

How Important is the Soil (9th – 12th Grade Rotational Version)

Morning Learning Stations for Students –

STATION 1: Explore IQhub & Drive Tractor Simulator (Needs 2 Adults)

- (60 min) IQhub Scavenger Hunt (2 students at a time go drive tractor simulator)

STATION 2: Importance of Soil Lesson (Needs 2 Adults)

- (20 min) Learn about the importance of Soil
- (15 min) Soil Profiles
 - o Understand what makes up a soil profile
 - o Learn how soil horizons effect human life
 - o Discuss how to make a Soil Profile Jar
- (25 min) Soil Texture Activity: Compare/ contrast different soil types
 - o Review the particles in soil
 - o Examine color and texture of different soil types
 - o Evaluate soils and make recommendations for use

LUNCH BREAK

Afternoon Learning Stations for Students –

STATION 3: Vermicomposting Lesson (Needs 2 Adults)

- (45 min) Presentation: Vermicomposting
 - o Discuss how human choices impact the environment
 - o Discuss ways to reduce waste and increase soil quality
 - o Learn about the importance of worms
 - o Learn ways to compost food scraps with worms

STATION 4: Environmental Tour (Needs 2 Adults)

- (25 min) LEED Building Tour inside AgroLiquid Headquarters
 - o Discuss what LEED (Leadership in Energy and Environmental Design) is all about
 - o Explore ways to make businesses and homes more environmentally friendly
 - o Learn how “going green” can make positive impacts on the world
- (20 min) LEED Building Tour of the landscape around AgroLiquid Headquarters
 - o Discuss the importance of native grasses and wetlands around a business
 - o Examine how water and wind erosion decrease with the help of abiotic and biotic factors
 - o Discuss how humans can develop solutions for increasing biodiversity and ecosystem conservation

Michigan Learning Standards for today's IQhub visit –

- Science Standards:
 - HS-LS2-1 Carrying Capacity of Ecosystems
 - HS-LS2-2 Biodiversity and Populations in Ecosystems
 - HS-LS2-3 Aerobic and Anaerobic Cycling of Matter
 - HS-LS2-4 Biomass and Trophic Levels
 - HS-LS2-7 Human Impact Reduction Solution
 - HS-ESS3-1 Global Impacts on Human Activity
 - HS-ESS2-2 Feedback in Earth's Systems
 - HS-ESS3-3 Biodiversity, Natural Resources and Human Sustainability
 - HS-ESS3-4 Reducing Human Impact Design Solutions
 - HS-ESS3-6 Human Impacts on Earth Systems
- Math Standards:
 - HS-S-MD Using Probability to Make Decisions
- Career Preparation for 9th – 10th Grade:
 - Target 3: Build Knowledge about Careers, Postsecondary, and Employment Opportunities
 - Soft skills/work ethics
- Career Preparation for 11th – 12th Grade:
 - Target 3: Continue to Build Knowledge about Careers, Education, and Employment Opportunities
 - Business tours
 - Soft skills/work ethics
 - Have local employers visit students to discuss top employability skills

Possible Careers Discussed in today's IQhub visit –

- Farmer
- Hydrologist
- Meteorologist
- Soil Scientist
- Engineer
- Agronomist
- Environmentalist
- Ecologist
- Architect
- Contractor
- Landscaper
- Entrepreneur