

AGRICULTURE CAREERS



Table of Contents

Table of Contents	2
All about Agriculture Careers	3
Career Racing.....	4
Career Match	7
Career Assessment	8
Think Like a Farmer	14
Logically Thinking	17
Let's Interview!.....	19
Recommended Reading/Links.....	20

All about Agriculture Careers

Agriculture: The Science of Farming

Agriculture, or farming, is the science of cultivating soil, producing crops, and raising livestock. It is the nation's largest industry, employing approximately 23 million people in over 250 career areas. However, less than one percent of the population claims farming as their occupation. The remaining agricultural jobs can be segmented into seven areas: plant sciences, animal sciences, agricultural mechanics, agricultural business, environmental services, food science, and natural resources.

Illinois and Agriculture – A Great Combination

In Illinois, food and agricultural product processing contribute significantly to the state's economy. There are almost 1 million agriculture-related jobs in Illinois, making up over 13% of employees in the state. Illinois is one of the top ranking states in meat packing, soybean processing, dairy manufacturing, corn processing, feed milling, and vegetable processing. Its fertile soil, favorable climate, availability of good transportation, and industry make it one of the top agricultural states in the nation.

Educational Words:

High School Diploma – this is awarded for the completion of high school.

Associate's Degree – this is awarded by community colleges, junior colleges, technical colleges, and universities for the completion of a study that usually lasts two years.

Bachelor's Degree – this is awarded for an undergraduate course that generally lasts four years.

Certification – these are papers showing that a test or procedure was passed for a particular subject.

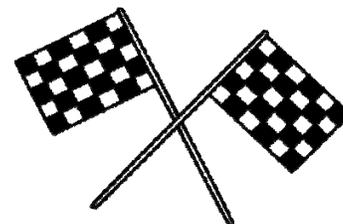
Why Illinois?

- Illinois leads the U.S. in processed food sales.
- Illinois is 2nd in the nation in corn and soybean production.
- Illinois is 4th in the nation for the number of farmers' markets.
- Illinois ranks 4th in the nation for agricultural exports.
- Illinois is 5th in the nation for processed food exports.

Career Racing

Common Core:

CCSS.ELA-Literacy.L.4.3; RI.4.9; SL.4.1; SL.4.4



Materials Needed:

- Career Ag Mag
- Race Board– 1 per student
- Career cards– 1 per student (some students may have the same card)
- Pencil– 1 per student
- Computers and internet access

Directions:

1. Introduce the word “agriculture” on the board in front of the class.
2. Have the students take a minute and recall any information they already know about agriculture. Tell them to be prepared with words to describe the word agriculture during the class discussion.
3. Have the students share their definitions and thoughts with the person sitting next to them.
4. Come together as a class and have students share their thoughts. Capture words and phrases on the board around the word “agriculture.”
5. Provide students with this definition of agriculture, to help bring all of their ideas together.
 - Agriculture refers to the production and delivery of food, fiber and fuel that humans need to survive and thrive.
6. Introduce the Ag Career Race! Hand out a card containing a brief description to each student.
7. Students will silently read their card, without sharing it with anyone. Answer any questions that students may have about the different careers (one-on-one).
8. Pass out the race board to each student. Make sure they all have a pencil before continuing.
9. Explain the directions for the game.
 - ⇒ Each person is given a game card with a career in agriculture. This will be their career for the day. When someone asks, “What do you do?” they respond, “I am a _____ and I _____” and fill in the blank with the career given and what that person does. For example, “I am a veterinarian, and I help sick and injured animals.” Try elaborating by having the students research the career they were given. Have them give more examples of what they would do if they were actually working with that career.
 - ⇒ Each student also receives a race board, which has different careers listed. Their goal is to get the initials of each person who has the career listed on their board.
 - ⇒ When I say “Go,” begin meeting your classmates. Ask “What do you do?” and they will respond, “I am a ___ and I ___.” Find their circle on your board, and get their initials. The first person to have all the circles initialed wins!
10. If students finish early, ask them to return to their seat and review the careers listed. Have students put a star next to the top three careers which are most interesting to them. Students should be prepared to share why these careers stood out.
11. Lastly, have students individually play “My Little Ag Me”, available at www.myamericanfarm.org.

