2.

automatic (they don't have to actively filter water)

portable (the contraption shouldnt be hard to bring with you)

inexpensive / not costly

safe for the environment

it should make water safe to drink

it should filter the water quickly

3.

Portable

should weigh under 250 grams

should be small no bigger than 3 cm x 3 cm x 15 cm

It should filter the water quickly

it should be able to do 3 liters per minute

it should be able to run through 100 liters before needing to be cleaned

4.

Design a system that removes contaminates from water when drinking from a potentially unsafe water source.

5.

Modular design. If you include a standard 28mm water bottle thread then you can connect to plastic water bottles. No need for a special container to hold the water.

Avoid separate fasteners. This way you can easily replace the filter part and keep the old housing.

6.