

Cooking with Kids in the Garden Getting Started

Rules

Establish clear rules and guidelines before your cooking activities. When students know clearly what is expected of them, everyone can benefit from the activity, and have great fun too! Respect is rule number one! Students should respect each other, themselves, their teacher, and the tools and food they will be working with.

1. Always wait for instructions, ask if you don't understand what to do. Don't touch any tools without permission.
2. Take your time! Better to do it slowly and well than fast and poorly.
3. Treat kitchen tools (knives, graters, peelers, stoves, cutting boards, etc.) with extreme respect and care.
4. Treat someone using a tool with the same care you would the tool. *Kids like to see what's happening and will sometimes crowd in and bump someone using a knife or a stove, so this rule is especially useful.*

Hygiene

Involve the students in cleaning before and after cooking to emphasize the importance of cleanliness and hygiene.

1. Wash hands before getting started
2. Once hands are clean, keep them clean: don't touch anything you wouldn't want your food to touch.
3. Clear off tables, and clean them with soap and water before cooking.
4. Foods fresh from an organic garden need only a rinse or bath with fresh water before preparing.

Hot Items - Stoves

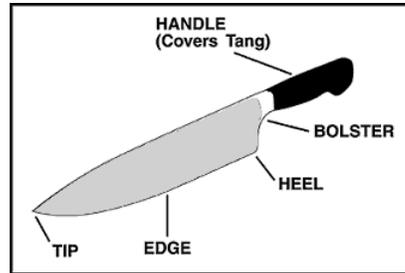
Instruct students to treat any item that might be hot like it is hot. Have pot holders or folded kitchen towels to handle pots and pans. Remember that steam causes most kitchen burns, show student the proper way to remove a lid so that the steam dissipates away from any part of themselves or others.

Learning to use Knives

If proper precautions are taken, and good rules established handling kitchen knives can not only be a fun learning experience, it also empowers students and gives a tremendous sense of pride. Being safe should also include having a first aid kit on hand in case of accidents. Be aware of where the point and edge of your knife is at all times.

Introducing your students to the parts of the knife is always a good way

get started with knife skills, and can be integrated to meet science standards dealing with simple machines. Demonstrate using and holding knives safely. Emphasize that students are only to use knives at the cutting board, and with permission.



Typical kitchen knife

Image available at:

http://www.chefdepot.com/graphics40/basic_knife.gif

1. Hold a knife with your dominant hand, but remember that your other hand requires most of your focus. Learning to safely hold the item you are cutting is the most difficult part of developing knife skills. Teach kids to hold the tips of their fingers back by telling them to hold the item with a Kung-fu Panda grip (finger tips folded in behind knuckles) *Remember: Mistakes don't cut the hand holding the knife.*
2. Begin with softer foods and simple knife cuts. For example: cutting the stems from leafy greens, or slicing strawberries.
3. Every knife cut is a slice. Draw the knife through the food using a front-to-back or back-to-front motion. Don't try to press the knife through or chop down. Even complex cuts are a series of slices, so learning to slice properly is key. Have students practice this motion before attempting to cut, after a few tries they can practice their grip at the same time. Then have them start on some real food!

Equipment

It takes some very basic equipment to get started cooking with students in the classroom or garden. A kit can be put together for one classroom or the whole school. If well cared for, it can be used for years, by many classrooms and thousands of students. The table below lists basic equipment needs for conducting cooking activities with a class of 20 students or less. The retail cost of this equipment can range from \$500 to \$800. A portable oven would add around \$300 in expense. Don't let that figure intimidate though, there are many ways to put a school cooking kit together. Thrift and second hand stores often carry cooking

equipment. Get the parents involved: send out a list of desired items and hold a collection drive. Another method would be to throw a classroom cooking shower. Have students create invitations and decorations.

