STEMming Up Healthy Eating

Fun Facts about Florida Produce!

- The United States Department of Agriculture defines specialty crops as "fruits, vegetables, tree nuts, dried fruits, horticulture and nursery crops."
- Fruit and vegetables are grown in Florida all year long.
- There are various types of gardens and ways to grow food.
- Science, technology, engineering and mathematics are involved in the production of fresh fruit and vegetables.
- The Fresh From Florida logo helps identify Florida grown fruit and vegetables.

Fruit and vegetables start from a seed. A seed is typically planted at a depth that is double the width of the seed. The size of the seed determines how deep it should be planted. In order for a seed to germinate, it requires warmth (usually in the form of light), moisture and air. Then, in order to grow, the seed requires light, moisture, air and nutrients. Different seeds have different needs. The seed packets purchased at the store contain various pieces of information including proper plant spacing, water and light requirements and harvest times.

Fill in the blanks using the paragraph above.

1. A seed needs _____, _____ and _____ to germinate.
2. A seed should be planted _____ the width of the seed.
3. It is important to consider _____, _____ and _____ when planting seeds.
4. The specialty crop I would like to grow is _____.

Did you know that several different kinds of fruit and vegetables can be grown in Florida? When you go grocery shopping and plan meals, use this Season Availability Chart to buy Fresh From Florida produce!

Florida Produce

Seasonal Availability Calendar

Fresh from Florida

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Avocado	■					■	■	■	■	■	■	■
Bell Pepper	■	■	■	■	■						■	■
Blueberry				■	■							
Broccoli	■	■	■									
Cabbage	■	■	■	■	■							■
Cantaloupe				■	■	■						
Carrot				■	■							
Cauliflower	■	■	■	■								■
Celery	■	■	■	■	■							■
Collard Green	■	■	■									■
Cucumber			■	■	■					■	■	■
Eggplant	■	■	■	■	■	■					■	■
Grapefruit	■	■	■	■	■				■	■	■	■
Lettuce	■	■	■	■								■
Mango						■	■	■	■			
Mushroom	■	■	■	■	■	■	■	■	■	■	■	■
Orange	■	■	■	■	■	■			■	■	■	■
Potato		■	■	■	■	■						
Radish	■	■	■	■	■						■	■
Snap Beans	■	■	■	■	■						■	■
Spinach			■	■								
Squash	■	■	■	■	■					■	■	■
Strawberry	■	■	■	■								■
Sweet Corn	■	■	■	■	■	■				■	■	■
Tangerine	■	■	■	■	■				■	■	■	■
Tomato	■	■	■	■	■	■				■	■	■
Watermelon				■	■	■	■					

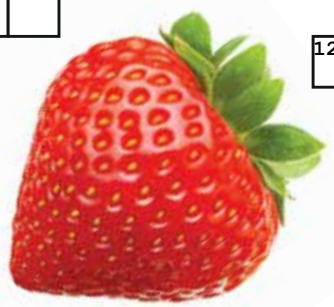
To learn more about Florida's Farm to School initiative, please visit:

FreshFromFlorida.com/FarmtoSchool • 1-800-504-6609

Florida Department of Agriculture and Consumer Services

The United States Department of Agriculture defines specialty crops as "fruits, vegetables, tree nuts, dried fruits, horticulture and nursery crops."

Use the clues to identify the specialty crops in the crossword puzzle.



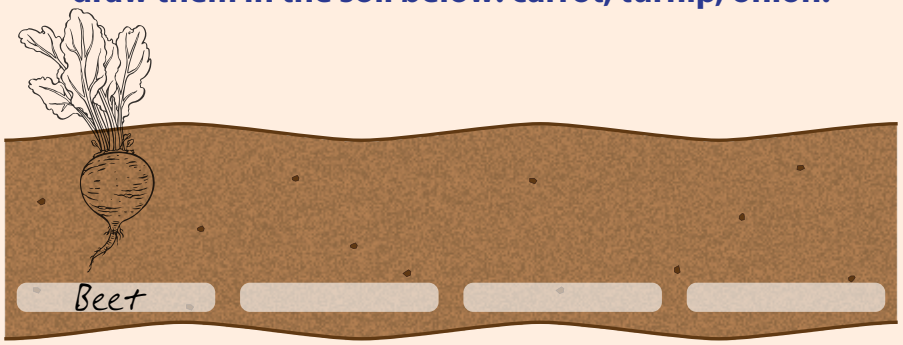
Across

3. This herb has a peppery flavor and is used in Mexican cuisine.
8. This starch is orange in color and tastes great baked or as fries.
9. This crop is often pickled.
10. This is our state fruit.
11. This crop usually contains three of these in a pod.
12. This sticky sweetener has the bees buzzing.

