Lesson: “Where do plants grow best?”

VIDEO TRANSCRIPT

EXPLORATION VIDEO 1

Imagine you have an uncle who pays you $1,000 to watch his home for the summer. So you agree to do it, obviously. The only problem is that it isn't just a house. It's actually a farm, and his farm is huge. He left you a bunch of different baby plants inside his house. It's your job to plant all of them outside where they belong so they can grow big. That means you need to really start thinking like a gardener. You're going to have to think about how much sunlight and how much water each plant needs. Now, luckily, you've already learned that all plants don't need the same amounts of sunlight and water. Some plants, like orchids, need a lot of water but only a little sunlight. This is why orchids are happy to grow on the shady forest floor. And if we put an orchid in a place with too much sunlight, it will eventually die. Notice its leaves are turning yellow. Or think of a cactus, which likes a lot of sunlight but only a little water. If you take a cactus and put it somewhere with too much water, you could kill it. In fact, the cactus could burst open, like this. This is why, if you're going to grow plants, knowing what they need is very important. When gardeners or farmers set out to grow plants, they have to be very careful about where they put things. For each plant, they have to ask themselves, how much water does the plant need, and how much light does the plant need. Here's a warm-up question for you: Imagine you were standing on the shady forest floor, which was covered in ferns. And I dug up a fern and placed it

in a pot. like this. and then told you to plant it at home. Where would you put the fern to make sure it gets what it needs?

ACTIVITY VIDEO 1

Now that you know that different plants need different amounts of light and water, we're going to play a game that puts your new knowledge to work. The game is called Plant Survivor. Here's how it works. You'll choose a plant card. Then we'll show you a map marked with possible planting spots. You'll choose a spot where you think your plant will grow best. Then we'll fast forward through time to show you how your plant is doing after one year. If you know your plants, you choose a great spot, and you have a little bit of luck, your plant will grow and you'll get 10 points. If you choose less wisely, or are a bit unlucky, your plant won't do so well. Sad for your plant, and sad for you, too, since you won't get any points. We'll do three rounds so you have a chance to learn from your mistakes. To play the game, you need a pencil and a plant card. Your teacher will hand out the plant cards now. Once you get one, be sure to read it carefully. When you're done with this step, press the arrow on the right.

ACTIVITY VIDEO 2

Okay, are you ready? Round one! Your job is to figure out the best area for your plant on this map. You can put your plant in the shady forest, where someone has set up a sprinkler, or in the dry hillside, or on the lawn with the young tree—notice, someone has set up a sprinkler here too—or over here in the sunny yard with the leaky faucet. You could plant in the vegetable garden, or even inside the house. Before you decide where to put your plant, here are some things to think about: How much sunlight does your plant need? How much water does your plant need? Could the area you choose change over time? Once you've chosen what you think

is a good area for your plant, write the number of that area on your plant card here. When you're done with this step, press the arrow on the right.

ACTIVITY VIDEO 3

Ready? Let's see how your plant has done after one year. Those young trees on the lawn? They grew taller, casting their shadows over the grass. Instead of getting bright sunlight, this lawn had very little sunlight. The leaky faucet in the sunny yard just kept leaking, which created a big puddle. This was a great area for plants that need lots of water. And here's a surprise. Oh no. The goats! The goats, they figured out how to open the gate! They got into the vegetable garden and ate every plant in the garden, including yours if you planted it in Area 2. These plants had plenty of bright light and plenty of water, but plenty of goats, so, unfortunately, the goats destroyed any good thing about being planted in the vegetable garden. If your plant is in the vegetable garden, your plant did not survive—too bad. And if you planted in Area 2, go ahead and grab your plant card and circle, "No. Your plant dies. Try again." Now, if you're lucky, you did not plant in the vegetable garden. In a moment, you're going to look at the map and you'll look at these two questions on your card right here: Did your plant get the amount of light it needs? And then this one right here: Did your plant get the amount of water it needs? What you'll need to do is check the map and then circle Yes or No to these questions depending on how your plant did. All right, here's the map. Check and see how your plant did. Look at the area on the map where you planted. Did that area have what your plant needed? Circle the right answers on your card. When you're done with this step, press the arrow on the right.

ACTIVITY VIDEO 4

Now, let's add up how your plant did. If you circled Yes for both questions, your plant survived—congratulations! You won 10 points. So, down here, you'll circle “Yes! 10 points.” If the answer was No for either question, then your plant has died—sorry. Circle, “No. Try again.” When you're done with this step, press the arrow on the right.

ACTIVITY VIDEO 5

I think it's time for round two, what do you think, goat? *[Yeah.]* We've rewound time to put everything back the way it was. The goats are back in their pen. The young trees are small again. You're starting all over again with one small change. The gardener has put a lock on the goat gate to keep the goats in this time. Take a look at your new plant card, and think about the same three questions we asked earlier. How much sunlight does your plant need? How much water does your plant need? Could the area you choose change over time? So now it's time to decide: Where will you put your plant? When you're done with this step, press the arrow on the right.

ACTIVITY VIDEO 6

Are you ready? Goat, are you ready? *[Yeah.]* Okay, here's what happened over the past year. Again, those young trees on the lawn, they grew taller, casting their shadow over the grass. And again the leaky faucet in the side yard just kept leaking creating a bigger puddle. Maybe you expected all of this. But did you expect this? Up in the garden, everything should've been fine, right? The goats were locked in the gate. Someone left the tractor in the goat pen, though. The goats used this tractor to crash through their gate and got into the vegetable garden. The goats

ate all the plants in the vegetable garden, including yours if you planted there. So, if your plant is in the vegetable garden, it did not survive. Too bad. So, here's what the map looks like. It's time to check and see how your plant did. Look at the area on the map where you planted and answer the questions on your plant card. When you're done with this step, press the arrow on the right.

ACTIVITY VIDEO 7

Okay, it's time for round three, the final round. You need a new plant card. Now that you've got your plant card, you can be thinking about the same three questions we asked before. And, you know, maybe you need to think about another question: What about the goats? So, keep that in mind. Once again, we've rewound time to put everything back the way it was. The goats, back in the pen. The young trees, small again. The gardener has built a taller fence and a stronger gate for the goat pen and has locked up the tractor so the goats can't get to it. Time to pick where you're going to plant this time. When you're done with this step, press the arrow on the right.

ACTIVITY VIDEO 8

Are you ready? Here's what happened over the past year. Now, wait a second. As you're looking at this, you might be thinking, "What happened in the vegetable garden? What happened in Area 2? Uh, what about the goats?" Well, luckily, this time the goats stayed in their pen and ate goat food. No vegetables for them. If you planted in the vegetable garden, you're not safe, though! This time, the gardener came out and weeded the vegetable garden, yanking out any plant that wasn't a vegetable. Now, you might say, "Hey, but wait, my plant wasn't a weed!" Well, a weed is just any plant the gardener doesn't want in his garden. This gardener only wanted vegetables in that garden, so if you planted in Area 2, I'm sorry to say, your plant did not survive.

Here's what the whole map looks like. So, look at the area on the map where you planted, figure out if your plant had what it needed and circle the correct places on your plant card, and then we'll add up all our scores. When you're done with this step, press the arrow on the right.

ACTIVITY VIDEO 9

Now is the moment of truth. Add up your points for all three rounds. Whoever has the most points, congratulations, you are a Plant Survivor!