ANNEDROIDS

EPISODE 109

ANDROID'S BEST FRIEND

Watch as Eyes, Hands and I discover a cat in the junkyard while Anne, Nick and Shania try to stop the robo-mouse from eating all of Anne's tomatoes!

EXPERIMENT SUMMARY

EXPERIMENT: Investigate whether Anne's tomatoes will grow faster and bigger by giving them extra air, soil, water and sunlight.

HYPOTHESIS: Plants should be able to grow faster and bigger when they are given more of each nutrient that they need—air, soil, water and sunlight.

METHOD: Use a fan to give the tomatoes more air, place the tomatoes in enhanced-soil, use a small hose to give the tomatoes extra purified water, and use a magnifying glass to give the tomatoes more intense sunlight.

RESULT: The robo-mouse ate one of Anne's tomatoes! While trying to catch the robo-mouse, a lot of Anne's tomatoes got knocked over!

CONCLUSION: The robo-mouse has been caught, but Anne will need to try the experiment again to see if the tomatoes are able to grow faster and stronger when they are given more air, soil, water and sunlight.

EXTENSION ACTIVITY

Create your very greenhouse!

You will need:

1. 2 clear plastic cups
2. Seeds (choose any kind you like!)
3. Soil
4. Tape
5. Water
6. Sunlight.

Shaw Rocket Fund Fuelling creativity
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SINKING SHIP ENTERTAINMENT

Once you have gathered all your materials, you are ready to create your greenhouse. Follow these steps:

1. Take one clear plastic cup and fill it halfway (or a little bit more) with soil.
2. Carefully place your seeds (about 3-4) in the soil and gently push them into the soil so you can't see them anymore. Make sure they are spaced out.
3. Water your soil so it is damp but make sure not to put too much water!
4. Take your second plastic cup and place it upside down on the plastic cup that contains your seeds and soil.
5. Poke three holes on the top of the upside down plastic cup.
6. Tape the ends together.
7. Place your greenhouse into the sunlight and wait for your plant to grow! Your plant may take a few days to start sprouting so make sure to keep watering it each day.

WHAT'S HAPPENING?

Having the two plastic cups taped together traps in the moisture, warmth and sunlight, allowing your seeds to grow quickly!

SYNOPSIS FOR TEACHERS/PARENTS:

In this episode, Anne shows Nick and Shania her organic growth facility. She is experimenting with sunlight, water, air, and soil to see if her tomatoes will grow faster and bigger if she gives them extra of everything they need to survive. She soon finds out that the robo-mouse has been eating her tomatoes, ruining her experiment! Anne, Nick, Shania and the androids work together to capture the robo-mouse to save Anne's experiment.

This episode teaches children about what plants need to survive and introduces them to the concept of photosynthesis. It also explains that plants and animals need different things to survive and grow.

CURRICULUM EXPECTATIONS:

GRADE 3 SCIENCE: UNDERSTANDING LIFE SYSTEMS – GROWTH AND CHANGES IN PLANTS

3.1 Describe the basic needs of plants, including air, water, light, warmth, and space.

3.2 Describe the changes that different plants undergo in their life cycles.

3.4 Describe how most plants get energy to live directly from the sun and how plants help other living things to get energy from the sun.

3.6 Describe ways in which plants and animals depend on each other.

3.7 Describe the different ways in which plants are grown for food (e.g., on farms, greenhouses, home gardens) and explain the advantages and disadvantages of locally grown and organically produced food, including environmental benefits.

GRADE 4 SCIENCE: UNDERSTANDING LIFE SYSTEMS – HABITATS AND COMMUNITIES

3.1 Demonstrate an understanding of habitats as areas that provide plants and animals with the necessities of life.

3.3 Identify factors that affect the ability of plants and animals to survive in a specific habitat.

3.6 Identify animals that are carnivores, herbivores, or omnivores.

MULTIPLE CHOICE

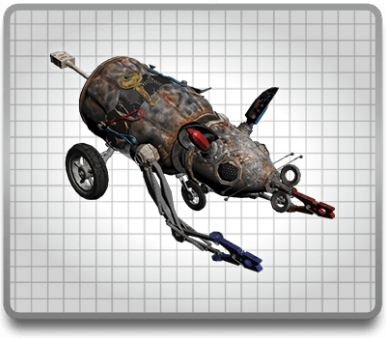
QUESTION #1: WHAT IS A GREENHOUSE?

A. A warm building where plants such as flowers and vegetables are grown.

B. A house that has green walls.

C. A small shelter that is used as storage space.

D. A place where scientists keep all their tools and materials for their research experiments.



QUESTION #2: ANNE'S ROBO-MOUSE IS A FIXED-SEQUENCE ROBOT. WHAT IS A FIXED-SEQUENCE ROBOT?

A. A robot that is programmed to perform multiple actions at once.

B. A robot that needs to be fixed.

C. A robot that is programmed to perform the same action over and over again.

D. A robot that is programmed to think.

QUESTION #3: PLANTS MAKE THEIR FOOD USING A PROCESS CALLED...

A. Refraction.

B. Photosynthesis.

C. Programming.

D. Cooking.

1. A 2. C 3. B

SORTING GAME

Sorting time! What types of food do carnivores and herbivores eat?

CARNIVORES

HERBIVORES

1. Lettuce (Herbivores). **2.** Meat (Carnivores). **3.** Hay (Herbivores). **4.** Beef Jerky (Carnivores). **5.** Hamburger (Carnivores). **6.** Vegetables (Herbivores).

CATEGORY SELECTION

Select all the things that plants need to grow.

1. Shade (incorrect). **2.** Soil (correct). 3. Water (correct) **4.** Orange Juice (incorrect). **5.** Sunlight (correct).

WORD JUMBLE

Unscramble the letters to find the missing word!

All plants need water, air, sunlight and

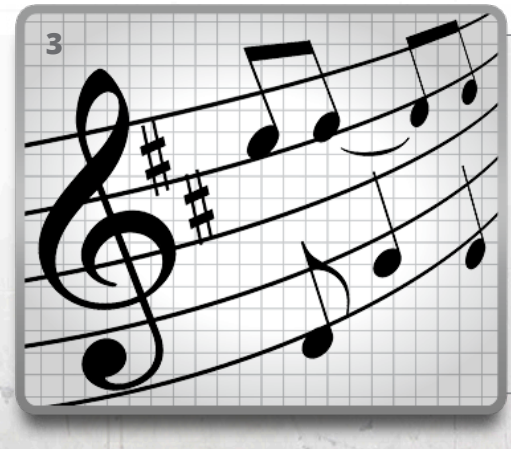
___ ___ ___ ___ to live and grow.

LOIS

Carnivores are animals that eat only

___ ___ ___ ___.

ATEM



Plants respond positively to the

vibrations of ___ ___ ___ ___ ___.

CISMU

1. SOIL. Fact: Plants need water, air, sunlight and soil to survive. **2.** MEAT. Fact: Carnivores eat only meat, and herbivores eat only plants. **3.** MUSIC. Fact: Plants can grow bigger and faster if you play music for them.

PUZZLE

Cut along the solid white lines to make a puzzle.