

# PROJECT PLANNER

*Adapted from the Project Planning Form by the Buck Institute for Education*

Project title:     Growing 2 Learn    

Teacher(s):     Kimberly Eure    

School:     Clarksville Elementary    

Grade level(s):     2    

Subjects:     Science and Language Arts    

## Overview

***Summarize the theme for this project. Why do this project?***

In order to discover the scientific process by connecting students to the environment through gardening. Students will demonstrate their knowledge of the scientific process successfully growing a raised bed garden.

### **Why:**

- Change attitudes towards learning
- To gain an understanding of living and nonliving things and how they are interdependent in a system
- Connects students to the environment
- To continue to practice the importance of being craftsmen
- To foster a love of learning on a topic of student interest.
- To discover how seasonal and weather changes affect the environment

## Essential Question

*Pose an authentic problem or significant question that engages students and requires core subject knowledge to solve or answer.*

- Where does our food come from?

## Products

**What do you want students to do/write/create/build? What will you assess?**

A raised bed garden that will demonstrate the understanding of scientific investigation process and how it impacts our daily lives.

## Learning Goals

*What do you want students to learn?*

### Science -

2.1 The student will demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations in which

- a) observations and predictions are made and questions are formed;
- b) observations are differentiated from personal interpretation;
- c) observations are repeated to ensure accuracy;
- d) two or more characteristics or properties are used to classify items;
- e) length, volume, mass, and temperature are measured in metric units and standard English units using the proper tools;
- g) conditions that influence a change are identified and inferences are made;
- h) data are collected and recorded, and bar graphs are constructed using numbered axes;
- i) data are analyzed, and unexpected or unusual quantitative data are recognized;
- j) conclusions are drawn;
- k) observations and data are communicated;
- l) simple physical models are designed and constructed to clarify explanations and show relationships; and
- m) current applications are used to reinforce science concepts.

2.3 The student will investigate and understand basic properties of solids, liquids, and gases. Key concepts include

- b) measurement of the mass and volume of solids and liquids; and

2.4 The student will investigate and understand that plants and animals undergo a series

of orderly changes as they mature and grow. Key concepts include

- a) animal life cycles
- b) plant life cycles.

2.5 The student will investigate and understand that living things are part of a system.

Key concepts include

- a) living organisms are interdependent with their living and nonliving surroundings;
- b) an animal's habitat includes adequate food, water, shelter or cover, and space;
- c) habitats change over time due to many influences; and

2.6 The student will investigate and understand basic types, changes, and patterns of weather. Key concepts include

- a) identification of common storms and other weather phenomena;
- b) the uses and importance of measuring, recording, and interpreting weather data; and
- c) the uses and importance of tracking weather data over time

2.7 The student will investigate and understand that weather and seasonal changes affect plants, animals, and their surroundings. Key concepts include

- a) effects of weather and seasonal changes on the growth and behavior of living things; and
- b) weathering and erosion of land surfaces.

2.8 The student will investigate and understand that plants produce oxygen and food, are a source of useful products, and provide benefits in nature. Key concepts include

- a) important plant products are identified and classified;
- b) the availability of plant products affects the development of a geographic area;
- c) plants provide oxygen, homes, and food for many animals; and
- d) plants can help reduce erosion.

### **Social Science-**

2.7 The student will describe natural resources (water, soil, wood, and coal), human resources (people at work), and capital resources (machines, tools, and buildings).

2.8 The student will distinguish between the use of barter and the use of money in the exchange for goods and services.

2.9 The student will explain that scarcity (limited resources) requires people to make choices about producing and consuming goods and services.

## **Language Arts**

2.1 The student will demonstrate an understanding of oral language structure.

- a) Create oral stories to share with others.
- b) Create and participate in oral dramatic activities.
- c) Use correct verb tenses in oral communication.
- d) Use increasingly complex sentence structures in oral communication.
- e) Begin to self-correct errors in language use.

