Nasco Education™

LESSON PLAN

AFNR/ SEL

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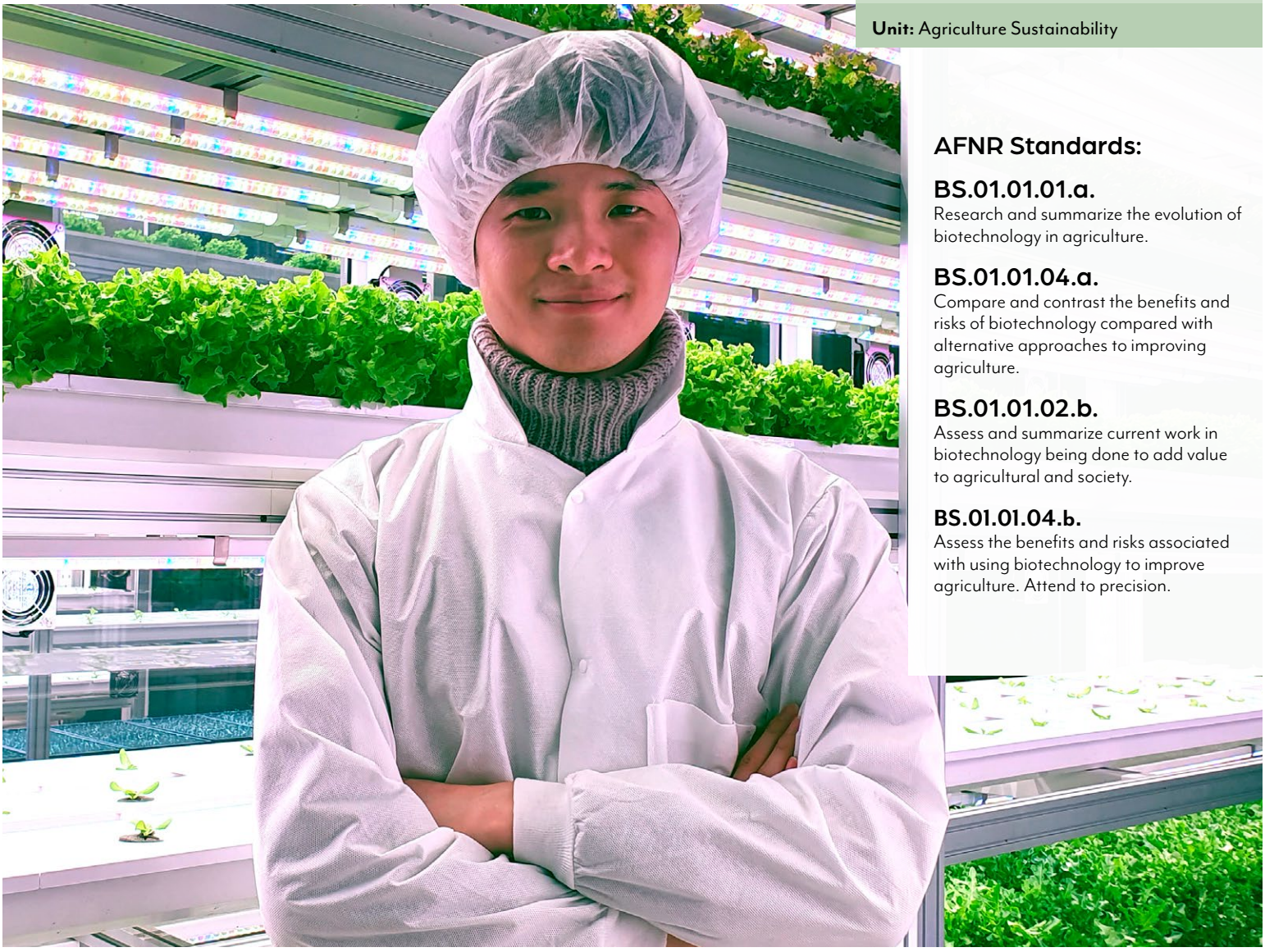
How can vertical farming help feed the world?

Volume 29
Middle/High School
Time: Approx. 1–2 days

Course: Introduction to AFNR

Unit: Agriculture Sustainability



AFNR Standards:

BS.01.01.01.a.
Research and summarize the evolution of biotechnology in agriculture.

BS.01.01.04.a.
Compare and contrast the benefits and risks of biotechnology compared with alternative approaches to improving agriculture.

BS.01.01.02.b.
Assess and summarize current work in biotechnology being done to add value to agricultural and society.

BS.01.01.04.b.
Assess the benefits and risks associated with using biotechnology to improve agriculture. Attend to precision.

Materials list

- Vertical farming article (See YouTube link in Step 1)
- Highlighters
- Pen/pencil
- Writing supplies or laptop with typing capabilities

Objective

Students will be able to complete the article about vertical farming in Tokyo and explain what they learned about vertical farming in paragraph format.

Activities

Step 1: Students will listen to the article on vertical farming in Tokyo on YouTube. This can be done independently, in groups, or as a class. Link to video: **https://www.youtube.com/watch?v=qJMZRIRkZWs&feature=youtu.be&fbclid=IwAR1pRirb-Rz1IU847V8bWXfH8Qs7KF2netgkZFU1ie6urf-31E2PiJvyJSA**

Step 2: As students watch the video, they will write down important information or notes on a separate piece of paper.

Additional option: Partner Highlighting Literacy Strategy–students independently highlight a certain number of facts in their notes (to work on only highlighting important information). Then, they team up with a partner (preferably with a different color highlighter) and compare the things they highlighted. If they have the same information highlighted, they leave it. However, if their partner has additional information highlighted that they do not, they highlight it with the color highlighter of their partners.

Step 3: Students will write one paragraph (4–6 sentences) about what they learned from the video and what questions they have about the technology.

Assessment: The highlighted notes from each student would be collected.

How to do your own vertical farming:

Hydroponic Wall (Z50812)

Grow Frame (Z50810)

SEL Power-Up Reflection

Suggested questions for an SEL-focused discussion after the project.

- Could vertical farming be possible in all areas of our world? Why or why not?
- What may hinder or help certain areas to make vertical farming a possibility/challenge?

GROUP REFLECTION

1. What did we learn about vertical farming?
2. Is vertical farming the same in every country/area?

SELF-REFLECTION

1. Could vertical farming be a possibility in my home or community? Why or why not?
2. What questions do I still have about vertical farming and the technology it includes?