Down

1. This crop is known for its bright orange color and for being carved in October.
2. This is the only fruit that contains seeds on the outside.
4. This vegetable is grown in heads.
5. This green fruit has a nutty flavor with a smooth texture.
6. This purple flower is said to reduce stress and has a calming scent.
7. This bean is typically roasted, ground and brewed into a hot beverage.

Research the following specialty crop root vegetables and draw them in the soil below: carrot, turnip, onion.



Fill out the Mad Lib with a friend! Remember, adjectives are descriptive words and verbs are action words!

_____'s class wanted to plant a school garden. The class
name of teacher

had all of the tools and _____ knowledge necessary to do so. To
adjective

begin, _____ selected _____ and
name of same teacher *your name*

_____ to do the heavy lifting and carry the _____
friend's name *adjective*

tools to the garden. Before planting, the class had to build a fence to

keep the _____ _____s out. The class also had to fix the
adjective *animal*

_____ water hose from _____. Now that all of the
adjective *verb ending in ing*

challenges are out of the way, the class can begin their garden! The class

decided to plant a variety of _____ _____s and
adjective *name of fruit*

_____s. They are hoping to prepare _____, with a side
name of vegetable *favorite food*

of _____s.
name of vegetable

STEMming Up Healthy Eating

S is for Science!

Farmers crossbreed plants and animals to produce desired traits in offspring. Punnett squares help determine the probability that an offspring will have a given trait. Gregor Mendel experimented with pea plants. **Can you fill in the following pea plant Punnett Squares?**

	G	G
g		
g		

1. There is a _____ out of 4 chance that the offspring will be Gg.

	G	g
G		
g		

2. There is a _____ out of 4 chance that the offspring will be gg.

	G	g
g		
g		

3. There is a _____ out of 4 chance that the offspring will be Gg.

	g	g
g		
g		

4. There is a _____ out of 4 chance that the offspring will be GG.

	GB	gb	gB	Gb
GB				
gb				
gB				
Gb				

5. There is a _____ out of 16 chance that the offspring will be ggBb.

Each letter represents a trait in an organism. To achieve desired traits, specific plants and animals are crossbred to increase the chances of a desired offspring. **Circle the traits below that farmers would most likely desire.**