2.2 The student will expand understanding and use of word meanings.

- a) Increase listening and speaking vocabularies.
- b) Use words that reflect a growing range of interests and knowledge.
- c) Clarify and explain words and ideas orally.
- e) Use vocabulary from other content areas.

2.3 The student will use oral communication skills.

- a) Use oral language for different purposes: to inform, to persuade, to entertain, to clarify, and to respond.
- b) Share stories or information orally with an audience.
- c) Participate as a contributor and leader in a group.
- d) Retell information shared by others.
- e) Follow three- and four-step directions.
- f) Give three- and four-step directions.

2.5 The student will use phonetic strategies when reading and spelling.

- a) Use knowledge of consonants, consonant blends, and consonant digraphs to decode and spell words.
- b) Use knowledge of short, long, and r-controlled vowel patterns to decode and spell words.
- c) Decode regular multisyllabic words.

2.6 The student will use semantic clues and syntax to expand vocabulary when reading.

- a) Use information in the story to read words.
- b) Use knowledge of sentence structure.
- c) Use knowledge of story structure and sequence.
- d) Reread and self-correct.

2.7 The student will expand vocabulary when reading.

- a) Use knowledge of homophones.
- b) Use knowledge of prefixes and suffixes.
- c) Use knowledge of antonyms and synonyms.
- d) Discuss meanings of words and develop vocabulary by listening and reading a variety of texts.

e) Use vocabulary from other content areas.

2.8 The student will read and demonstrate comprehension of fictional texts.

- a) Make and confirm predictions.
- b) Relate previous experiences to the main idea.
- c) Ask and answer questions about what is read.
- d) Locate information to answer questions.
- e) Describe characters, setting, and important events in fiction and poetry.
- f) Identify the problem and solution.
- g) Identify the main idea.
- h) Summarize stories and events with beginning, middle, and end in the correct sequence.
- i) Draw conclusions based on the text.
- j) Read and reread familiar stories, poems, and passages with fluency, accuracy, and meaningful expression.

2.9 The student will read and demonstrate comprehension of nonfiction texts.

- a) Preview the selection using text features.
- b) Make and confirm predictions about the main idea.
- c) Use prior and background knowledge as context for new learning.
- d) Set purpose for reading.
- e) Ask and answer questions about what is read.
- f) Locate information to answer questions.
- g) Identify the main idea.
- h) Read and reread familiar passages with fluency, accuracy, and meaningful expression

2.10 The student will demonstrate comprehension of information in reference materials.

- a) Use table of contents.
- b) Use pictures, captions, and charts.
- c) Use dictionaries, glossaries, and indices.
- d) Use online resources.

2.12 The student will write stories, letters, and simple explanations.

- a) Generate ideas before writing.
- b) Organize writing to include a beginning, middle, and end for narrative and expository writing.
- c) Expand writing to include descriptive detail.
- d) Revise writing for clarity.

2.13 The student will edit writing for correct grammar, capitalization, punctuation, and spelling.

- a) Recognize and use complete sentences.
- b) Use and punctuate declarative, interrogative, and exclamatory sentences.
- c) Capitalize all proper nouns and the word I.
- d) Use singular and plural nouns and pronouns.
- e) Use apostrophes in contractions and possessives.
- f) Use contractions and singular possessives.
- g) Use knowledge of simple abbreviations.
- h) Use correct spelling for commonly used sight words, including compound words and regular plurals.
- i) Use commas in the salutation and closing of a letter.
- j) Use verbs and adjectives correctly in sentences

2.14 The student will use available technology for reading and writing.

### **Math**

2.3 The student will

- a) identify the parts of a set and/or region that represent fractions for halves, thirds, fourths, sixths, eighths, and tenths;
- b) write the fractions; and
- c) compare the unit fractions for halves, thirds, fourths, sixths, eighths, and tenths.

2.6 The student, given two whole numbers whose sum is 99 or less, will

- a) estimate the sum; and
- b) find the sum, using various methods of calculation.

