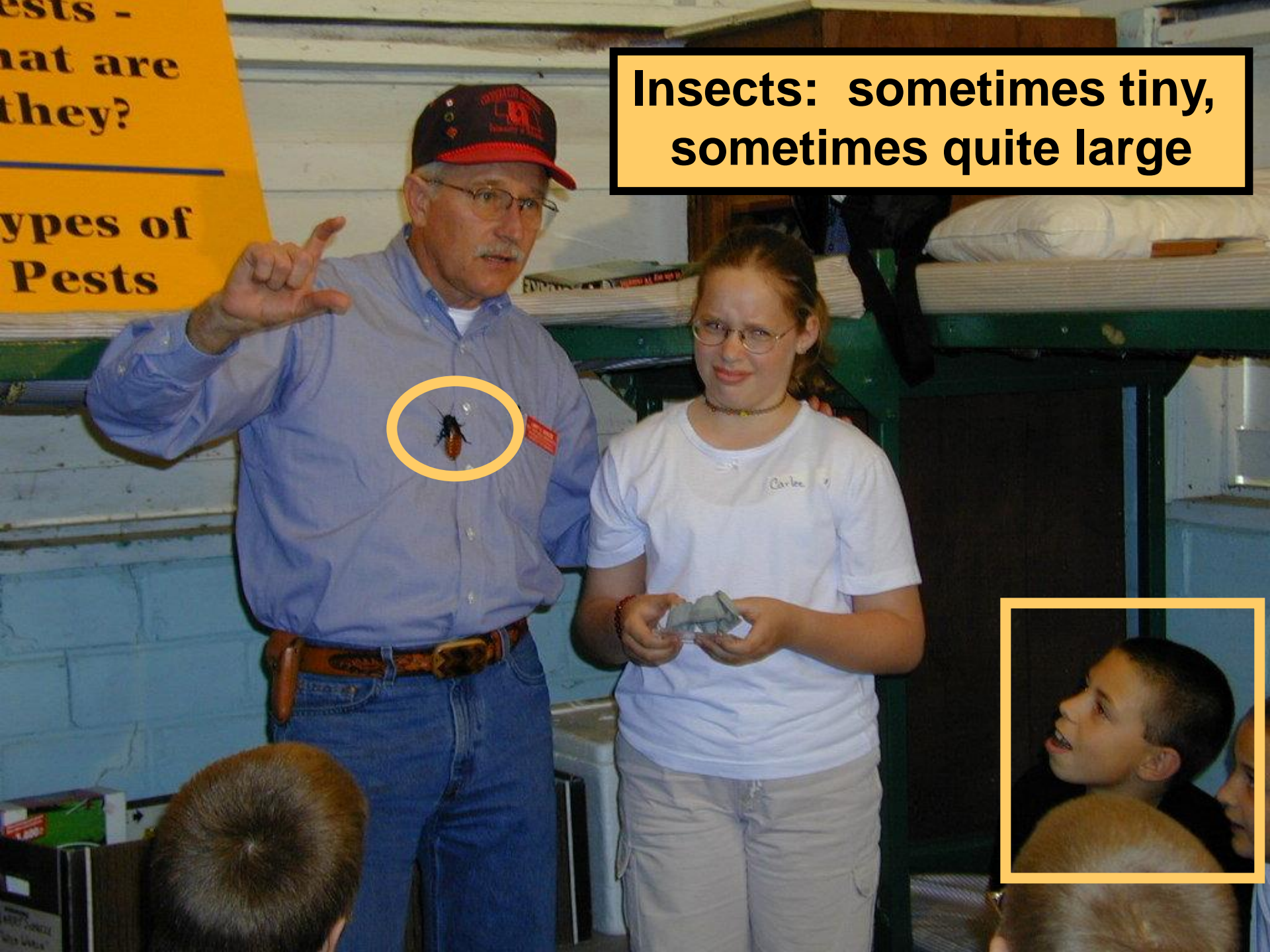Instructor's hand hides roach on shirt

Insects: sometimes tiny, sometimes quite large