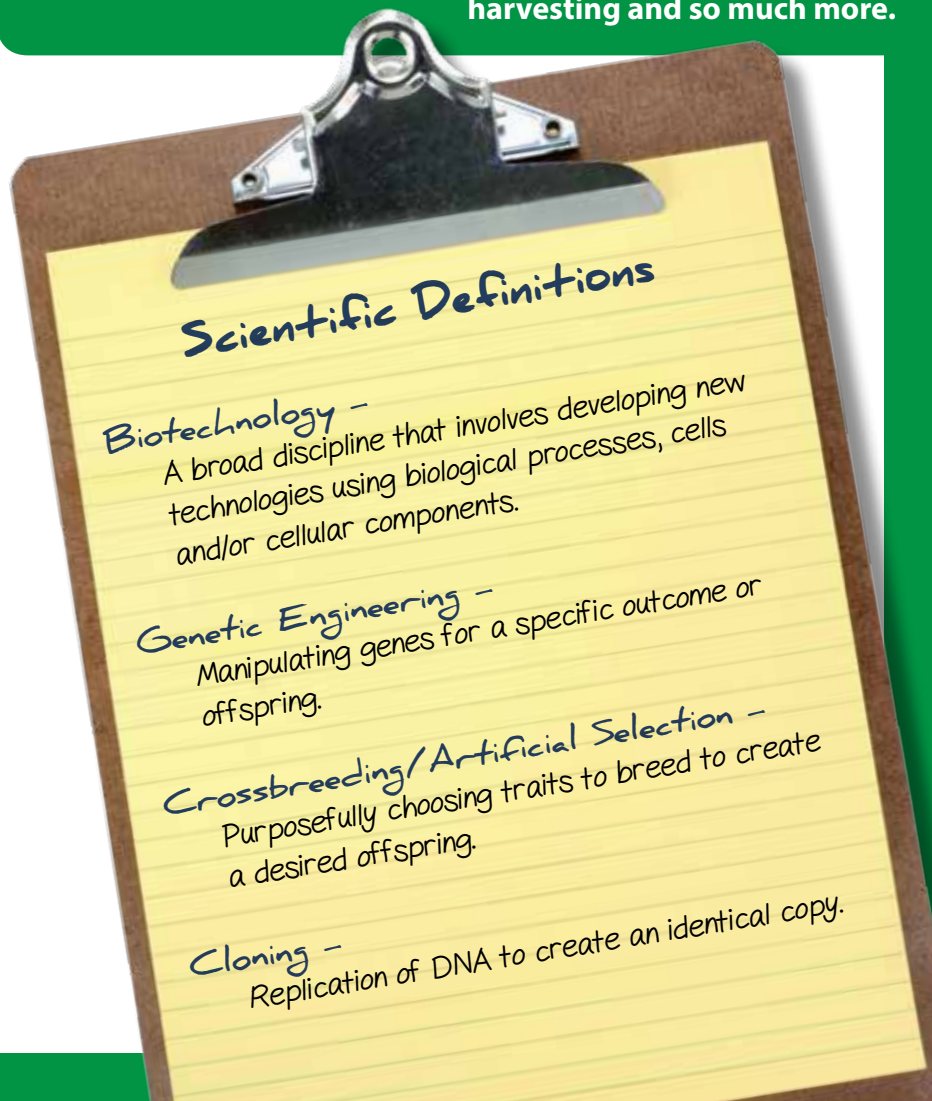
Disease Resistant **Discoloration** **Brightly Colored**

Drought Tolerant **Plump/Full** **Wrinkled**

The world has a variety of climates allowing us to grow different crops in different places! Florida's climate is Humid-Subtropical.

Circle Florida on the world map.

Did you know that science is used in several aspects of agriculture? Science is used for planting, breeding, growing, harvesting and so much more.



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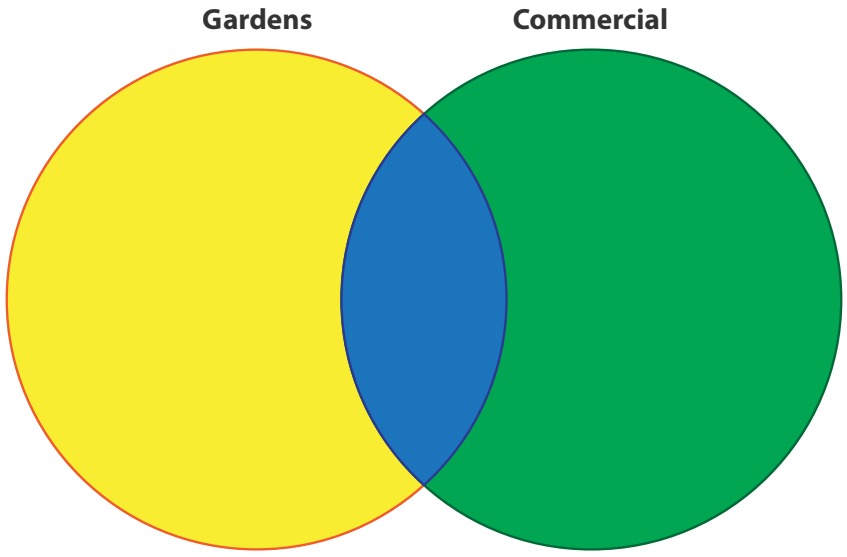
T is for Technology!

Create your own self-watering plant system!

Materials: plastic water bottles (with caps), string, soil, seeds, water, scissors

Directions: Remove the wrapper from water bottle and cut in half. Next, punch a small hole in the cap and string the string through the hole. Put the cap back on the top half of the bottle and flip the top half into the bottom of the bottle. Fill the bottom with water, wet the string and fill the top half with soil. Plant seeds in the soil and watch them grow!

