



Objectives

- Introduced to the concept of hydroponics
- Discuss the benefits and challenges of hydroponics
- Learn how to plan
- Gain observation skills

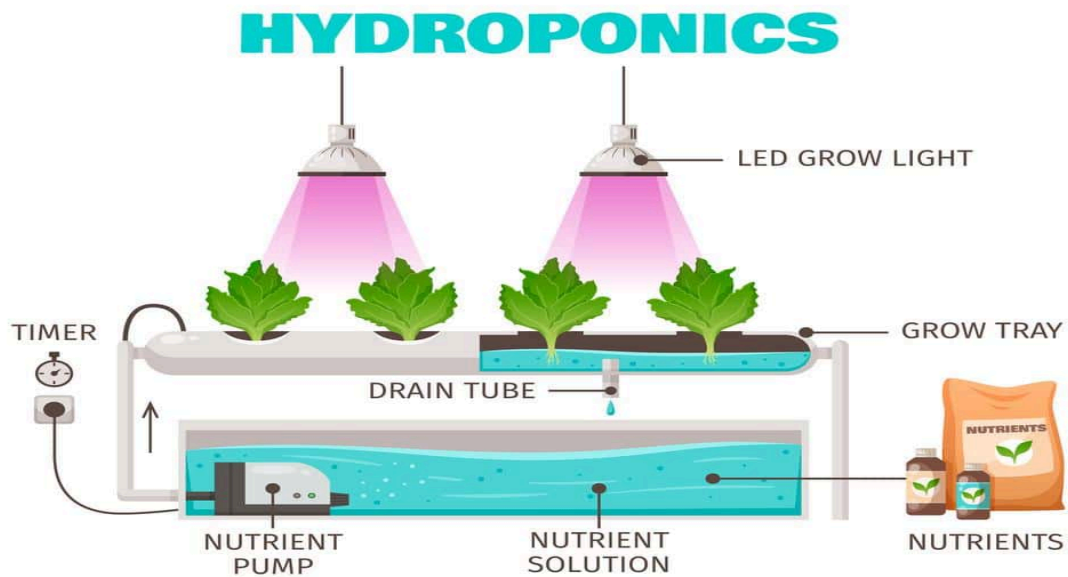
Materials

- Access to the internet
- Observation log
- (Digital or physical)

Time

- Pre-Activity: 15 mins
- Activity: 25 mins
- Post-Activity: 5-7 mins over 3 weeks

Intro to Hydroponic



Students' Guide

Pre-Activity

1. Did you know that we can grow plants without soil? This is through the process known as hydroponics. Hydroponics is the technique of growing plants using a water-based nutrient solution rather than soil.
2. Watch this [video](#) to learn more about hydroponics and its benefits. While you watch the video, ask yourself how hydroponics can help build a sustainable future? How does hydroponics reduce the impact of climate change? What challenges might hydroponic farmers experience?
3. After watching the video, turn to your neighbor or discuss as a class your findings and answers.

During Activity

Using your search engine, find the definition and research the terms listed below. Next to each term write your own definition and include advantages and disadvantages. These advantages and disadvantages can relate to climate change, sustainability, or the process itself.

Hydroponics:

Nutrient Rich Water-solution:

Drip hydroponics:

Kratky method:

Deep Water Culture:

Areoponics:

Ebb and Flow:

Post-Activity

As a class, sow your seed in your classroom hydroponic system.

1. Create an observation log. This can be done digitally in a Google Doc or Word Doc. or on paper in a physical journal.
2. In your log, observe and take notes of your hydroponic system. Here are examples of questions you can ask yourself when looking at your plants.
 - Do you see any growth? Leaves? Roots?
 - If you see any growth how tall is the plant? How long are the roots?
 - What color are the leaves? What color are the roots?
 - What is the leaf shape? Are there many leaves or only a few
 - Is there any fruit?
 - Any other interesting findings?
3. Keep your log going for three weeks. You can make a daily log or log every other day.