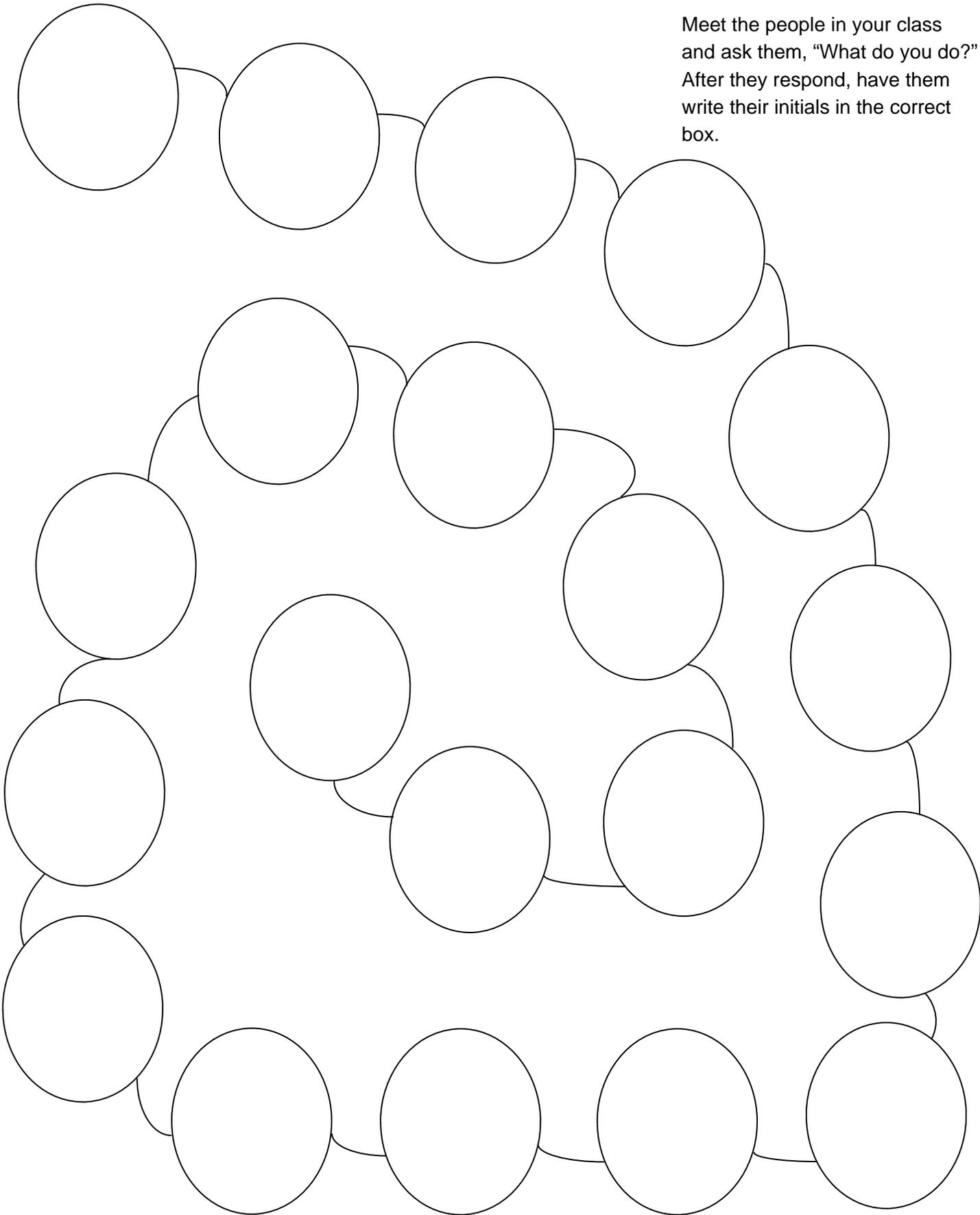
Adapted from American Farm Bureau Foundation for Agriculture.