Let's give a hand for our insect lady
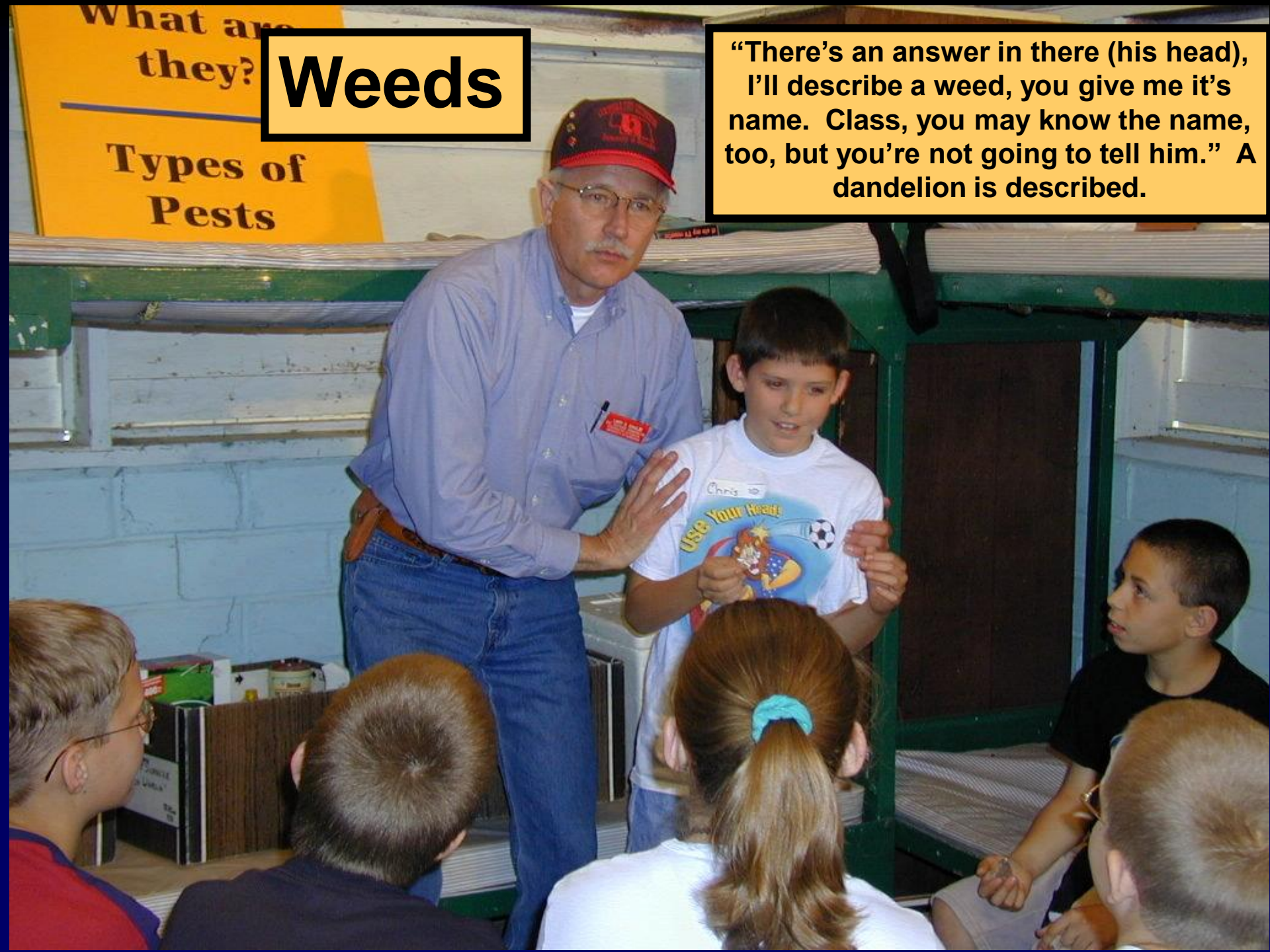
"It was cool this morning.
Example of an animal pest is in my shirt pocket."