Class Equipment	Student Equipment:
2ea electric hot plates, or	10ea small plastic cutting boards
2ea portable fuel burners, or	10ea serrated knives with rounded ends
1ea 2-burner tailgating stove	5ea vegetable peelers
2ea large frying pans	5ea measuring spoon sets
1ea 6-quart pot with lid	5ea measuring cup sets
1ea 2-quart sauce pan	5ea box graters
1 ea blender	20ea forks
1ea chef's knife	20ea spoons
2ea large wooden spoons	20ea plastic bowls
2ea spatulas	20ea plastic plates
3ea whisks, assorted sizes	
3ea mixing bowls, assorted sizes	
1ea colander	
1ea ladle	
1ea slotted spoon	
1ea potato masher	
1ea can opener	
2ea large plastic wash containers	
5ea sponges with abrasive side	
1ea dishwashing detergent	
4ea kitchen towels	
Salt	
Pepper	
1ea food mill	
1ea rolling cart for storage	
3ea plastic storage containers	
2ea folding tables	

Sourcing Food

Obviously, the best source for foods to cook in the classroom is the school's garden. Studies and experience show that when students are involved in growing and preparing fresh fruits and vegetables they will eat them, and love 'em! If your school doesn't have a garden, local farmers' markets are a great source. Emphasizing seasonal products helps students to have a closer relationship between where they live and what they eat. Also, fresh seasonal produce *tastes better*, you don't need to use complex recipes or lots of flavoring ingredients and students can learn to appreciate natural food flavors.

Other Helpful Tips

Have one or more adults to help supervise, as most cooking activities such as handling knives and hot items require careful supervision.

Send the recipe home with sourcing suggestions.

Have students wait for everyone to be served before eating, this teaches patience and consideration.

Students should participate in preparation and cleanup of cooking activities in order to learn that every part of the process is important.

Resources for Cooking with Kids in the Garden and the Classroom

Web Resources

www.vtfeed.org
www.kidscook.com
www.growing-minds.org
www.cookingwithkids.net
<http://www.edibleschoolyard.org/homepage.html>

Print Resources

Lunch Lessons: Changing the Way We Feed Our Children by Ann Cooper and Lisa Holmes
Kids Cook 1-2-3 by Rozanne Gold and Sara Pinto
Eating the Alphabet-Fruits and Vegetables from A to Z by Lois Ehlert
Growing Vegetable Soup by Lois Ehlert
Kids Cook Farm-Fresh Food: Seasonal Recipes, Activities, and Farm Profiles That Teach Ecological Responsibility by Sibella Kraus
Food is Elementary by Antonia Demas, PhD

Georgia Performance Standards

The following standards can be taught or enhanced through food activities

Science Standards

Kindergarten Science

Element: SKCS1a Raise Questions About World Around You

Raise questions about the world around you and be willing to seek answers to some of the questions by making careful observations (5 senses) and trying things out.

Element: SKCS3a Ordinary Hand Tools and Instruments

Use ordinary hand tools and instruments to construct, measure (for example: balance scales to determine heavy/light, weather data, nonstandard units for length), and look at objects (for example: magnifiers to look at rocks and soils).

Element: SKCS3b Make Something To Be Used To Perform a Task

Make something that can actually be used to perform a task, using paper, cardboard, wood, plastic, metal, or existing objects (for example: paper plate day and night sky models).

Element: SKCS4b Describe Changes

Describe changes in size, weight, color, or movement, and note which of their other qualities remains the same (for example, playing "Follow the Leader" and noting the changes).

Element: SKCS4c Compare Different Sizes

Compare very different sizes (large/small), ages (parent/baby), speeds (fast/slow), and weights (heavy/light) of both manmade and natural things.

Element: SKL1a Difference Between Living Organisms and Non-living Materials

Recognize the difference between living organisms and nonliving materials.

Element: SKL1c Group Plants According to Observable Features

Group plants according to their observable features such as appearance, size, etc.

Element: SKL2b Similarities and Differences in Plants

Explain the similarities and differences in plants (color, size, appearance, etc.).

Grade 1 Science

Element: S1CS4b Describe Changes

Describe changes in size, weight, color, or movement of things, and note which of their other qualities remain the same during a specific change.

Element: S1CS4c Compare Different Sizes

Compare very different sizes, weights, ages (baby/adult), and speeds (fast/slow) of both human made and natural things.

Element: S1CS7c Tools Often Give More Information

Tools such as thermometers, rulers, and balances often give more information about things than can be obtained by just observing things without help.

Element: S1CS7d Know the Needs of Living Things

Much can be learned about plants and animals by observing them closely, but care must be taken to know the needs of living things and how to provide for them. Advantage can be taken of classroom pets.