CAREER CARDS

<p>Florist</p> <p>I love designing flowers for weddings and special events.</p>	<p>Veterinarian</p> <p>I keep animals healthy through check-ups, medicine, and diet.</p>	<p>Marketing Designer</p> <p>I use art skills to design ads and commercials for food products.</p>	<p>Farm Business Accountant</p> <p>I research and analyze farm data and prepare reports.</p>
<p>Tractor Mechanic</p> <p>I keep tractors and equipment running on the farm.</p>	<p>Botanist</p> <p>Botony is the study of plants. I am a plant researcher.</p>	<p>Cattle Farmer</p> <p>I raise cows, bulls, steers and heifers. Steers are raised for meat.</p>	<p>Sales Representative</p> <p>I serve customers by selling products and meeting customers' needs.</p>
<p>Welder</p> <p>I am an operator who joins metal parts together.</p>	<p>Heavy Equipment Operator</p> <p>I drive large tractors and equipment on farms.</p>	<p>Agronomist</p> <p>I study soil and crops that grow in the soil, like corn and soybeans.</p>	<p>Pig Farmer</p> <p>I raise pigs which are used for meat and many other products.</p>
<p>Environmental Engineer</p> <p>I work to improve the natural environment, and to provide healthy water, air, and land for human habitation and for other organisms.</p>	<p>Waste Management Specialist</p> <p>I plan, implement and coordinate systems to maximize waste prevention and identify opportunities for reuse and recycling.</p>	<p>Food Safety Specialist</p> <p>I preserve the food supply by assuring that it is wholesome, sound, and safe.</p>	<p>Research & Development Technician</p> <p>I modify, develop, test, or calibrate machinery and equipment.</p>
<p>Nutritionist</p> <p>I plan food and nutrition programs, and supervise the preparation and serving of meals. I promote healthy eating habits and suggest diet modifications.</p>	<p>Conservationist</p> <p>I work with landowners and governments to protect natural resources including soil and water.</p>	<p>Hydrologist</p> <p>I study underground and surface water. I help design irrigation systems, waste treatment plants, and flood warning systems.</p>	<p>Biological Technician</p> <p>I help biological and medical scientists conduct experiments and tests and analyze the results.</p>

RACE BOARD

Meet the people in your class and ask them, "What do you do?" After they respond, have them write their initials in the correct box.



Career Match

Common Core:

CCSS.ELA-Literacy.W.4.1; W.4.4; W.4.5; W.4.6; W.4.9



Directions:

Cut out each of the following agriculture job titles and the descriptions. Match each job with the correct description. Put them in order, from which job you like the most, to the job you would like the least. When you are finished, type a 1-page paper about your number one job choice. Spend time researching the job before completing the assignment. Include reasons why you chose that specific job and a detailed description of what the job requires.

1. Agricultural AVIATOR	A. I work for one of the world's leading supplier of plant genetics. I study crops like corn and soybeans, so we can help farmers grow better crops for consumers.
2. Agricultural Education TEACHER	B. I study what animals eat, and figure out what and how much they need to eat and stay healthy.
3. Crop SCIENTIST	C. I harvest trees so that you can have access to a variety of products made from wood, like paper and pencils. I work hard to effectively manage the environment, by planting new trees while protecting the soil, water and air.
4. Agricultural PHOTOGRAPHER	D. Crop dusting is one of the most common forms of my job. I work hard to keep plants healthy by stopping pests and disease.
5. Animal NUTRITIONIST	E. I make sure the food you eat is healthy, safe and tasty. I also have fun coming up with new food products and ways to eat food!
6. Greenhouse MANAGER	F. I study how animals behave, and how they interact with others. I work at a zoo with specialty animals like tigers and zebras.
7. Meat SCIENTIST	G. I am proud to raise healthy pigs which provide you with a nutritious and lean source of protein, pork!
8. FORESTER	H. I work in a public school to teach information about agriculture. My students may become farmers, mechanics, researchers, or simply informed consumers.
9. Animal BEHAVIORIST	I. I am in charge of buildings that are used to grow plants, including flowers, vegetables, fruits and even some trees.
10. Swine PRODUCER	J. I am involved in agriculture through my creative art. My work is used in magazines, newspapers, books, journals, advertisements and websites.

Career Assessment

Common Core:

CCSS.ELA-Literacy.L.4.3; W.4.1; W.4.4; W.4.5; W.4.6; W.4.9

Materials Needed:

- Holland's Interest Assessment and Hexagon Graph Worksheet for each student.
- Copies of the "Responses to the Career Assessment" and the "Agricultural Career Options" worksheets.

Directions:

1. Provide each student with a Career Assessment and Hexagon Graph worksheet. Ask students to answer the questions on the Career Assessment worksheet.
2. Go through the responses to the Career Assessment. Ask each student to indicate which characteristics they chose by making tally marks on the Hexagon.
3. At the conclusion of the questions, have the students add the number of tallies after each characteristic.
4. The students should have one or two characteristics with more tally marks than the others. Ask them to color these areas on the hexagon.
5. Hand out the Responses to the Career Assessment and the Agricultural Career Options worksheets. These worksheets include areas of study and career possibilities that may interest persons with these characteristics.
6. Ask each student to choose one or more career(s) from the career possibilities list that interests him or her.
7. Each student should research the career he or she chose and list job responsibilities, education requirements, salary, and how it relates to production agriculture.

