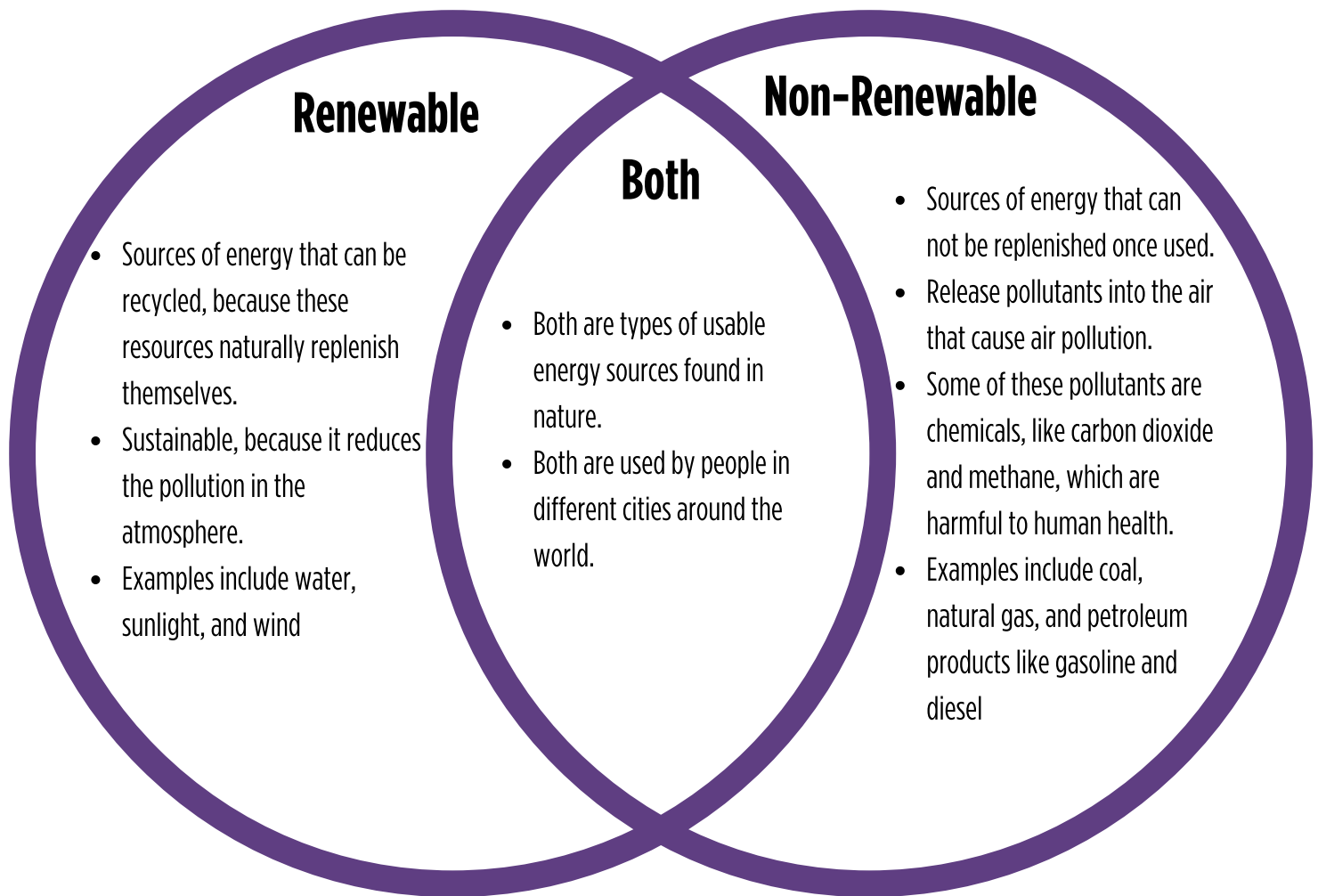


# Resources and Pollution

Sustainable cities use resources that don't harm the environment. These resources are called renewable resources, because they naturally replenish themselves. Non-renewable resources don't naturally replenish themselves, and they are harmful to the environment when they are used. Check out the Venn diagram below to learn more:



# Solving Pollution Problems

We know that using non-renewable resources causes pollution. How can we help solve this pollution problem?

### Plant Trees

Trees naturally suck carbon dioxide out of the air. This reduces the amount of carbon dioxide in the atmosphere.



### Install Scrubbers

Scrubbers are filters that remove carbon dioxide from exhaust fumes.



### Thermal Oxidizers

These machines burn harmful chemicals.



### Reduce Car Trips

Some cities provide public transportation, and some of these vehicles use electric power, which doesn't pollute the air!



## Steps to Create a Device

Follow the steps below to create your device.

### Step One: Choose a City (circle your choice)



**Chicago, Illinois**



**Los Angeles, California**



**Cincinnati, Ohio**



**Denver, Colorado**



**Detroit, Michigan**



**Houston, Texas**

### Step Two: Read Requirements

Read the requirements for your device below.

- Must have a sensor to detect the amount of pollution in the air.
- Must have a way to filter air.
  - Can your device use several layers of material to filter the air?
  - Can your device use plants or trees in it?
- Must have a GPS locator to tell scientists where it is taking measurements.
- Must be able to send messages to scientists to alert them if the device is broken.
- Must have a “solar panel” to get power from the sun.
- The outer layer of your device must be made of waterproof materials in case it rains!

## Step Three: Brainstorm Ideas

Use the space below to brainstorm ideas for your device.

## Step Four: Build Your Device

Use supplies from your teacher to build your device!