ANIMAL AID

Design a device to help an animal that is hurt

POSSIBLE BUILDING MATERIALS

- Recycled paper products
- Clean recycled plastic containers
- Clips
- Straws/Sticks
- Fabric scraps
- String/Yarn
- Playdough/Clay

TOOLS

- Scissors
- Tape/Glue

TESTING MATERIALS

To test the device:
- Stuffed animal/Doll

SET UP THE PROBLEM

1. Just like people, sometimes animals get injuries that make it painful or difficult to use their legs or paws. They need these injuries protected so that they can heal properly.

2. Design a prototype (small, sample version) of a device to help an injured animal who is not able to use their leg for walking.

ENGINEERING BACKGROUND

Biomedical engineers apply engineering design principles to design and evaluate medical equipment for healthcare.

LEARNING GOAL

Dual representation is the understanding that there is a connection between a symbol and what it refers to. During this activity, children will not be creating an actual device to assist an animal, but a representation of a device. They will need to keep in mind what each of the parts of their design is meant to do to assist the animal heal or function with its injury.

✅ TIPS FOR ADULTS

Before building: Talk with children about what they know about how a particular animal they choose moves "What do you know about how a dog walks? How does a dog walk differently than people?" Ask them to put themselves in the animal's "shoes" "Do you remember a time that you hurt your foot or leg and needed help? How do you think the dog would feel if they couldn't move around?" Then ask them to think through the "problem" they are trying to solve and how they want the device to help the animal "What can you build to help the dog get around? How will it work?" Once they have built their device, ask them to reflect on it's usefulness "How will the animal use your invention? Will it help them move around on their own?" Note that you can choose other body parts to design for (e.g., a tail), or other animals (e.g., a bird with an injured beak). Remind children that they are only building a model of a device and that for safety reasons, it should only be tested on a stuffed animal or figurine, not a real animal.

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