1. What is the name of this invention?

Our group would like to introduce our original invention called the **EcoVolt Survival Backpack**. This is not just an ordinary backpack—it is a high-tech, eco-friendly gadget designed to help travelers, hikers, campers, and survivalists generate their own electricity in remote areas. We created this idea by imagining what kind of device would be useful in the future, especially in situations where people need power but don't have access to outlets or charging stations.

2. What is it made of?

The backpack is made from **recycled waterproof nylon and PVC tarpaulin**, which are both strong and durable materials. These materials are also lightweight and eco-friendly, making the bag sustainable and practical for outdoor use. We chose them specifically to protect the device inside from rain, mud, dust, and heat. Using recycled materials helps support environmental protection by reducing waste.

3. What is its shape and dimensions?

The shape of the backpack is similar to a modern hiking bag: **rectangular with rounded edges** for comfort. Its size is approximately **55 centimeters tall, 35 centimeters wide, and 20 centimeters deep**. It's designed to fit the human back comfortably and distribute weight evenly, reducing pressure while walking long distances. The backpack also has adjustable shoulder straps and padded support for maximum comfort

4. How does it work?

The EcoVolt Survival Backpack generates electricity using two sources: **solar energy and motion energy**. There is a **flexible solar panel** attached to the outside of the backpack that collects sunlight during the day. At the same time, a special **motion pedal module** at the lower back collects energy as you walk using **magnetic and piezoelectric technology**. Both energy sources charge a **hybrid power bank** inside the backpack automatically as you move.

5. What are its main components and functions?

The backpack's main components include the **solar panel**, **motion energy pedal**, and **hybrid battery** for energy storage. It also features an **OLED screen** that displays the battery level, charging status, and energy source. For safety, it has **built-in LED emergency lights** that can turn on automatically at night or in darkness. The backpack provides multiple **USB ports** for charging devices and, in some versions, supports **Bluetooth or Wi-Fi modules** (like ESP32) to connect with your phone and monitor power via an app.

6. What is it used for?

The main purpose of this backpack is to **generate clean energy** for outdoor and emergency use. It's especially helpful for people who enjoy hiking, camping, or traveling in remote areas, far from power outlets. Additionally, it could be used in emergencies such as natural disasters, power outages, or rescue missions. With this backpack, users will always have a power source with them—no matter where they go.

7. What are its advantages?

There are many advantages to the EcoVolt Survival Backpack. First, it is **environmentally friendly** because it uses renewable energy from the sun and your own movement. Second, it is **practical** for travelers needing to keep devices powered off-grid. Third, it is **strong and waterproof**, making it reliable in extreme environments. It also improves safety with emergency lighting and status displays, and reduces the need to carry extra batteries or power banks.

8. Is there any limitation of your gadget or device?

Of course, there are some **limitations**. The backpack is not designed to charge high-power devices such as laptops, electric stoves, or large cameras. Also, in environments without sunlight and with very little movement, energy generation may be slow. So, it's best used for small devices and where at least one energy source—light or movement—is available.

9. Express your opinions towards your invention or innovation as a concluding sentence

In conclusion, we believe that the **EcoVolt Survival Backpack is a smart, creative, and meaningful invention** that could be genuinely helpful in the near future. It combines technology, sustainability, and real-world practicality. We're proud of this idea and believe it could support people who love nature or need power in emergency situations around the world. Thank you for listening to our presentation.

Full Paragarph!!!

Our group would like to introduce our original invention called the **EcoVolt Survival Backpack**. This is not just an ordinary backpack—it is a high-tech, eco-friendly gadget designed to help travelers, hikers, campers, and survivalists generate their own electricity in remote areas. We created this idea by imagining what kind of device would be useful in the future, especially in situations where people need power but don't have access to outlets or charging stations.

The backpack is made from **recycled waterproof nylon and PVC tarpaulin**, which are very strong, long-lasting materials. These materials are also lightweight and eco-friendly, making the bag both sustainable and practical for outdoor use. We chose them specifically to protect the device inside from rain, mud, dust, and heat. The use of recycled materials also supports environmental protection by reducing waste.

The shape of the backpack is similar to a modern hiking bag: **rectangular with rounded edges** for comfort. Its size is approximately **55 centimeters tall, 35 centimeters wide, and 20 centimeters deep**. It's designed to fit the human back comfortably and distribute weight evenly to reduce pressure while walking long distances. The backpack also includes adjustable shoulder straps and padded support for maximum comfort.

So, how does the EcoVolt Survival Backpack actually work? It generates electricity using two sources: **solar energy and motion energy**. There is a **flexible solar panel** attached to the outer surface of the backpack that collects sunlight during the day. At the same time, a special **motion pedal module** located at the lower back panel of the backpack collects energy as you walk. This module uses **magnetic and piezoelectric technology** to convert the natural movement of walking into usable electricity. Both sources charge a **hybrid power bank** inside the backpack automatically as you move.

The main components of the backpack include the **solar panel**, **motion energy pedal**, and **hybrid battery** that stores energy. It also features an **OLED screen** that displays the current battery level, charging status, and energy source. For safety, it has **built-in LED emergency lights** that can automatically turn on at night or in dark environments. The backpack also provides multiple **USB ports** where you can charge your phone, smartwatch, or GPS device while on the move. Some versions may even support **Bluetooth or Wi-Fi modules (like ESP32)** to connect with your phone and monitor power via an app.

This backpack is designed for a variety of uses. Its primary function is to **generate clean energy** for outdoor and emergency use. It's especially helpful for people who enjoy hiking, camping, or traveling in remote areas. Additionally, it could be used in **emergency**

**situations** such as natural disasters, power outages, or rescue missions. With this backpack, you will always have a power source with you—no matter where you go.

There are many advantages to using the EcoVolt Survival Backpack. First, it is **environmentally friendly** because it uses renewable energy from the sun and your own movement. Second, it is **highly practical** for travelers who need to keep devices charged while off-grid. Third, it is **strong and waterproof**, making it reliable in extreme environments. Fourth, it improves safety by including emergency lighting and status displays. Finally, it reduces the need to carry extra batteries or power banks.

However, our invention does have a few **limitations**. It is not designed to charge high-power devices such as laptops, electric stoves, or large cameras. Also, in environments without sunlight and with very limited movement, the energy generation process may be slow. That's why this backpack is best used for small devices and in situations where at least one energy source—light or movement—is available.

In conclusion, we believe that the **EcoVolt Survival Backpack is a smart, creative, and meaningful invention** that could really be useful in the near future. It combines technology, sustainability, and real-world functionality. We're proud of this idea and believe that it could help people all around the world who enjoy nature or need power in emergency situations. Thank you for listening to our presentation.