With a bit of flair, the mouse jumps out of my pocket among the students

We all laugh and all feel a bit silly about getting surprised by a fake mouse.

Student Solicits Classmates To Name Other Weeds

Fourth Pest Group

- **Something attacks plants, people**
  - Plants – leaves become yellow, brown, die
  - People – we can get sick, too
- **What am I referring to?**
  - Students know "Diseases"
  - Sometimes worms mentioned by students
    - So, clarification occurs

Diseases- caused by three types of living pests or germs

Student Solicits Classmates To Name Types of Germs

❖ **Students know these**

   ❖ **Bacteria**

   ❖ **Viruses**

   ❖ **Fungi**

❖ **Same germs**

affect people, plants, animals

Nature Helps to Control Pests

Natural Methods of Pest Control
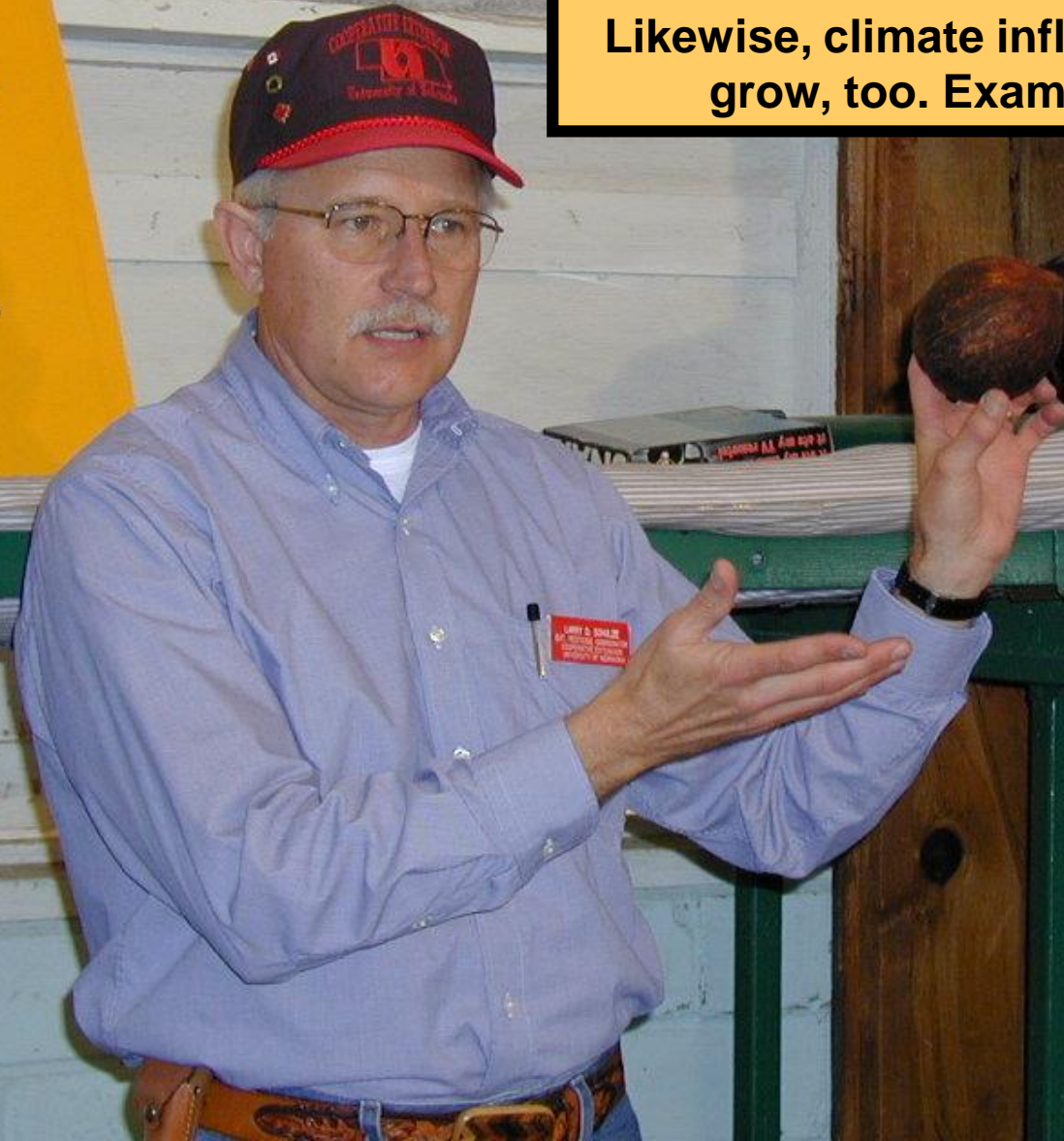
1. Climate
2. Natural Enemies
3. Land and Oceans
4. Food Supply

