

# It's in the Bag!

## Problem Solving with the GEN Field Bag

### Essential Question

*How can I use tools and what I know about my club site ecosystem to solve environmental dilemmas?*

### At a Glance:

Learners work as a team to problem solve a dilemma they could potential encounter as a Garden Naturalist

### Background Information:

Garden Earth Naturalist Club members learn a great deal about their club site ecosystem and the eco-services that the different departments provide. They also learn to use many different tools in the field to collect data. If GEN club members were off site, would they still be able to incorporate these skills? This activity is a way to test GEN Club members' problem solving ability and also a way to assess their ability to apply knowledge from previous activities.

*A good connection for this activity is with the 'Club Site Issues' activity in the Ecosystem Module.*

### Procedure

1. Divide GEN Club members into groups.
2. Give each group a 'Dilemma' and a card with a list of Standards Checks Field Bag contents.
3. Learners will identify environmental issues and brainstorm ways to use the tools in the field bag to solve the potential problem.
4. After a designated time, ask each group to present to the rest of the group what they have decided.
5. Ask learners to generate discussion questions for the entire group to discuss. Questions may include problems that could arise from the first issue, impacts on different eco-service departments, and possible causes of the issues and ways to prevent and correct the problems.

### *Possible Answers for Dilemmas:*

**Dilemma 1:** map, compass

**Dilemma 2:** flagging, identification guide, rubber gloves

**Dilemma 3:** identification guide, ruler, camera

**Dilemma 4:** soil moisture probe, or hygrometer, temperature probe or thermometer, identification guide, light probes

**Dilemma 5:** identification guide, ruler, magnifying glass

**Dilemma 6:** soil moisture probe or hygrometer, identification guide, soil color card

**Location:** outside at club site or inside

**Objective:** Learners will

- 1) problem solve with tools, knowledge and experience.

**Skills:** problem solving

**Supplies:**

- Standards Checks Field Bag
- Tape measures
- Identification guides
- Thermometer

**Subjects:** science

**Time:** 30-60 minutes

**Here's what's in the  
GEN Club Field Bag:**

- Compass
- Clipboard/blank paper
- Pencils
- Field guides
- Tape measure
- Ruler
- Rubber gloves
- Magnifying glass
- Stopwatch
- Psychrometer
- Thermometer
- Ziplock bags or containers
- Transect
- Flagging
- Map
- Flashlight
- Soil Color card
- Camera

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**Print & cut these cards for groups to use with 'It's in the Bag!'**

## **It's in the Bag!**

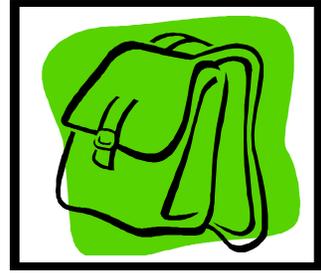
### **Dilemma One**

*Hey, GEN Club Members!*

*Look in the GEN Club Field Bag to see what tools you have that could help you solve this puzzle!*

*(Hint: Sometimes solutions require more than one tool.)*

Some GEN Club members are on a short hike with their adult leader. Somehow they get separated. How will they find their way? Look in the GEN Club Field Bag to find two tools that you could use to help you find your meeting spot. How are you going to use them?



## **It's in the Bag!**

### **Dilemma Two**

*Hey, GEN Club Members!*

*Look in the GEN Club Field Bag to see what tools you have that could help you solve this puzzle!*

While surveying your club site, you find what you think is poison ivy. How do you find out? Should you touch the plant? Look in the GEN Club Field Bag to find two possible tools to help you. How are you going to use them?

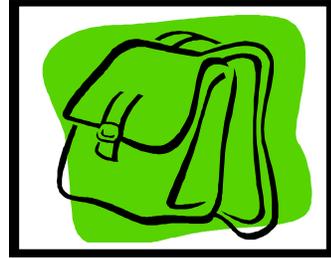


## **It's in the Bag!**

### **Dilemma Three**

*Hey, GEN Club Members!*

*Look in the GEN Club Field Bag to see what tools you have that could help you solve this puzzle!*



While measuring the soil temperature at the base of a tree, you and your team find a large and interesting caterpillar. What kind is it and why have you not seen it before?

## **It's in the Bag!**

### **Dilemma Four**

*Hey, GEN Club Members!*

*Look in the GEN Club Field Bag to see what tools you have that could help you solve this puzzle!*

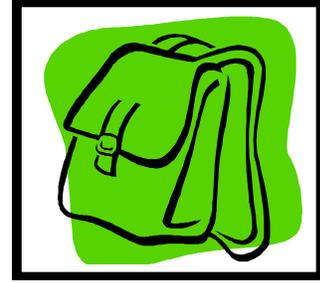


You have noticed that one of the plants that your GEN Club planted to attract pollinators is wilted. How can you figure out what is wrong with it?

## **It's in the Bag!**

### **Dilemma 5**

*Hey, GEN Club Members!  
Look in the GEN Club Field Bag to see  
what tools you have that could help you  
solve this puzzle!*



While comparing the temperature in the sun and in the shade on your club site, you notice some holes in the leaf of a plant. What are some tools that would help you find more clues to help figure out what is eating the leaf?

## **It's in the Bag!**

### **Dilemma 6**

*Hey, GEN Club Members!  
Look in the GEN Club Field Bag to see what  
tools you have that could help you solve this puzzle!*



You and your fellow GEN Club Members have noticed that there is not as much biodiversity on your club site as there is in your neighborhood. What tools would help you determine the reason and help you decide what to do to change this?

## **It's in the Bag!**

### **Dilemma**

**Hey, GEN Club Members!  
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tools you have that could help you solve this  
puzzle!**



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### **Dilemma**

**Hey, GEN Club Members!  
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