

Robot ZONE [01]

A photograph of a wind turbine in a forest with autumn foliage and a bright sun. The wind turbine is the central focus, standing tall against a blue sky with scattered clouds. The sun is low on the horizon, creating a strong lens flare effect that illuminates the scene. The trees are in various stages of autumn, with some leaves turning yellow and orange. The overall atmosphere is bright and natural.

Z Energy

Rookie Challenge

6-10 years old

Image by [Frank Albrecht](#)

Setting the Scene:

After surviving on Planet Z and becoming acquainted with this fascinating new world, you decide to make it your home.

However, to power your new habitat and get around, you'll need energy. Not wanting to repeat the mistakes made by humans on Earth, you opt for original, renewable energy sources to generate electricity.

In this challenge, you and your team create a robotic model featuring a green energy source that can be used to power the various functions of your living environment.

You can invent a unique and ingenious new way to produce or use energy from resources found on Planet Z! You have a few minutes to impress us!



Description of the Display Area:

Each team has a 100 cm x 60 cm area. On this area, you must place your model, accessories and posters explaining how you generate or use energy. See the photos below for examples of booths:



Step 1: Exploring

- Identify some known ways of generating energy.
- What are the harmful effects of non-renewable energy sources?
- What needs energy to function? Is a little or a lot of energy needed?



Now that you've familiarized yourself with the concepts of energy:

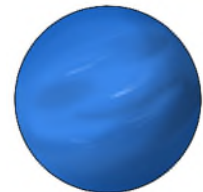
- Choose a method that could be used on planet Z?
- Are there any resources on planet Z that would help create energy?
- How will you use this energy to live on planet Z?



Step 2: Creating

Now it's time to build your robot(s) and model! You'll need to create a robot that illustrates your method of creating energy or how it's used. Be original! Your model should be related to your presentation. It can show the environment around your mechanism, show your new habitat, or even show different systems that will be powered by your green energy.

For your creation, you can use LEGO WeDo, Spike Essential or any other robotic platform. You can also use several types of materials: paper, cardboard, recycled materials, etc.



Each team will be required to display their design steps and research on a panel with approximate dimensions of 122 cm (length) x 91.5 cm (height). Be creative, you can print, draw, 3D print, edit, etc.

Step 3: Sharing

You are now at the sharing stage! You need to be well prepared because many judges will be visiting your booth! You will need to present at least these few items to the judges:

1. How do you create energy?
2. How do you plan to use this energy in your new home?
3. What inspired you to use this method?
4. What are the advantages and disadvantages?
5. How do you ensure that there is no danger to living beings on planet Z?
6. How will you use as little energy as possible?

A few rules to follow:

1. A team consists of two to three students.
2. Your design must be placed on a table measuring 100 cm by 60 cm.
3. You must display the design steps, the names of your team members, and a sketch of how your event will unfold on a board with approximate dimensions of 122 cm (length) x 91.5 cm (height). (You can buy this board or make your own with the materials you have.)

4. The team has a maximum of 4 minutes to make their presentation!

Point Table :

Criteria	Score
The model is well thought out and detailed	/5
The method/mechanism for generating or using energy is original, unique and demonstrates at least one type of movement	/5
All students seem to have participated in the project	/5
The students answered my questions well	/5
I enjoyed the presentation	/5