Element: S1L1c Parts of a Plant

Identify the parts of a plant - root, stem, leaf, and flower.

Grade 2 Science

Element: S2CS7d Know the Needs of Living Things

Much can be learned about plants and animals by observing them closely, but care must be taken to know the needs of living things and how to provide for them. Advantages can be taken of classroom pets.

Element: S2P1a Three Common States of Matter

Identify the three common states of matter as solid, liquid, or gas.

Element: S2P1b Changes in Objects

Investigate changes in objects by tearing, dissolving, melting, squeezing, etc.

Element: S2L1a Sequence of Life Cycle of Common Animals

Determine the sequence of the life cycle of common animals in your area: a mammal such as a cat or dog or classroom pet, a bird such as a chicken, an amphibian such as a frog, and an insect such as a butterfly.

Element: S2L1c Life Cycle of a Plant

Investigate the life cycle of a plant by growing a plant from a seed and by recording changes over a period of time.

Element: S2L1d Fungi

Identify fungi (mushrooms) as living organisms.

Grade 3 Science**Element: S3P1a Production of Heat Energy**

Categorize ways to produce heat energy such as burning, rubbing (friction), and mixing one thing with another.

Element: S3P1b Effects of Insulation

Investigate how insulation affects heating and cooling.

Element: S3P1d Measure Temperature of Water

Use thermometers to measure the changes in temperatures of water samples (hot, warm, cold) over time.

Grade 4 Science**Element: S4E3a States of Matter (Water)**

Demonstrate how water changes states from solid (ice) to liquid (water) to gas (water vapor/steam) and changes from gas to liquid to solid.

Element: S4E3b Freezing/Boiling Temperatures of Water

Identify the temperatures at which water becomes a solid and at which water becomes a gas.

Element: S4E3d Water Cycle

Explain the water cycle (evaporation, condensation, and precipitation).

Element: S4L1a Producers, Consumers, and Decomposers

Identify the roles of producers, consumers, and decomposers in a community.

Element: S4L1b Food Web/Chain

Demonstrate the flow of energy through a food web/food chain beginning with sunlight and including producers, consumers, and decomposers.

Element: S4L1c Impact of Change on Ecosystems

Predict how changes in environment would affect a community (ecosystem) of organisms.

Element: S4L1d Effects of Population

Predict effects on a population if some of the plants or animals in the community are scarce or if there are too many.

Grade 5 Science

Element: S5CS3b Measure and Mix Dry and Liquid Materials

Measure and mix dry and liquid materials in prescribed amounts, exercising reasonable safety.

Element: S5P2b States of Matter (Water)

Recognize that the changes in state of water (water vapor/steam, liquid, ice) are due to temperature differences and are examples of physical change.

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Recognize that the changes in state of water (water vapor/steam, liquid, ice) are due to temperature differences and are examples of physical change.

Element: S5L1a Animal Classification

Demonstrate how animals are sorted into groups (vertebrate and invertebrate) and how vertebrates are sorted into groups (fish, amphibian, reptile, bird, and mammal).

Element: S5L1b Plant Classification

Demonstrate how plants are sorted into groups.

Element: S5L2a Learned Behaviors vs. Inherited Traits

Compare and contrast the characteristics of learned behaviors and of inherited traits.

Element: S5L2b Genetics

Discuss what a gene is and the role genes play in the transfer of traits.

Element: S5L3b ID Plant Cell Parts

Identify parts of a plant cell (membrane, wall, cytoplasm, nucleus, chloroplasts) and of an animal cell (membrane, cytoplasm, and nucleus) and determine the function of the parts.

Element: S5L4a ID Beneficial Microorganisms

Identify beneficial microorganisms and explain why they are beneficial.

Element: S5L4b ID Harmful Microorganisms

Identify harmful microorganisms and explain why they are harmful.

Health Standards

Kindergarten Health

H.K.1.8 Personal Health Practices

The learner will be able to relate how personal health practices affect the functions of the skin (nutrition and hygiene).

H.K.2.1 Decision Making

The learner will be able to recognize that there are consequences to actions and behaviors.

H.K.4.1 Foods

The learner will be able to identify various foods by name.