Adapted from Utah Ag in the Classroom

Lesson Extender:

An Ag filled Hour

Have the students keep a journal of everything they did for an hour or two during the day. They will take that information and write a one page paper describing which agricultural careers were used during that hour(s), and what a persons job would require if they chose that career. See the section "An Ag Filled Day" on the Career Ag Mag to see examples.

Career Assessment

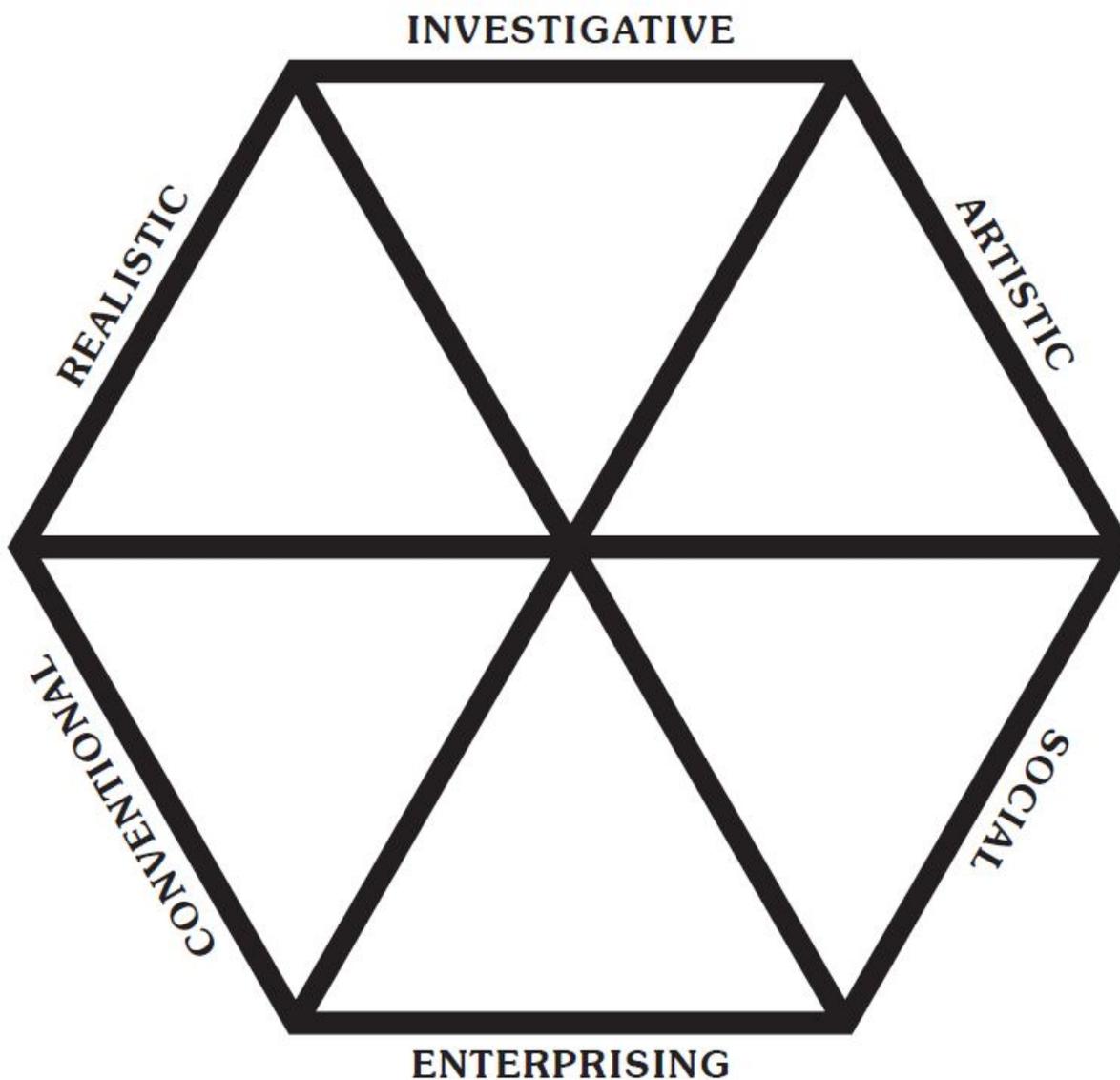
Holland's Interest Assessment

1. Do you enjoy working outdoors?
 Yes
 No
2. Do you prefer to work with:
 Things
 Alone
 Ideas
 People
 People and Ideas
3. Do you like to work with tools and machines?
 Yes
 No
4. Do you enjoy investigating what makes things the way they are?
 Yes
 No
5. Mark which of the following skills apply to you: (mark all that apply)
 Athletic ability
 Mathematical and scientific
 Artistic skills
 Leadership and speaking
 Numerical
 Social skills
6. Do you like to solve problems?
 Yes
 No
7. Do you have a good imagination?
 Yes
 No
8. Are you interested in human relationships?
 Yes
 No
9. Do you like to help others with problems?
 Yes
 No
10. Are you interested in economics and politics?
 Yes
 No
11. Do you like to try to convince people?
 Yes
 No
12. Do you enjoy working with words and numbers?
 Yes
 No
13. Do you carry out tasks in detail?
 Yes
 No
14. Do you follow through on others' instructions?
 Yes
 No
15. Do you enjoy creating original work?
 Yes
 No
16. Mark which of the following best describe you: (circle all that apply)
 - a) I like to do what people expect of me. I am truthful and practical. I like to save my money. I don't like to brag about myself.
 - b) I like to question and find out about things. I like to work by myself and do a good job, but I don't brag about how good I am doing.
 - c) I like to work by myself and come up with new ideas. I sometimes do things differently than others would. I am creative.
 - d) I like to help others. I am friendly, patient and understanding. People can trust me.
 - e) I am outgoing and popular. I think that everything will turn out for the best. I like to explore and I have lots of energy.
 - f) I like to do what people expect of me. I like to save my money. If something doesn't work the first time, I will try again until it does work.

