

Organic Garden Curriculum Overview

CMS Habitat: www.carmelhabitat.org

6th Grade:

Science: Garden Ecology & Interconnectedness- 9 lesson unit

1. Garden as Ecosystem - Identify abiotic/biotic factors
(Grade 6-Science content standards: 5e)
2. Identifying the different growing seasons and the Life cycle of a plant - (3a)
3. Why are plants so important? Role in ecosystems and food webs...
(5ab)
4. The secret life of Soil! (Formation, deposition, erosion etc) (2ab)
5. The secret life of soil (con't): COMPOST- Worm anatomy & micro/macro organisms in soil (5c)
6. Water Cycle (4a)
7. Understanding how gardening organically protects our watershed
(5b)
8. Integrated Pest Management/Companion Planting: Good Bugs vs Bad Bugs! (5c)
9. Garden feast, QUIZ & wrap up!

Experiment: Exploring the differences in seed germination in greenhouse vs. outdoors

French & Spanish- Culturally appropriate cooking activities, vocabulary expansion, conversation practice- every 6 weeks

Students harvest seasonally appropriate vegetables from the garden and prepare them in a culturally appropriate manner for the country they are studying.

CORE- Historically appropriate explorations, eg: Making flat bread as an extension of studies of Ancient Egypt and the Israelites, pseudo-

archeological dig, planting ancient crops (fava beans), practicing ancient irrigation techniques (digging canals and creating levees)

Math- Pumpkin weighing activity (Fall)- practicing mean, median and mode

Ecoliteracy Class: Reconnecting students to their environment

"When we try to pick out anything by itself, we find it hitched to everything else in the universe." - John Muir

Course Description: This course is designed to reconnect students with the natural world and introduce them to ecological principals, while cultivating a mindfulness of their place in the interconnected web of life. Throughout the course, students will utilize biomonitoring skills and various field techniques to observe the changing world around them. They will also begin to identify human's role in affecting natural environments by taking a closer look at current patterns of consumption and lifestyle. Through creative thinking, sustainable practices and hands-on activities students will be engaged in manifesting change in their daily lives and local community. Students are actively involved on a weekly basis in the campus wide recycling program at CMS.

Topics explored in the course include:

Population, carrying capacity, discovering personal ecological footprint, biomonitoring skills (bird populations, soil/water monitoring, native habitats), global warming, reducing green house gases through alternative energy/transportation choices, curbing consumption, waste management techniques (reduce, reusing, recycling, compost & worms), green buildings and making eco friendly household cleaners, uncovering the global food system/agribusiness/factory farms, learning to support and buy fresh, local and seasonal foods, making a garden fresh treat and reading the LORAX to conclude the class!

7th Grade:

Science- 7th Grade: Hands-on Botany, Structure and Function and Nutrition- 9 lesson unit

**Every session a specific (seasonally appropriate) plant is introduced in depth, including: scientific name, characteristics, fun historical facts etc...*

- 1) Why being an autotroph is so cool... (intro to photosynthesis) **(Grade 7-Science content standards: 1b)**
- 2) What exactly does it mean to be a plant? (eukaryotes, multi-cellular) **(1)**
- 3) What are the different types of plants? Search for examples around the garden, look for evolutionary clues... (vascular, non-vascular, woody/herbaceous, monocot/dicot) **(3)**
- 4) How are plants classified? (taxonomy and binomial nomenclature) **(3.4)**
- 5) A deeper look into plant parts: Discovering structure and function through garden sketches **(5a)**
- 6) Why we love our pollinators & angiosperms **(2a, 5f)**
- 7) Introduction to plant genetics and genetic engineering **(2)**
- 8) Searching out plant tropisms in the garden **(3.1)**
- 9) Nutrients plants need from the soil... **(5b)**
- 10) Nutrients we need and get from our plants through a garden meal! **(5b)**

EXPERIMENT: Grow the same plant in different soil mediums (sand vs. clay or amended soil vs. non-amended soil) & Angiosperm Lab

French & Spanish: Culturally Appropriate cooking activities (Mexican Tortilla vs. Spanish Tortilla, fresh salsa making from the garden-comparing different heats of peppers)

History: Making mosaic stepping stones as an extension of studies of Roman and Byzantine empires

8th Grade:

Science: On-going observations and management of a garden plot

Throughout the 5-6 visits to the garden over the course of the school year, each 8th grader is given a plot of land to monitor. This allows them an opportunity to hone their scientific observation skills.

(Grade 8- Science content standards: Investigation and Experimentation)

Each student starts with baseline data in the beginning of the year (through soil testing & chemistry, plant mapping, weather data/analysis and other various tools). (5, 6abc) They go on to collect more data each subsequent visit, with the hope for them to be able to recognize change over time, thus gaining greater insight into the ebb and flow of the seasons.

They also learn manage the plot throughout the year and must work together to respond to unforeseen circumstances (pest infestations, plant disease etc). Students also help manage the compost piles and conduct experiments with various combinations of compost ingredients. Overall, this is an opportunity for the older students to practice and apply many of the skills they had learned in the previous 2 years in the garden.

French & Spanish: Culturally appropriate cooking activities

School Wide Involvement:

Renaissance Faire

Fall/Spring Plant Sales

River of Words Poetry Contest