UF|CPET

FFL Principle 4- Mulch Matters
Middle School

Christy Giuliano, Kanapaha Middle School

Program Type: Introduction	**Duration:** 1-2 classes, 75 minutes

Standards:

SC.6.E.7.6: Differentiate among radiation, conduction, and convection, the three mechanisms by which heat is transferred through Earth's system. *(linked when discussing how mulch affects soil temperature)*

SC.7.L.17.3: Describe and investigate various limiting factors in ecosystems and their impact on native populations. *(linked to mulch as it relates to water retention and plant health)*

SC.8.L.18.4: Cite evidence that living systems follow the Laws of Conservation of Mass and Energy. *(linked when discussing nutrient cycling in mulched vs. bare soil systems)*

Learning Objectives:

Students will understand the ecological and practical importance of mulching by examining how mulch:

- Conserves soil moisture
- Regulates soil temperature
- Reduces weed growth
- Adds organic matter
- Prevents erosion

Guiding Questions: Why is it important to apply mulch?

Intended Outcomes

As a result of the program, what I want my audience to LEARN…	**As a result of the program, I want my audience to ACT by…**	**Assessment: (*How will you know* your audience has reached your intended outcomes)**
The importance and ecological benefits of mulch application in a Florida-friendly landscaping context.	Walk school grounds and sample mulched areas.	Present their findings to the class

Schedule Layout:	**Items Needed:**
Introduction 5-7 min Ask: *"Have you ever seen wood chips or straw around trees and plants? Why do you think they're there?"* Show a quick time-lapse video of mulched vs. non-mulched soil drying out.	Time lapse video of mulched vs. non-mulched soil drying out.
Student Handout: What Is Mulch and Why Is It Important? Principle #4 Mulch Florida Friendly Landscaping Program	Free FFL Principle #4 Mulch *https://ffl.ifas.ufl.edu/media/fflifasufledu/docs/FFL-Handbook_revisio*
Look at school map and assign students different areas to observe ***(5-10 minutes)***	Worksheet , school map, moisture meter (optional), thermometer , clip board
Complete data collection (25 minutes): Place students into groups with pre-assigned tasks (scribe, data collector, artist, etc) and	Data Collection Worksheet

location determined before activity begins- set a time limit and monitor students.	

Details:

Scaffolding and Support

For Struggling Learners or ELLs:

- Provide **sentence starters** and **word banks** (e.g., "Mulch helps plants by…" or "I observed that…").
- Offer **visual vocabulary cards** (e.g., erosion, mulch, temperature).
  Allow oral instead of written reflection if needed.
- Use **peer support or buddy system**.

Extension for Advanced Learners

- Have students research different types of mulch (pine bark, straw, compost) and their pros/cons.
- Ask them to **design an experiment** to test mulch types or long-term effects on plant growth
- Integrate **data graphing** and analysis (e.g., line graphs of soil temperature or moisture).
- Connect with SC.8.L.18.4 by mapping nutrient cycles with and without mulch.

Assessment Suggestions:

Formative:

- Observe group work, participation in discussion.
- Use student worksheet as informal check for understanding.

Summative:

- Student **presentations** (can be visual, oral, or written).
- Optional **exit slip**: "One way mulch helps the environment is…"