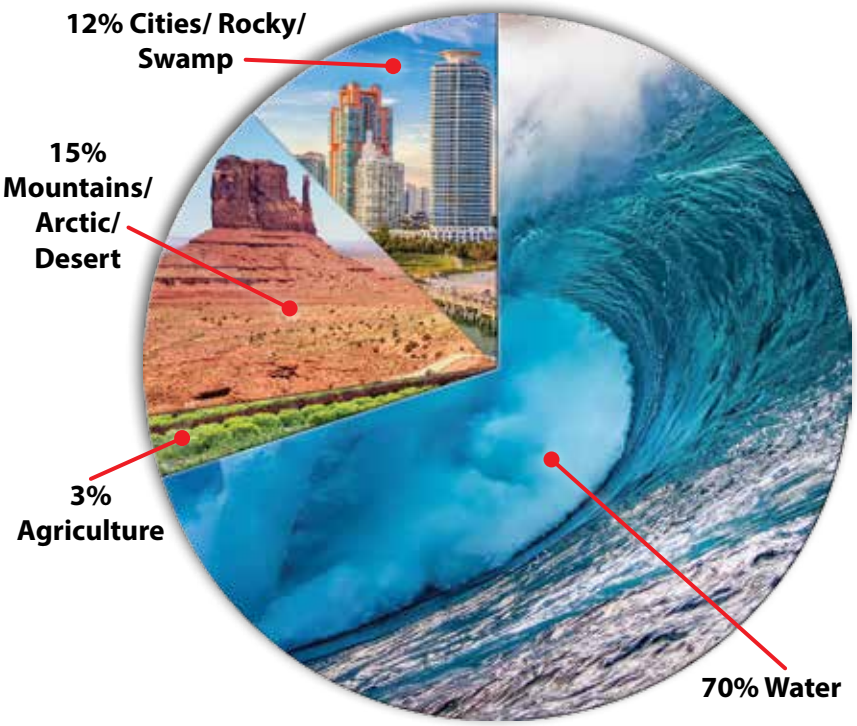
Use the word bank to sort out the similarities and differences between gardens and commercially grown food.



Word Bank

Small area of land
Large area of land
Heavy Equipment
Minimal equipment
Soil testing
Produces safe crops
Irrigation
Small labor force
Large labor force
Planning/Preparation
High yields
Small yields

Only 3% of the earth's surface is used for agriculture!



How can we grow more food for more people on less land?

Technology is used to create different methods of growing food. It is used in commercial agriculture as well as in gardens. Did you know that there are various types of gardens that contribute to feeding the world? Examples of gardens include container gardens, raised beds, hydroponics, rooftop gardens, commercial gardens, vertical gardens and more! **Use the space below or a separate sheet of paper to design your own garden or farm.**

STEMming Up Healthy Eating

E is for Engineering!

Can you engineer a raised bed?

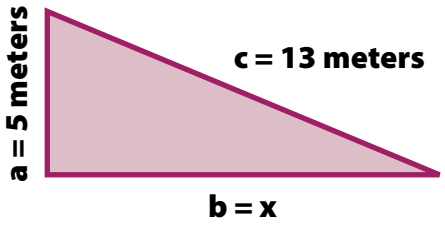
Notes about raised beds:

- Raised beds typically have 90 degree angles.
- Raised beds are made of wood, steel, bales of straw and more.
- Raised beds are filled with nutrient dense soil.
- Engineering a raised bed with triangles provides the builder with right angles.

In order to properly build a raised bed, it is important to understand right triangles! Essentially, two triangles put together determine the area of the raised bed.

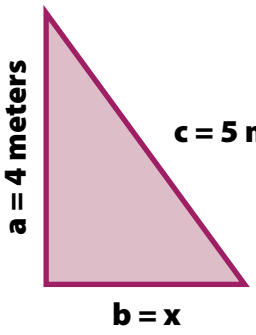
In the following questions, "a" represents the width of the triangle and "b" represents the length of the triangle. **Use the formula $a^2 + b^2 = c^2$ to find the length of the missing triangle legs.**

1.