2.7 The student, given two whole numbers, each of which is 99 or less, will

- a) estimate the difference; and
- b) find the difference, using various methods of calculation.

2.10 The student will

- a) count and compare a collection of pennies, nickels, dimes, and quarters whose total value is \$2.00 or less; and
- b) correctly use the cent symbol ( $\phi$ ), dollar symbol (\$), and decimal point (.).

2.11 The student will estimate and measure

- a) length to the nearest centimeter and inch;
- b) weight/mass of objects in pounds/ounces and kilograms/grams, using a scale; and
- c) liquid volume in cups, pints, quarts, gallons, and liters.

2.12 The student will tell and write time to the nearest five minutes, using analog and digital clocks.

2.13 The student will

- a) determine past and future days of the week; and
- b) identify specific days and dates on a given calendar.

2.14 The student will read the temperature on a Celsius and/or Fahrenheit thermometer to the nearest 10 degrees.

2.17 The student will use data from experiments to construct picture graphs, pictographs, and bar graphs.

2.18 The student will use data from experiments to predict outcomes when the experiment is repeated.

2.19 The student will analyze data displayed in picture graphs, pictographs, and bar graphs.

**Identify key *skills* students will learn in this project. List only those skills you plan to assess.**

- Explain elements of environment and how they may help or hurt our food.
- Use critique and teamwork to work with a partner to complete this project.
- Explain
- Explain the use of barter and the use of money in the exchange for goods and services.
- Explain that plants and animals undergo a series of orderly changes as they mature and grow.
- To persuade orally and in writing the benefits of a raised bed garden with correct grammar, punctuation, capitalization, and spelling.

## Timeline/Milestones (all days are an approximation)

### List the key dates and important milestones for this project

- Day 1 - Project Kickoff? Food Lion (A couple of days before, we will discuss economic terms (consumer, advertising, products, producer)  
Then divide into groups of 3, prepare questions on fruits and vegetables, students will brainstorm. Allow \$5.00 for each group to spend on fruit or vegetable, will have to come back and research it.) **Dr. Aerni**
- Day 2 - Finish research. Share with class. Read Flip, Float, Fly (Seeds on the Move)
- Day 3 - Plant Parts (stem, leaf, flower, root, seed) - TSW identify and classify parts of food we eat. Bring in carrots, celery, spinach, broccoli, cucumbers, sunflower seeds. Brainstorm foods we eat. Separate sheet, list different parts of plants. Then discuss do we eat all of these different parts? In groups, classify different fruits and vegetables under headings of root, stem, leaf, flower, fruit, seed. Discuss answers. Share foods that were brought in. Put them under the correct heading. Then sample foods.
- Day 4 - Continue plant part study - read The Reason for a Flower and Plants Make Their Own Food. . . have students in partners draw a plant and label what parts and what each part does.
- Day 5 - analyze lunch - food supply system - before lunch, ask students to remember what they eat for lunch. . . Do you ever think about where food comes from? What did you eat today? Are you eating any plants? Any food from animals? In groups of 4, list what they had for lunch. . . then classify according to part of plants. Read How Ecosystems Work. Introduce food chain - put our lunch in food chain
- Day 6 - Worms (scientific study) **Mrs. Johnson?** writing in journal, read It Could Still Be a Worm
- Day 7 - discussion on worms? design of garden? research? writing in journal
- Day 8 - design of garden, brainstorm what vegetables and fruits students want to grow. Research what plants do well together. How much space do they need? What grows the fastest? When should we plant? **Expert - construction and farmer**
- Day 9 - With our knowledge/research, discuss raised beds. How big? use chalk to build raised beds so they visualize, use spray paint on grass to visualize. Use measuring tapes to figure out best fit and best size. . . use yarn outside to put raised beds in parts we want to how can we make different shapes with different measurements to increase our area? expert! analyze lunch - origins, brainstorm, writing in journals, ipads for pictures?
- Day 10 - Budget - Brainstorm ideas and materials needed for a garden - Design budget **Mr. Gregory here this day**, need ads to look at prices **Dr.Aerni**
- Day 11 - Groups of 3 - (soak pinto beans day before), (need recorder), list three

general observations about the seeds, discuss observations, 1. Dissect pinto bean to each child! . . . a. peel off outer coat/seed coat. b. split pinto bean in half lengthwise c. identify parts (seed coat, embryo, food) Make scientific illustrations of the seed and parts in their science journals. Discussion: what is the function of the seed coat? the food? the root system? Can a seed sprout without soil? Why? Why not? **Mrs. Jones to help**