**What's this? Yes, a coconut.
Do they grow in Nebraska? No!
Too cold in the winter? Yes!
Climate influences where crops can grow.
Likewise, climate influences where pests can grow, too. Examples are discussed.**

Natural Enemies

Natural Methods of Pest Control

1. Climate
2. Natural Enemies
3. Land and Oceans
4. Food Supply

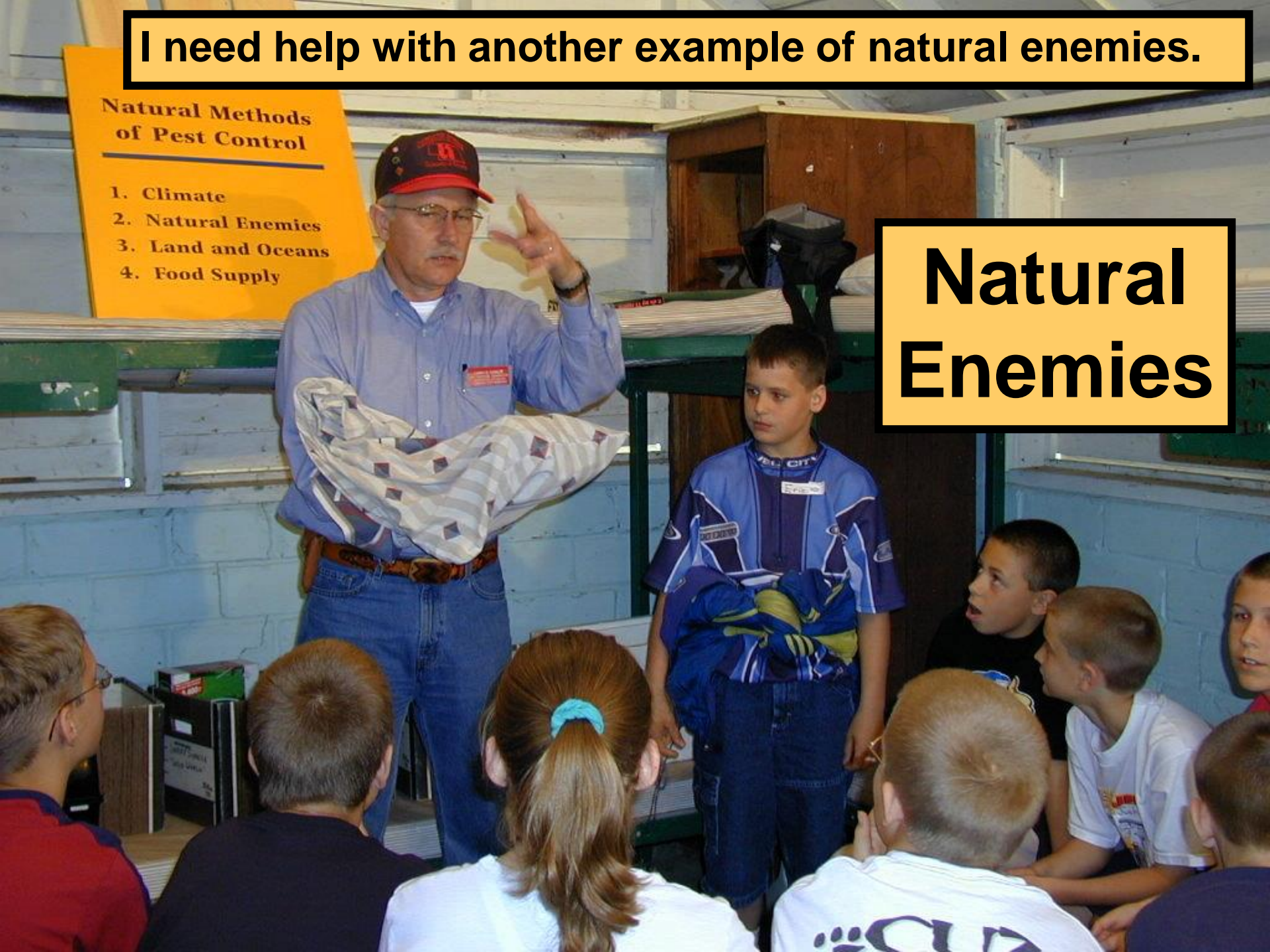The owl is hidden from view. It swoops out in a "rush" as if its flying.