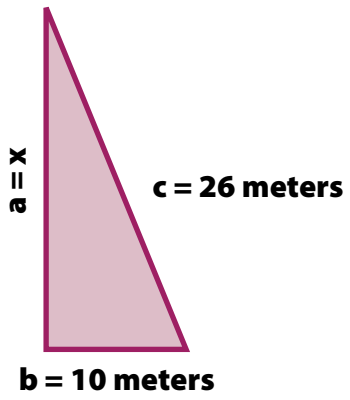
Answer: b = _____

2.



Answer: b = _____

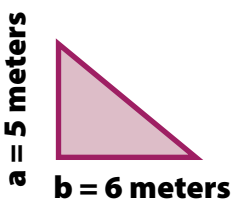
3.



Answer: a = _____

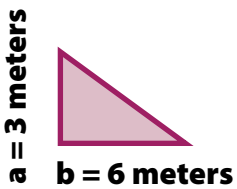
Knowing the area of triangles is important in determining how much planting room the raised bed has. **Find the area of the right angled triangles below using the formula Area = ab/2.**

4.



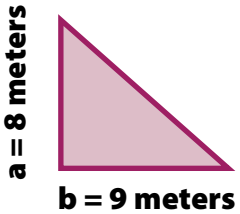
Answer: Area = _____

5.



Answer: Area = _____

6.



Answer: Area = _____

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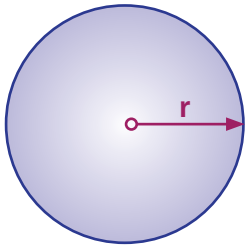
M is for Math!

Mathematics is used throughout agriculture and for producing crops! Farmers keep track of their inputs, yields, watering schedule, finances and more.

Irrigation is the application of controlled amounts of water to plants in specific intervals. Irrigation systems allow farmers to adjust watering schedules to meet plant needs. A farmer can choose from several irrigation systems. The central pivot system waters the area of plants in a circle similar to the photo above.

Can you find the area being watered in each circle? Use the formula Area = πr^2.

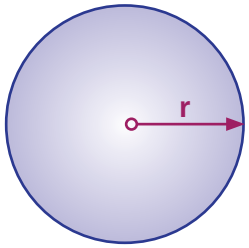
1.



r = 6 meters

Area = _____

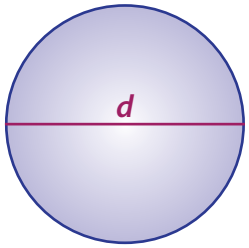
2.



r = 3 meters

Area = _____

3.



d = 16 meters

Area = _____

Before any gardening begins, it is important to know the soil type.
Each soil has specific amounts of sand, silt and clay. The amount of sand, silt and clay determine the soil type.

Use the Soil Textual Triangle to determine the soil type to the samples below.

Example: If a soil had 60% clay, find 60 on the clay side and follow the line in the direction of the arrow. Do this for sand and silt as well, be sure to follow the arrow for each type. The soil type is where all three lines intersect.

1.

50% Clay
20% Silt
30% Sand

Soil Type: _____

2.

10% Clay
70% Silt
20% Sand

Soil Type: _____

3.

