Name: _____

CASE

Project 8.1.1 Cause and Infect

Purpose

Just days before the fruit ripened on the blueberry bush, thieves raided and picked every berry from the plant. All that remains are a few scattered and damaged berries lying on the ground below the bush. What, besides humans, could have stolen all of the fruit?

Certain types of pests cause specific damage to plants. Knowledge of the various ways different pests damage plants provide clues for determining the pest that is causing problems. There are so many plant pests it is impossible to list them all. However, pests have specific ways they feed or damage plants. How can you determine what is causing damage to plants? How can you stop the damage from happening?

Materials

Per pair of students:

- Computer with word processing, electronic poster software, and Internet access
- Poster board (optional)
- Markers (optional)
- Colored pencils (optional)
- Glue sticks (optional)
- Scissors (optional)
- Tape (optional)

Per student:

- Pencil
- *Agriscience Notebook*
- *Project 8.1.1 Evaluation Rubric*

Procedure

You will examine categories of pests, anatomical features, damage pests cause, and how to control pests.

1. Your teacher will assign a plant pest you and your partner.
2. Research the distinguishing characteristics of the pest and how to protect plants from insect destruction. Your research will need to answer the following questions.
    - What are the anatomical features of this pest?
    - What damage does this pest cause to plants?

- What are the most appropriate ways to control or deter this pest from damaging plants?

3. Your instructor will review the procedure for the creation of a poster and *Project 8.1.1 Evaluation Rubric* before beginning the project.
4. Develop a poster describing the pest and control methods. Your poster should include the following components.

    - Title – including the name of your pest category
    - A list of common species that fall into your pest category
    - A picture illustrating an example of your pest clearly showing distinguishing characteristics
    - A list of potential damage your pest will cause
    - A picture of signature damage caused by your pest
    - A list of appropriate methods to control or deter your pest
    - A picture demonstrating a control or deterrent method

Reference Sources for Research:

Herren, R. V. (2004). *The science of agriculture: A biological approach* (2nd ed.). Albany, NY: Delmar.

Iowa State University Extension: Yard and Garden – Weeds and Pests: **http://www.extension.iastate.edu/yardgarden/weedspests/**

Parker, R. (2010). *Plant and soil science: Fundamentals and applications*. Clifton Park, NY: Delmar.

Reiley, H. E., & Shry, C. L. (2007). *Introduction to horticulture* (7th ed.). Clifton Park, NY: Delmar.

Ohio State University: Plant Disease Series Index: **http://ohioline.osu.edu/hyg-fact/3000/**

Ohioline Yard and Garden: Insects and Pests: **http://ohioline.osu.edu/lines/pests.html**

Pest Tracker: National Agricultural Pest Information System: **http://pest.ceris.purdue.edu/index.php**

Purdue University: Purdue Plant and Pest Diagnostic Laboratory: **http://www.ppdl.purdue.edu/PPDL/**

Texas A&M: Plant Pest Identification Aid: **http://vegetableipm.tamu.edu/imageindex.html**

USDA: Animal and Plant Health Inspection Service: **http://www.aphis.usda.gov/plant_health/plant_pest_info/index.shtml**

5. When all posters are complete, your teacher will have you share your information with the class. As you view other groups' posters, fill in Table 1 on the student worksheet.

Conclusion

1. How do pests differ?

    They all have a unique way of destroy and sometimes even helping with getting rid of pests.

2. What are some general practices that will protect a crop from multiple categories of pests?

   Buying another pest to get rid of the other main pests who create the problem.

3. List the different ways pests cause damage to plants. Which would cause the most severe damage or plant death? Why?

   Eating through plants

   Exposing them to disease

   Droppings on the plants

4. Which types of pests are most common in your area or region?

   Termites are mostly common here

5. What is the difference between preventing damage and eradicating pests after damage has occurred?

   Preventing only stops the damage temporarily rather than eradicating gets rid of the problem all in all

Name: _____

Project 8.1.1 Student Worksheet

Table 1. ***Pest Categories and Descriptions***

Pest Category	How Damage is Caused	Common Species	Control Methods
Chewing Insect	Holes in leaves eat plant tissue margins on leaves	Bees Lady bugs moths	Install barriers Traps Soaps and oils
Sucking Insect	Wilted plants Deformed and stunted plants Eventual plant death	Stink bugs Spider mites Leaf hoppers	Lady bugs Soap and spray water Aluminum foil mulch
Boring Insect	They attack trees Attack tissue that carries water Dead trees as well	Wood borer Bupstid metallic Wood broing beetle	Remove dead lumber/trees Clean up dead leaves
Weed	Harbor pest Clog irrigation/drainage canals	Bluegrass Ryegrass Cheat grass	Weeding by hand Crops/soil cover Using herbicides
Vertebrate Animal	Droppings Gnawing burrows	Wood rats Norway rats House mice	Keep surroundings clean of weeds and other possible habitats
Bird	Makes holes in trees Eat and damage crops	Finches Crow Rainbow lorikeet	Scarecrow Chicken wire over seed bed Buy an owl to frighten them

Mollusk	Large ragged holes in tender leaves Damage during spring	Snails slugs	Go picking Traps nematodes
Nematode	They feed on plant roots Absorbs water/nutrients from roots	Enplea Parasitic ascaridid	Fallowing Crop rotation Soil solarization