- Day 12 - Experiment - how water moves through a plant, and where it goes. Capacity - how much an item holds, using cylinders to measure out the water for each cup. Discuss: which plant part gets water for the plant? Do other parts need water? How do they get it? Divide class into groups of 4 (pass out, fresh celery stalk with leaves, one clear cup, red food coloring, water). Label each container. Each group add water and food coloring to their clear containers. Immerse celery stalk with the bottom cut off in water in each container. Make a drawing of celery, each hour, mark where the red dye has moved to, (measure with ruler), when the food coloring reaches the leaves, cut the stalk and examine it. Measure water left, have them make an equation of water left, water "sucked" up and equals. Read Flip, Float, Fly (Seeds on the Move)
- Day 13-14 - Erosion - discuss what would if a raindrop hit the sand, concrete, lake/ocean, soil. What would happen if it was a big raindrop, if they came fast. . . . record predictions. Define erosion for them (movement of small rocks and soil from one place to another either by wind or water.) Make splash boards: cut the top of the milk carton, put sand or pebbles in them. Wrap a piece of white paper around the outside of the carton and tape the ends together. (Don't tape to carton). Write slow, medium, fast, on the three top different sides. (do not write on taped side.) Demonstrate/model how the splashboard will be used. Predict what will happen. Go outside and have each group place splashboard outside on open soil in an area at least 2 feet in diameter (quick math lesson on diameter and measuring, students will measure and ensure they have 2 feet) Have students fill watering cans (does CLE have an outside water source?) Create a mini rainstorm over the soil in front of the side marked slow. Gently pour water from the can from about knee height. Do not pour water directly on the paper, but rather on the soil as close to it as possible. (any soil splashed up by the water drops will stain the paper.) Repeat process on medium (pouring from waist), fast (pouring from shoulder). When finished, slip paper off, open it up, and measure and compare the soil splashing. When dry, the papers can be used to illustrate how graphs can be pictures of how nature works(students draw a line along the top edge of the splashing, showing that as the water drops moved faster, bits of soil were heaved into the air). Discuss results (how much can the soil hold (capacity), what happens to the water it can no longer hold.) **Mrs. Jones to help**
- Day 13 - Show erosion powerpoint, discuss. erosion scavenger hunt - go outside with IPADS in groups of three, take photos with IPADS. Come back inside, share using promethean board by hooking up to IPAD. Students will present and discuss

- Day 14 - Two rain barrels (different sizes?), how much water will they hold? Watering cans estimation - how much can they hold?, how many will it take to empty rain barrel, (capacity, how to use, measure) - **Dr. Aerni**
- Day 15 - Materials needed - needs to be done prior. Begin construction of raised beds - measure wood, find area and perimeter of raised bed, measurement, Fractions, - **Dr. Aerni/Construction expert.**
- Day 16 - 18 - (need clear cups, radish seeds) Plant Experiments - **Soil Type** - In order to determine the best soil needed for our garden, students will place seed in sand, mud (beside the gym), dirt from my yard, and enriched soil. Place seeds in soil, 1.5" down in middle. Students will predict which seed will germinate first, then grow. Observations will be made daily by students in garden journal.

