STRANDED

Duration: 30-60 minutes
Institution: NYSCI
Skill level/Age Level: 5 and Up
Group size: 2-30 children

INTRODUCTION

If you were stranded in a remote location, what problems would you face? What would you make to help solve one of those problems? Designers need to think deeply about the problems they are trying to solve. And, they often have to make do with a limited set of materials. This activity asks students to detail a compelling problem and solve it with what they have on hand.

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MATERIALS AND TOOLS

Essential Materials:

- Scissors
- Markers
- Tape
- A wide variety of materials that can be cut, shaped, and connected (we use cardboard, foil, straws, chopsticks, string, and pipe cleaners. Other potentially useful materials are cereal boxes, popsicle sticks, wire, felt, etc.)

Optional Materials:

- Index cards or tags to label creations for display.

SET UP

Put materials in the middle of the tables, leaving space for children to work. It's best if materials are in bins, buckets, or dishes.

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HOW TO OR STEP-BY-STEP (STYLE: HEADING 1)

1. Introduce the activity
    a. I want you to close your eyes and image. You find yourself alone in a remote location. Where are you?
        i) Encourage several students to answer. They might decide they're on an island, in the jungle, underground, back in time, inside a volcano, up a tree, on another planet, etc.
        ii) It's good to have a variety of answers.
    b. What are some of the things you may need to survive? Think about the problems you may encounter. What are they?
        i) Answers might include shelter, food, protection, escape, companionship, entertainment, contacting help, etc.
    c. OK, open your eyes. You're going to build something to help you solve that problem—using only what you find nearby.
2. You can, if you want, give students a particular setting for their creations, if you want to have them attend to the problems in a particular environment. For instance, in the setting of a particular story, or in an environment they've been studying.
3. Students can work alone, or can choose to be stranded together and collaborate on their solutions.
4. Encourage students to add plenty of details to their creations, taking into account the particular needs of their environment. Help them to get specific about how each feature works to help solve their problem.
5. Ask them to write labels for their creations, describing where they were stranded and what problem they're solving.

FACILITATION TIPS

Encourage detailed answers and rich storytelling. As you listen, feel free to introduce aspects of the setting that the solutions will have to negotiate with their creations.

PROMPTS AND QUESTIONS

Questions are the most powerful way to facilitate this activity. Encourage detailed answers and rich story-telling. As you listen, feel free to introduce aspects of the setting that the solutions will have to negotiate with their creations.

- Where are you stranded?
- What problem are you trying to solve?
- How will you make?
- How will it work?
- How could you make it better?

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MATERIALS SOURCES

You should be able to almost all of the materials for this activity from office supply stores, dollar stores, and by collecting recycling. Some items like drinking straws, skewers, or wooden skewers can be bought in bulk from restaurant supply stores in your area.

KEYWORDS

- Engineering
- Problem-solving
- Problem-finding
- Habitats

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