Natural Methods
of Pest Control

1. Climate
2. Natural Enemies
3. Land and Oceans
4. Food Supply

Student holds the cloth sack. Not the snake

Corn snake eats mice, rodents

Land and Oceans

Let's go back to the later 1700s, the Revolutionary War:

Colonists were fighting for their independence against what country? Great Britain.

Hessian soldiers from Germany helped British fight against the colonists.

German soldiers carried the insect to North America in straw bedding (for horses) on their ships, insect named after them - Hessian Fly

Pest in winter wheat in NE, KS, CO, OK, TX, etc.

Atlantic Ocean: served as a barrier until the insect was carried over it.

Read a Mat.
Eat and Learn
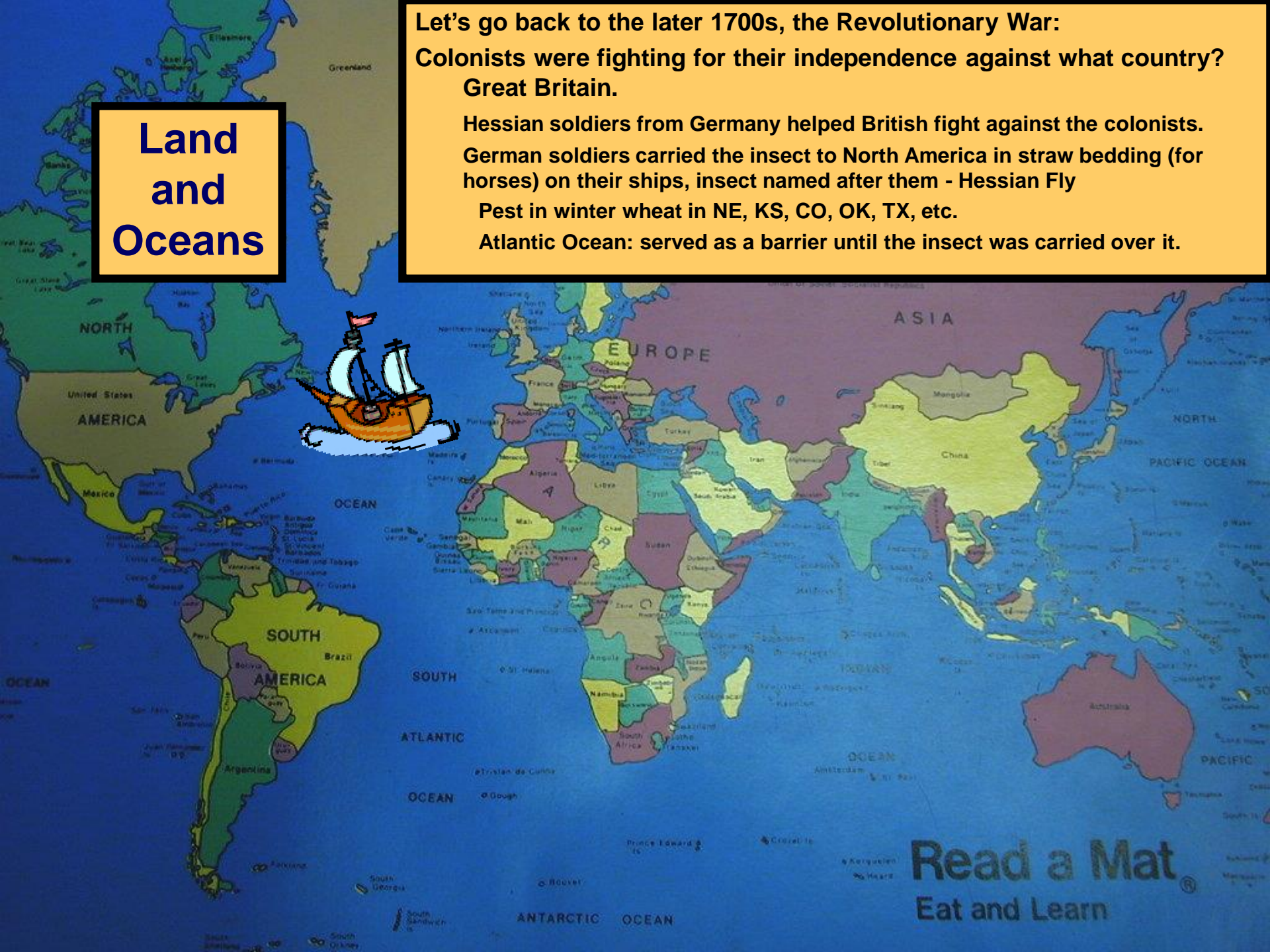
- **Lunch Box**
    - Represents "food supply" ….something inside influences pests"
    - To student: peak inside and inform classmates of contents
    - It contains… it contains…
    - NOTHING!!
    - If there is no food or water for pests, pests will die
    - Nature changes the quantity of food for pests
    - Sometimes lots of food, then many pests
    - Sometimes very little food, then fewer pests

Food Supply

Let's give a hand for our lunch box lady

Methods That People Can Use To Control Pests

Optional Methods of Pest Control

1. Host Resistance
2. Biological Control
3. Cultural Control
4. Mechanical Control
5. Sanitation
6. Pesticides