**Water Experiment** - One week before the activity, punch 5 evenly spaced holes in the bottom of each milk carton. Fill soil and plant a radish seed in each carton. Water according to directions. By one week, plants should be sprouting. Start with class discussion: Go over four necessities of plant life (sun, water, air, soil). How can they be controlled in the garden? Which one of them can be controlled the most easily? How does water plants affect their growth? What happens if watered too much? What happens if they are not watered? First, decide on how often we will do our water (frequency during the week), discuss how other things should all be consistent to ensure that the test will be fair. Looking at cylinder, allow class to decide how much plant will be watered (capacity) everyday. One plant will receive none. Continue doing this for two weeks. Make chart with days and height and

leaves

for students to fill in. At the end of the experiment, students will make a line graph with all components of graph (title, x axis and y axis labeled). Students will find mean, mode, minimum, maximum. Students will brainstorm questions that can be answered by the graph. **Dr. Aerni**

**Light Experiment** - One week before the activity, punch 5 evenly spaced holes in the bottom of each milk carton. Fill soil and plant a radish seed in each carton. Water according to directions. By one week, plants should be sprouting. Discussion - All green plants, including bean plants, need sunlight or another source of light to make 'chlorophyll' to thrive or just to survive. One can say that all living things on earth require sunlight to survive, because without green plants, all life on earth would be unable to survive (all living things feed on plants or animals that

have

eaten plants). Students will decide where they would like to place the plans. Plants will be watered the same amount every other day. Students will keep track of the plants daily with chart with days, height and leaves for students to fill in. At the end of the experiment, students will make a line graph with all components of graph (title,

x

axis and y axis labeled). Students will find mean, mode, minimum, maximum. Students will brainstorm questions that can be answered by the graph.

- Day 19 - 20 - Temperature hunt (287) - understand temperature by measuring around school. Discussion: If we were outside, are there places that are warmer than others? What conditions would make the temperature different in two places? Where would we find warmer temperatures? Colder temperatures? Where at school would we find these these places? Go outside with kids. Have them predict what will have cold or hot temperatures. Model measuring temperature in two different spots, while waiting for the thermometers to register, ask students to name factors they think could be influencing temperature at each spot. (shade, amount of sunlight, wind, surface color). In groups of 3, have students find 4 different spots to measure the temperature, record. Hopefully, they will use creativity and not pick most obvious spots. In journals, record location, temperature, and factors affecting the temperature. Take pics with IPAD. Make map of temperatures!
- Day 21 - 22 - Weather station creation (289) -Students will collect data from weather station. Minimum-maximum thermometer, barometer, psychrometer, rain gauge, wind meter, wind vane, Need to build a weather station bo in order to protect instruments. **expert, Divide kids into groups, have kids brainstorm their observations on the weather, give them 3 minutes. Come back as a class, list altogether. How can we make more accurate observations?** Introduce students to weather instruments. Go through instruments, allow all students to get a chance to investigate. Next day, mount instruments in box. Obviously, need rain gauge and wind vane outside. Each day, have students go out and collect data from weather station. Use pictograph to record data in class. **Expert - meteorologist- know anyone?**
- Early March?? plant - this depends on what class has decided to plant **expert - farmer?**
- Day 23 - 27 - Butterfly, frog, deer life cycle - brainstorm what they already know. Read, Frog Life Cycle, Read Ladybug Life Cycle, Butterfly Life Cycle, Read Magic School Bus and the Butterfly Bunch. Put in groups of three, develop questions that they want to learn about their bug/animal. Research. Design a poster, powerpoint, or 3D model. . . their choice. Present to class.
- Day 28 - Magic Spots (238) - Garden observations and journaling - Brainstorm. . . what do you need to be a good observer? Imagine one of your favorite spots in the garden, what would do you think you would see there if you sat quietly and just observe? In pairs (?), pick a spot to observe in the garden. Carefully, look for insects. Draw plant and insect in writing journal. Record observations. Do this once a week for the rest of the year. Each time, come back in and discuss what they saw and recorded.
- Day 30 - Econ Project, will continue to monitor garden, Day 40 - 44 - Discuss persuasion/advertising (author's purpose) Watch a couple of commercials online. . . discuss with partners how they use advertising, look through magazines to look at different ads in different partners,
- Day 31 - read Plants as Food, Fuel, and Medicine, discuss, more questions,