H.K.4.2 Nutritious Foods

The learner will be able to select nutritious foods that contribute to good health.

H.K.4.3 Agricultural Origins

The learner will be able to recognize agricultural origins of common foods.

H.K.6.2 Senses

The learner will be able to identify the five senses and explains ways to protect the body parts related to them.

H.K.6.6 Health Decisions

The learner will be able to describe how personal health decisions can affect self and others.

Grade 1 Health

H.1.4.1 Food Selection

The learner will be able to recognize the reasons people need variety, balance and moderation in selecting foods.

H.1.4.3 Breakfast

The learner will be able to explain the importance of a nutritious breakfast.

Grade 2 Health

H.2.3.1 Persuasion

The learner will be able to analyze outside influences that can affect personal health decisions (e.g. TV and peer pressure).

H.2.3.4 Decision Making

The learner will be able to define and/or describe the relationship between choices and consequences.

H.2.4.1 Nutrition

The learner will be able to recognize that food contains nutrients for energy, growth, and health.

H.2.4.2 Meal Planning

The learner will be able to plan a nutritious meal based on the food guide pyramid (with emphasis on fruits and vegetables).

H.2.4.3 Snacks

The learner will be able to distinguish between nutritionally sound snacks and "junk food" (foods with minimal nutritional value).

Grade 3 Health

H.3.4.1 Food Choices

The learner will be able to associate the influence of cultural background on food choices.

H.3.4.2 Calories

The learner will be able to explain relationships among food, energy, and health.

Grade 4 Health

H.4.1.5 Digestive System

The learner will be able to recognize digestive diseases/illnesses (e.g., ulcers, colon cancer, eating disorders, and diabetes) and discuss methods of prevention.

H.4.1.7 Personal Health Practices

The learner will be able to relate how personal health practices dealing with nutrition, disease prevention, alcohol, tobacco products, and other drug use affect the functions of the digestive system.

H.4.4.1 Dietary Guidelines

The learner will be able to identify age-appropriate dietary guidelines.

H.4.4.3 Digestion

The learner will be able to conclude that foods must be digested before the body can use them.

H.4.4.4 Food Preparation

The learner will be able to recognize the role of proper food storage and preparation in the prevention of illness.

H.4.6.1 Personal Well Being

The learner will be able to relate the influence of rest, food choices, exercise, sleep, and recreation on a person's well being.

Grade 5 Health

H.5.4.1 Food Labels

The learner will be able to interpret USDA nutritional facts on food labels.

H.5.4.2 Nutrients

The learner will be able to determine the functions and sources of each of the six nutrients (carbohydrates, proteins, fats, vitamins, minerals, and water).

H.5.4.3 Marketing Strategies

The learner will be able to distinguish between fact, fiction, and opinion about nutrition and discuss how marketing affects our perceptions of the facts.

H.5.4.4 Dietary Imbalance

The learner will be able to explain dietary disorders and health problems associated with nutrient deficiencies and excesses.

H.5.6.1 Heart Disease

The learner will be able to describe risk factors for heart disease and proposes strategies for their prevention and techniques for controlling them.

Math Standards

Kindergarten Math

Element: MKN1.a

Count a number of objects up to 30.

Element: MKN1.d

Sequence and identify using ordinal numbers (1st-10th).

Element: MKN1.e

Compare two or more sets of objects (1-10) and identify which set is equal to, more than, or less than the other.

Element: MKM1.b

Compare and order objects on the basis of capacity.

Element: MKN1.d

Compare and order objects on the basis of weight.

Element: MKP4.c

Recognize and apply mathematics in contexts outside of mathematics.

Grade 1 Math

Element: M1N1.c

Compares small sets using terms greater than, less than, and equal to ($>$, $<$, $=$).

Element: M1N3.a

Identify one more than, one less than, 10 more than, and 10 less than a given number.

Element: M1N3.d

Understand a variety of situations to which subtraction may apply: taking away from a set, comparing two sets, and determining how many more or how many less.

Element: M1N4.c

Identify, label, and relate fractions (halves, fourths), as equal parts of a whole using pictures and models.

Element: M1M1.a

Directly compare length, weight, and capacity of concrete objects.

Element: M1M2.c

Compare and/or order the sequence or duration of events (e.g., shorter/longer and before/after).