Host Resistance

- **Includes Scotts exclusive grass varieties for greater resistance to drought, insects and fungus**

AREA OF USE	COLOR	TEXTURE
High traffic lawn	Medium	Fine bladed
LIGHT REQUIRED	**DISEASE RESISTANCE**	**SEEDLINGS EMERGE***
Full sun to partial shade	Good resistance to many diseases	7 days

*If seed is watered and soil is warm.

The host (grass) resists the pest (fungi, etc.) Students read this portion of the seed label

Biological Control

- ❖ **What do you have at home that catches mice? A dog, cat?**
  - ❖ **Explain difference between natural enemy and biological control (management)**
- ❖ **Ladybug larvae may be introduced in garden to eat insect pests**

Catches & eats lots of insects.. because it has very fast yellow wheels

Cultural Control

❖ **Identify the pest**

❖ **Then, change the culture or environment around the pest**

   ❖ **Ex. Tillage – hand hoe or tillage implement, it stirs the soil, exposes roots to sunlight, changes the environment around the weed, weeds dies**

- **Cultural Control:**
  - **Mulch – to control weeds**
  - **This mulch – a special type**
  - **Listen very carefully**
  - **WOOF!!**
  - **It's "bark mulch"**

Sanitation

THE PREMIUM GRASS SEED™ MIXTURE

HIGH TRAFFIC AREAS

EXCLUSIVE VARIETIES OF KENTUCKY BLUEGRASS AND PERENNIAL RYEGRASS

SCOTTS PUREST GRASS SEED
99 $\frac{99}{100}$ %
WEED FREE

NET WT. 3 LBS. (1.36 kg)