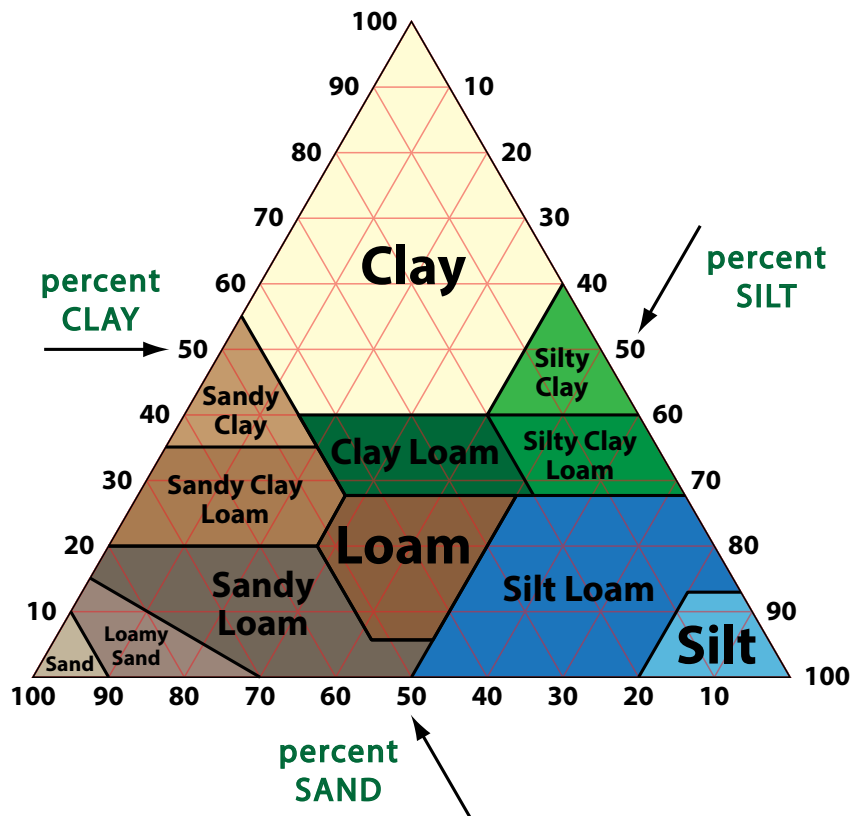
20% Clay
40% Silt
40% Sand

Soil Type: _____

4.

10% Clay
30% Silt
60% Sand

Soil Type: _____



Careers in Agriculture

Have you ever thought about a future in agriculture? There are various career opportunities in agriculture and in the specialty crop industry. Here are just a few:

Soil Scientist, Plant Breeder, Soil Surveyor, Plant Geneticist, Equipment Operator, Mechanic, Construction Worker, Welder, Structural Engineer, Irrigation Engineer, Machine Design Engineer, Sales Representative, Economist, Research Assistant, Land Appraiser, Harvester, Truck Driver, Farm Hand, Agriculture Education Teacher, Beekeeper, Nutritionist, Extension Specialist, Fish Farmer, Florist, Forest Ranger, Marine Biologist, Dairy Farmer, Nursery Manager, Swine Producer, Vegetable Farmer, Water Specialist, Zoologist, Poultry Farmer, Veterinarian, Drone Technologist, Food Scientist

Pick a career from the list above that interests you. Research and write a paragraph about what the job entails, tasks you world perform and tools that would be used.

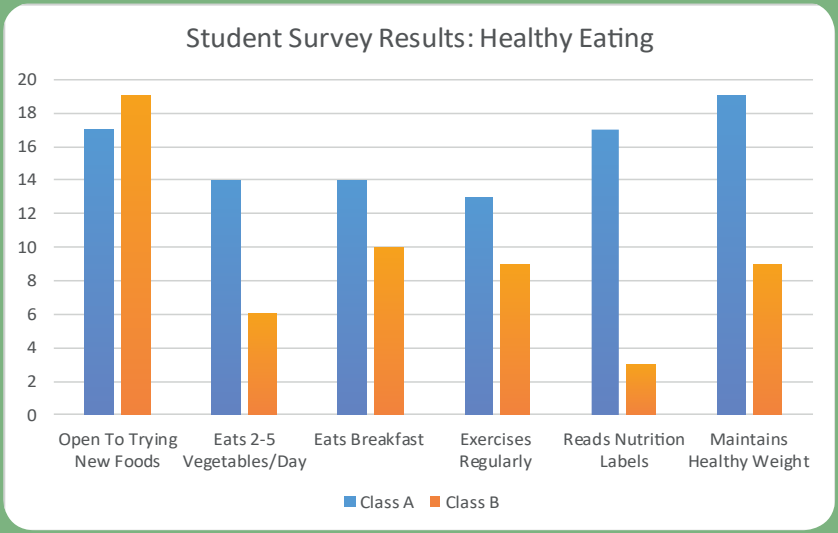
P	Z	S	K	M	I	P	U	S	C	M	S	N	R	M	M	H	O	E	M
W	H	U	K	E	V	V	C	U	Y	R	U	O	E	V	C	T	G	A	P
H	V	K	D	C	C	K	T	F	Y	T	E	Y	T	E	C	U	N	C	Z
E	L	Z	C	H	P	B	Q	V	R	O	Z	D	S	Q	S	A	M	R	D
Q	S	C	Z	A	J	G	Z	I	G	X	U	Y	E	X	G	S	F	E	T
Q	C	X	S	N	J	K	T	X	E	Z	U	D	V	E	S	C	T	V	C
Q	G	T	S	I	C	I	T	E	N	E	G	W	R	L	R	P	R	R	B
S	K	S	D	C	O	K	X	T	P	L	O	N	A	D	M	B	E	U	X
Z	I	P	T	N	Y	U	N	M	F	P	M	O	H	K	E	P	P	Y	D
J	T	L	I	S	D	C	V	L	E	N	G	I	N	E	E	R	H	E	A
Z	Q	S	Q	R	I	F	T	H	Y	Y	D	L	L	E	R	N	Z	F	P
G	T	M	X	D	R	T	G	O	Y	F	J	E	K	J	Q	F	O	W	L
G	N	Y	S	E	J	O	N	W	P	A	H	E	P	D	R	T	Z	K	J
A	G	C	W	Z	K	T	Y	E	S	E	E	V	B	L	R	S	B	M	F
X	E	O	P	A	C	K	E	R	I	B	R	T	O	P	K	I	O	Z	B
A	R	U	K	X	L	A	L	N	L	C	T	A	L	J	U	R	V	K	N
G	T	S	I	M	E	H	C	F	C	A	S	F	T	Y	X	O	Y	E	Y
J	V	W	H	I	K	B	W	C	U	A	Z	C	V	O	Z	L	H	U	R
I	F	S	P	U	A	R	R	E	O	N	E	V	H	G	R	F	J	D	E
O	R	S	Z	V	F	N	Q	S	E	W	C	X	Y	S	K	Z	E	E	V