research their questions

- Day 32 - read Why Plants Become Extinct, discuss and compare to animals
- Day 33 - read Our Organic Garden
- Day 34 -
- Last 5 days - Read Bread Comes to Life, Put groups in partners, students invent an imaginary food they would like to sell. Work together to make an ad, song/dance, slogan to persuade others to buy it. Share with class.- **Mrs. Evans and Mrs. Muller**
- Sell produce (farmer's market) to learn steps and costs involved in processing food from its original form to its final form. Draw chart on chart paper (job, process, materials, labor, energy, cost). Discussion: What's the difference between straight out of the garden and produce? What steps do you think are taken to get the vegetables ready for market? (put on board) What do these steps involve? (energy, money, labor, resources (capital, natural, human), If we turned our class into a produce, factory, how much do you think we would need to charge for a vegetable in order to cover the cost of production? (record predictions). Take class through the process of getting vegetables to farmers' market/grocery store. With each step, discuss the materials, resources, labor, and energy that would be involved. Discuss what price the class would sell their product for in order to pay for their costs and make a reasonable profit and reinvestment. Why would it be cheaper to buy the ingredients and materials and make it at home? Buy produce from Food Lion for students to taste test and compare from their garden.
- Last Day (April 30th???) Parent Dinner - (Fresh Produce)

## Strategies for Meeting the Needs of Diverse Learners

Students will work as a whole group, individual, small group, and in pairs. Students will be paired based on their role in the garden project but also a pair the teacher believes will be most successful. Students will also be given many materials in order to complete their garden. This may include but is not limited to books, pictures, models, videos, websites, and games.

## Presentation

**How will students present/exhibit their work? How might you incorporate an authentic audience?**

Students will construct and grow their garden in a common area that can be viewed by the

school and community. Students will also present their research, analysis, and results to a variety of outside guests.

## Assessment

*Describe the criteria for exemplary performance for each product:*

**Product:** Garden

**Criteria:** Show a clear understanding of the scientific investigation process and how it impacts our daily lives.

**Product:** Field Journal (Class Book)

**Criteria:** To detail observations using correct grammar, punctuation, and capitalization.

Rubrics - Oral Presentation, Teamwork Assessment, 2nd Grade Writing Rubric, Life Cycle Rubric (need to find one or make one), Graph Rubric (need to find or or make one), Experiment Rubric (need to find one or make one) Math Assessments-**Aerni**, IA?, Field Work

### Books

Frog Life Cycle (set of 6)  
Ladybug Life Cycle (set of 6)  
A Ladybug Larva Grows Up (set of 6)  
It Could Still Be a Worm (set of 6)  
Butterfly Life Cycle (set of 6)  
How Ecosystems Work (set of 6)  
The Magic School Bus and the Butterfly Bunch (set of 6)

Hurricanes! (set of 6)  
Tornadoes! (set of 6)  
Blizzards! (set of 6)  
Floods! (set of 6)

Flip, Float, Fly (Seeds on the Move) (set of 6)  
Energy from the Sun (set of 6)  
From Pit to Peach Tree (set of 6)  
Sunflower Life Cycle (set of 6)  
The Reason for a Flower (set of 6)  
Plants that Never Ever Bloom (set of 6)  
Plants Make Their Own Food (set of 6)  
Plants as Food, Fuel, and Medicine (set of 6)  
Why Plants Become Extinct (set of 6)  
Our Organic Garden (set of 6)  
Seeds, Bees, and Pollen (set of 6)  
How a Tree Grows (set of 6)  
Bread Comes to Life  
Pick Pull Snap  
The Magic School Bus Plants Seeds (set of 6)

Grandma's Gloves  
The Garden on Green Street (set of 6)  
Tops & Bottoms  
The Curious Garden  
The Rosy Fat Magenta Radish  
The First Strawberries  
How Groundhog's Garden Grew  
A Fruit is a Suitcase for Seeds  
Westlandia