PLAY ® BRAND
Grass Seed Mixture

Pure Seed	Variety	Origin	Germination
48.82%	MAJESTY PERENNIAL RYEGRASS	OR	92%
24.53%	ABBEY KENTUCKY BLUEGRASS	OR	87%
24.41%	PS8990 PERENNIAL RYEGRASS	OR	92%

Other Ingredients
0.35% Other Crop Seed
1.88% Inert Matter
0.01% Weed Seed
NOXIOUS WEED SEEDS: NONE
Net Weight 3 lbs. (1.36 kg)

Use "clean" seed. Few weed seeds.
Plant good quality grass seed.
Don't plant the weeds.

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Pesticides

❖ **Used only after the first five control methods are considered**

❖ **If they don't work, then a pesticide may be considered**

 (The IPM approach)

❖ **If a pesticide is used, always use it according to the label**

Naturally Occurring Pesticides

Mention those that are available on the market

Pesticides Made in Factories

-- All of these pesticides have been approved by the Environmental Protection Agency (said for the benefit of the teachers / adult sponsors)
-- Ask students to name each one as shown

Wild World of Pest Management

❖ **Important program goal:**
  ❖ **Some pesticides are very common and are accepted for their pest control properties**
    ❖ **Examples**
      ❖ **Clorox disinfectant bleach**
      ❖ **Pine-Sol cleaner**
      ❖ **Comet cleanser**
      ❖ **And, another example is…**

A Common Pesticide

❖ **When I go swimming…**

❖ **I don't want to swim with your germs in the water**

❖ **And, you don't want to swim with my germs in the water**

❖ **So, this pesticide (chlorine) is placed in the swimming pool (according to the label) so that you and I will have safe water to swim in**

❖ **Then, we won't get sick from each other's germs**

If you use a pesticide, read and follow the label

The label may require you to use certain types of gloves or protective equipment when using a pesticide

Wild World Stickers

An Option: Sticker distributed to each student at end of session. Helps promote the program and lessons to others.

Wild World of Pest Management Audiences

Now, other Extension Educator colleagues also assist in conduct of some sessions

❖ **Fifth, Sixth, Seventh graders**
  ❖ **Primarily fifth graders**
    ❖ **Topics have greatest appeal for this age**
  ❖ **Since program initiation in 1992**
    ❖ **Reached over 30,000 students**
    ❖ **Reached over 2,200 teachers, sponsors**
  ❖ **Through pre / post tests, students have shown significant learning of program points and concepts**

Impact: Pre-Tests

Wild World of Pest Management

Pre-test

Cathedral of the Risen Christ School - 7th grade

1. Are pests living or dead? Circle one for your answer.

    (Living)   Dead

2. Name four general groups or types of pests that are in our world.

    Bugs   Rodents

    ~~People~~ Mosquitos   Coachroches

    2

3. If you would decide to control a pest, what are some methods or things that you may use?

    Poison   Stepping on them   Kill them

    Traps   Catch them

Impact: Post-Tests

Wild World of Pest Management
Post-test
Cathedral of the Risen Christ School - 7th grade

1. Are pests living or dead? Circle one for your answer.

   (Living) Dead

2. Name four general groups or types of pests that are in our world.

   Animals   Viruses   4
   Inscents   Weed

3. If you would decide to control a pest, what are some methods or things that you may use?

   Pesticides   Enemies   3 Biol   Enviroment 5 cult.
   Stomping on them sanitation 4   Launcan
   mulch   sanit

Impact via Wild World of Pest Management

7th Grade	Class I N = 65		Class 2 N = 45		Class 3 N = 44	
	Pre	Post	Pre	Post	Pre	Post
Pest Types (4)	1.8	3.4	1.5	3.6	1.6	3.6
Pest Control Methods (6)	1.9	3.2	2.0	3.0	1.8	2.4

Online "Wild World" Info
See http://PestEd.unl.edu/

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