Find the following specialty crop careers in the word search.

Scientist	Manager	Mechanic
Grower	Chemist	Nutritionist
Harvester	Operator	Beekeeper
Packer	Driver	Geneticist
Engineer	Breeder	Florist

Nutritious and Delicious

Fruit and vegetables are great for your health. Did you know that a balance between fruit and vegetables in your diet is very important? Fruit and vegetables have different amounts of sugar, fiber, fat and protein. Try to eat a variety of colors and try new things. If you are curious about the nutritional content in any food, you can visit the USDA's website and search the National Nutrient Database.



Answer the following questions based off the student survey results.

1. Which class has a larger number of students willing to try new foods? _____
2. Which class has more students exercising regularly? _____
3. How many students read nutrition labels in Class A? _____
4. Overall, which class do you believe is healthier? _____
5. List three reasons to support your answer to question four.
   1.
   2.
   3.
6. List two things that would benefit the overall health of each class.
   1.
   2.
7. What can you do to work toward a healthy lifestyle?

Food	Serving Size	Fiber (g)	Sugar (g)	Fat (g)	Protein (g)
Raw Carrots	1 cup chopped	3.6	6.07	0.31	1.19
Raw Strawberries	1 cup halves	3	7.43	0.46	1.02
Raw Spinach	1 cup	0.7	0.13	0.12	0.86
Raw Broccoli	1 cup chopped	2.4	1.55	0.34	2.57
Raw Apples w/Skin	1 cup chopped	3	12.99	0.21	0.33
Raw Blueberries	1 cup	3.6	14.74	0.49	1.1
Raw Sweet Potatoes	1 cup cubed	4	5.56	0.07	2.09
Raw Watermelon	1 cup diced	0.6	9.42	0.23	0.93
Raw Banana	1 cup sliced	3.9	18.34	0.49	1.64

Answer the following questions given the data in the chart. This data is pulled from the USDA's National Nutrient Database.

1. What fruit or vegetable on the chart has the least amount of sugar? _____
2. What piece of information is the same for all of the fruit and vegetables on the chart? _____
3. What vegetable has the most protein? _____
4. What item has the most fiber? _____
5. What item has the most sugar? _____
6. Make an inference about the amount of sugar in fruit versus the amount of sugar in vegetables.
   _____
   _____
7. After analyzing the chart, explain why it is important to eat a balance of fruit and vegetables.
   _____
   _____
   _____

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Visit www.faitc.org for the answer key and a list of Florida standards this activity newspaper meets.

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The mission of Florida Agriculture in the Classroom, Inc. is to increase agricultural literacy through PreK-12 education in Florida. Visit Florida Agriculture in the Classroom's website *www.faitc.org* for more information about the resources and grant money Florida Agriculture in the Classroom offers teachers.