Materials needed - safety goggles, lumber, nails, hammer, drill, soil, clear cups, milk cartons, seeds, soils, watering cans, gardening gloves, spades, shovels, worms, worm food, measuring tapes, graduated cylinders, magnifying glasses, composition books, cylinders, water barrels,

Businesses to request - Home Depot, Food Lion, Roger Clark, Ruritans, Mecklenburg Education Business Partnership (Gina Mull), grant? Mr. Thomas (come and help with the building, construction of raised beds), , Mr. Gryder (AG teacher), VSU, Morgan Lumber (Clarissa Farrell), Adam Wilbourne (farmer), Mr. Gravitt (buyer), Mr. Orr, Mr. Elam,

What do we want students to accomplish?

**-contribute to student/school community Connect the students to the environment**

**-apply knowledge of life cycle - focus on cycle-**

-actively engaged in an interdisciplinary project - math, reading, social studies, health, technology

-authentic

**-life cycle of plant, butterfly and deer**

-aligned with student engaged assessments???

-Expo -March 4th

-Google docs for data collection and budget

-Sharing knowledge with K (healthy eating, life cycle)

-share fresh fruits

-strengthen **money skills and economics** and application by selling to benefit LOCAL cause

**-needs objective**

- journal on observations - weather, growth,

-measurements -

-initial brainstorm by students?

-voting

-strengthen research skills

-strengthen non fiction reading skills

-Composting?

-Economics - resources, bartering, credit, money, advertising, price competition, consumer, producer

-Weather - how it effects

-Erosion!!!

-Maps

-Reading - questioning, visualizing, non - fiction, sequence, vocabulary, editing, writing,

- Fractions, temperature

- Video using ipads

- Persuasion/PSA about healthy eating

- document what grows best

-keep out animals? or let them in, learn more from failures

What can we grow in the room during winter then move to the raised bed.

Start now- seeds, reading, building beds, earthworms, budget,

#### SOLS

Science 2.1, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8 (8 SOLS) 88%

Social Science - 2.2, 2.3, 2.6, 2.7, 2.8, 2.9, 2.10, 2.12, (12 SOLS) 75%

Reading - 2.1, 2.2, 2.3, 2.5, 2.6, 2.7, 2.8, 2.9, 2.10, 2.12, 2.13, 2.14 (14 SOLS) 86%

Math - 2.3, 2.6, 2.7, 2.10, 2.11, 2.12, 2.13, 2.14, 2.17, 2.18, (22 SOLS) 46%

C/T - 2.1, 2.2, 2.3, 2.4, 2.5, 2.6 (6 SOLS) 100%

Health - 2.1, 2.2 (5 SOLS) 40%

#### Experts to invite in-

Dana Johnson-earth worms

Project Planning--Laura McBain/Randy HTH (have you asked them?)

Someone with Agriculture - Mr. Elam?

Farmer- Adam Wilborne

University- Virginia State or Tech

Send Emails to Dept of Ag

Health/Wellness- ??? Dr. Purohit/CMH

Extension Agency

4 H

Dept of Ag (in Boydton), not sure of the name

Make a difference-- Donation of the proceeds? Students decide as a group? Research local places, ask for suggestions, vote

authenticity, academic rigor, applied learning, active exploration, adult relationships, and assessment

#### Questions-

How do we engage all students?

What roles should be created?

Project Timeline?

what are the best items to plant? fruit? herbs? (student choice)

Incorporation of TEACH (~~dear gussie!!!~~) easily done

How get students passionate about this?

How get parents involved?

Literature

Organic?

Time needed?

Rubrics- Team work, writing, presentations, research

Milestones/Check points

Assessments?

Project Launch

book on earthworms

Field Work -

Greenhouse

High school (don't know what is there)

Local Farms

Farmer's Market-South Hill

Grants

think it may be costly