

Desert Stories 3rd Grade
Remote Lesson
Video 3: Insect Hole Investigation
English Transcript

Brought to you by the Asombro Institute for Science Education.

Dr. H.: Hi everybody! Welcome back. Let's continue learning about the yucca and the yucca moth. In this lesson you are going to use the yucca seed pod from your Asombro science kit to conduct an investigation about insect holes.

Now let's get back to the stars of our desert story, the yucca and yucca moth. For this investigation, you will need your science journal and the yucca seed pod from your Asombro science kit, also something to write with.

You're ready to investigate your seed pod. We will put on our entomologist hat because we will think about insects and how they interact with plants.

An entomologist is a scientist who studies insects.

Carefully take your seed pod out of the baggie. If any seeds fall out, just scoop them right back up and put them back in the baggie.

Stand in front of a window or a lamp and hold your seed pod up in front of your eyes. Turn it around, and tilt it, so the light from the window or lamp hits it in different places.

Take a moment to observe your seed pod, then write down anything you notice on page six of your science journal.

The video is going to pause to give you time to look at your seed pod. Open your journal to page six and write down three observations. Try using adjectives to describe what you have observed.

When you are ready to continue the video, select "I am ready!"

Did you notice any holes in your seed pod? What made the holes in the yucca seed pod? What have we learned about the life cycle of the yucca plant? Think back to the life cycle of the yucca moth. That's right the yucca moth larvae made these holes! Remember the yucca moth lays its eggs in the yucca flower, and also pollinates the yucca flower. A fruit develops with seeds inside, and the yucca moth eggs hatch inside the developing seed pod. These tiny larvae grow eating some yucca seeds along the way. After one to two months, the larvae eat a tiny hole in the side of the seed pod and drop to the ground. The larvae bury themselves in the ground and form a cocoon to wait for the summer rains and the next stage of their life cycle.

Great job young entomologists! We have solved another mystery! Can you imagine the moth larvae eating seeds in the pod and then chewing its way out leaving these holes? They're perfectly round, and they kind of look like somebody poked them with a pencil.

This is not a hole made by the larvae. This is a crack made as a seed pod dries out. Can you see the difference?

This is a crack. This is a crack. There's a crack there, but this is a hole. This is a hole, and that's a hole. Let's check to make sure you understand the difference.

Is this hole made by the yucca moth larvae?

Let's count the holes made by the yucca moth larvae as they ate their way out of your seed pod. The question we are investigating is, what is the most common number of insect holes found in a yucca seed pod?

The first thing we should do before starting our investigation is make a hypothesis. Remember, a hypothesis is your best guess to answer the investigation question before you do the investigation. Think about your seed pod and seed pods you may have seen around your neighborhood and answer this hypothesis statement: I think the most common number of holes in yucca seed pods is blank holes.

The video will pause while you answer the hypothesis statement on page seven of your science journal. When you have your hypothesis, select the answer "I am ready!"

Let's go over the data table found in your science journal on page seven. There are two columns. The first column is called "Scientists" and has the scientist's name who collected the data. Write your name in the last box. The second column is called "Number of Holes in their Seed Pod" where you will write down how many holes each scientist found in their seed pod.

Miss Em's data has already been recorded. She counted two holes in her seed pod and wrote down the number two in the data column. Ready? We are going to count the number of holes in Dr. H.'s seed pod first. We will do this together so we can practice finding and counting the holes. Remember, we observed three sections in the yucca seed pod, one, two, three. I will hold my finger on one section, and begin counting, turning the seed pod to the next section, until I make it all the way around, back to where I started. Let's count.

One, two, three, four, five, six.

Great job entomologists! Now, let's write this number down in your data table for Dr. H.'s seed pod.

We counted six insect holes. Now let's count Mr. Ryan's seed pod. Ready? Let's count.

How many holes did you count? I counted 9 holes. Write this number down in your data table for Mr. Ryan's seed pod. Now it's your turn.

Count the number of holes in your seed pod. Remember to only count insect holes. Write this number down in your data table, and then, select "I am ready!"

Do you remember that bag of seed pods that Mr. Ryan measured in the first video? Well, he also counted the number of insect holes in those seed pods and sorted them.

Then he counted how many seed pods had each number of holes, and put it into a data table.

Follow along on page 8 of your science journal. The data table from this investigation shows the number of insect holes, and then, tells us how many seed pods had that many holes.

Now, we will look at a graph of those data to look for patterns, make comparisons, and answer result questions about our investigation in a Canvas quiz.

When scientists study or analyze data in a graph, they first look at the graph's title and axes. The title of our graph is "Class Total of Seed Pods by Insect Whole Number." The title gives us a good idea of what the data will tell us. At the bottom of the graph, is the x-axis. It is labeled "Number of Insect Holes in Yucca Seed Pods." The x-axis label tells us how the data was divided up, grouped, or categorized. Along the left side of the graph, is the y-axis labeled "Number of Seed Pods." The y-axis label tells us what was measured or counted. For example, this graph tells us that in Mr. Ryan's bag of seed pods, three seed pods had zero holes, six seed pods had three holes, and so on. Do you see how the information from the data table matches what we graphed? You will use this information to answer questions in the Canvas quiz to figure out the answer to the investigation question for today. What is the most common number of insect holes found in yucca seed pods?

Thanks for coming along with us on this desert stories investigation and learning about the yucca and yucca moth life cycles. Don't forget to finish our investigation questions after the video. Go to the Canvas website, select Day 3 Video, Insect Hole Investigation. There you'll find the data table and graph that you will use to answer the quiz questions. Until next time, bye!