Element: M1P1.a

Build new mathematical knowledge through problems solving.

Element: M1P1.c

Apply and adapt a variety of appropriate strategies to solve problems.

Element: M1P2.d

Select and use various types of reasoning and methods of proof.

Element: M1P4.c

Recognize and apply mathematics in contexts outside of mathematics.

Grade 2 Math

Element: M2N2.b

Understand and use the inverse relation between addition and subtraction to solve problems and check solutions.

Element: M2N3.a

Understand multiplication as repeated addition.

Element: M2N4.a

Model, identify, label, and compare fractions (thirds, sixths, eighths, tenths) as a representation of equal parts of a whole or of a set.

Element: M2N4.b

Know that when all fractional parts are included, such as three thirds, the result is equal to the whole.

M2M3 Measurement/Temperature

Students will estimate, then measure, temperature (Fahrenheit) and determine if estimations were reasonable.

Element: M2P4.c

Recognize and apply mathematics in contexts outside of mathematics.

Grade 3 Math

Element: M3N2.b

Use mental math and estimation strategies to add and subtract.

Element: M3N2.c

Solve problems requiring addition and subtraction.

Element: M3N3.f

Use mental math and estimation strategies to multiply.

Element: M3N3.g

Solve problems requiring multiplication.

Element: M3N4.a

Understand the relationship between division and multiplication and between division and subtraction.

Element: M3N5.g

Solve problems involving fractions.

Element: M3P1.a

Build new mathematical knowledge through problems solving.

Element: M3P4.c

Recognize and apply mathematics in contexts outside of mathematics.

Grade 4 Math

Element: M4N6.b

Add and subtract fractions and mixed numbers with common denominators. (Denominators should not exceed twelve.)

Element: M4N6.c

Convert and use mixed numbers and improper fractions interchangeably.

Element: M4M1.a

Use standard and metric units to measure the weight of objects.

Element: M4P1.a

Build new mathematical knowledge through problems solving.

Element: M4P1.b

Solve problems that arise in mathematical and in other contexts.

Element: M4P4.c

Recognize and apply mathematics in contexts outside of mathematics.

Grade 5 Math

Element: M5N4.c

Find equivalent fractions and simplify fractions.

Element: M5M2.a

Use milliliters, liters, fluid ounces, cups, pints, quarts, and gallons to measure capacity.

Element: M5M2.b

Compare one unit to another within a single system of measurement (e.g., 1 quart = 2 pints).

Element: MSP1.a

Build new mathematical knowledge through problems solving.

Element: MSP4.c

Recognize and apply mathematics in contexts outside of mathematics.

Basic Cooking Terms

Bake

To cook in an oven

Beat

To mix ingredients together using a fast, circular movement with a spoon, fork, whisk or mixer

Blend

To mix ingredients together gently with a spoon, fork, or until combined

Boil

To heat a food so that the liquid gets hot enough for bubbles to rise and break the surface

Broil

To cook under direct heat

Brown

To cook over medium or high heat until surface of food browns or darkens

Chop

To cut into small pieces

Dice

To cut into small cubes

Drain

To remove all the liquid using a colander, strainer, or by pressing a plate against the food while tilting the container

Grate or Shred

To scrape food against the holes of a grater making thin pieces

Grease

To lightly coat with oil, butter, margarine, or non-stick spray so food does not stick when cooking or baking

Knead

To press, fold and stretch dough until it is smooth and uniform, usually done by pressing with the heels of the hands

Marinate

To soak food in a liquid to tenderize or add flavor to it (the liquid is called a "marinade")

Mash

To squash food with a fork, spoon, or masher

Mince

To cut into very small pieces, smaller than chopped or diced pieces

Mix

To stir ingredients together with a spoon, fork, or electric mixer until well combined

Preheat

To turn oven on ahead of time so that it is at the desired temperature when needed (usually takes about 5 to 10 minutes)

Sauté

To cook quickly in a little oil, butter, or margarine

Simmer

To cook in liquid over low heat (low boil) so that bubbles just begin to break the surface.

Steam

To cook food over steam without putting the food directly in water (usually done with a steamer)

Stir Fry

To quickly cook small pieces of food over high heat while constantly stirring the food until it is crisply tender (usually done with a wok)

http://www.wicworks.ca.gov/education/nutrition/kidsRecipes/cooking_basicTerms.htm

1,2,3 Salad Dressing

1 tsp	Mustard
2 Tbsp	Vinegar
3 Tbsp	Oil
t.t.	Salt and Pepper

1. The type of oil, vinegar, and mustard you choose will drive the flavor of your dressing.
2. Place ingredients together in a clean, small jar with a well-fitting lid.
3. Shake well.
4. Add what you like to enhance the flavors in your salad. Fresh herbs, garlic, honey, hot peppers; let your tastes and imagination lead you!

Beet Apple Salad

2 ea	Medium-size Beets
2 ea	Small apples, one tart and one sweet, the crisper the better
(You want an equal amount of grated beets and apples)	
1 ea	Lemon, Juiced
1 tsp	Honey
Dash	Salt

1. Peel Beets, wash apples, juice lemon
2. Grate beets, grate apples
3. Add honey, lemon juices, and salt
4. Mix well, and enjoy!

Onyx's Sweet & Sour Smoothie

.75 lbs	Frozen Fruit
4 oz	Strawberry
4 oz	Pineapple
2 oz	Cherry
2 oz	Raspberry
8 oz	Low Fat Yogurt
6 oz	Frozen Juice Concentrate, thawed
3 oz	Grape or Cranberry
3 oz	Papaya or Mango
as needed	Orange Juice

Yield: approx 1 qt, or 8 servings

Method:

Place half of each frozen fruit variety in a blender with the juice concentrate, blend until smooth. Add the remaining frozen fruit, blend till smooth while slowly adding yogurt. Add OJ as needed for consistency. Taste, adjust if necessary. Enjoy!

Butternut Squash Soup

Yield: about 2 quarts, enough for 6 servings or 20 samples

1 Tbsp	Olive Oil
1 ea (1.5 cups)	medium Onion, diced small
1 ea (3 cups)	large, Butternut Squash, peeled and diced small
3 cups	Water
t.t.	Salt & Pepper

1. Place pan over medium heat, add oil
2. Add onion, cook until soft
3. Add squash and mix well, season with salt and pepper
4. Pour in water, bring to a boil, lower heat to a simmer
5. Simmer for 20 minutes, or until squash is completely soft
6. Puree with hand blender
7. Taste, adjust seasoning, enjoy

Garlicky Greens

Yield: about 20 tastings

2 lbs	Winter greens (Kale, Chard, Mustard, Collards)
1 oz	Butter
2 ea	Garlic cloves, sliced thin
As needed	Water for cooking
As needed	Water for washing
t.t.	Salt & Pepper

1. Wash greens in water, handling gently so as not to bruise them.
2. Remove stem from greens and tear into pieces about 2" around.
3. Place pan over low/medium heat, add butter.
4. Once butter has melted add garlic, cook slightly, do not brown.
5. Add greens, stir as greens wilt.
6. Season once greens have wilted.
7. Cook till tender, taste, adjust seasoning, serve and enjoy!

Pizza Dough

1 Tbsp	Active Dry Yeast
1 ½ cups	Warm Water
3 ½ cups	Bread Flour
1 Tbsp	Olive Oil
1 Tbsp	Salt

1. Stir yeast into warm water, let stand for at least 3 minutes
2. Mound bread flour on a clean work surface, or in a large mixing bowl. Create a well in the center of the mound.
3. Pour yeast and water into the well, slowly blend flour into the center.
4. Knead thoroughly until dough becomes elastic.
5. Cover, let stand at room temperature until double in size. Knock down, let stand for 15 more minutes.
6. Shape, top and bake in 500 degree oven.

Sautéed Squash

2 ea Winter Squash (Butternut, Acorn, or similar variety)
1 oz Butter
t.t. Salt

1. Peel squash with a knife. It helps to make a flat cut on one end to stabilize it on the cutting board.
2. Cut squash into a ½ dice.
3. Cut in half and remove seeds.
4. Place a large sauté pan over medium heat.
5. Add butter, if it sizzles rapidly turn heat down slightly, if it does not melt, turn heat up slightly.
6. Add squash, season to taste with salt.
7. Stir often, cooking until tender.
8. Serve and enjoy!