Responses to the Career Assessment

1. If you answered *yes*, put a mark by *Realistic*.
2. If you marked *Things*, put a mark by *Realistic*.
If you marked *Alone*, put a mark by *Investigative*.
If you marked *Ideas*, put a mark by *Artistic*.
If you marked *People*, put a mark by *Social*.
If you marked *People and Ideas*, put a mark by *Enterprising*.
3. If you answered *yes*, put a mark by *Realistic*.
4. If you answered *yes*, put a mark by *Investigative*.
5. If you marked *Athletic Ability*, put a mark by *Realistic*.
If you marked *Mathematical and Scientific*, put a mark by *Investigative*.
If you marked *Artistic Skills*, put a mark by *Artistic*.
If you marked *Leadership and Speaking*, put a mark by *Enterprising*.
If you marked *Clerical or Numerical*, put a mark by *Conventional*.
If you marked *Social Skills*, put a mark by *Social*.
6. If you answered *yes*, put a mark by *Investigative*.
7. If you answered *yes*, put a mark by *Artistic*.
8. If you answered *yes*, put a mark by *Social*.
9. If you answered *yes*, put a mark by *Social*.
10. If you answered *yes*, put a mark by *Enterprising*.
11. If you answered *yes*, put a mark by *Enterprising*.
12. If you answered *yes*, put a mark by *Conventional*.
13. If you answered *yes*, put a mark by *Conventional*.
14. If you answered *yes*, put a mark by *Conventional*.
15. If you answered *yes*, put a mark by *Artistic*.
16. If you marked *a*, put a mark by *Realistic*.
If you marked *b*, put a mark by *Investigative*.
If you marked *c*, put a mark by *Artistic*.
If you marked *d*, put a mark by *Social*.
If you marked *e*, put a mark by *Enterprising*.
If you marked *f*, put a mark by *Conventional*.

Hexagon Graph Worksheet



INVESTIGATIVE—People who like to observe, learn, investigate, analyze, evaluate or solve problems.

REALISTIC—People who have athletic or mechanical ability, prefer to work with objects, machines, tools, plants or animals, or to be outdoors.

CONVENTIONAL—People who like to work with data, have clerical or numerical ability, carry out tasks in detail or follow through on others' instructions.

ENTERPRISING—People who like to work with people, influencing, persuading, performing, leading or managing for organizational goals for economic gain.

SOCIAL—People who like to work with people to enlighten, inform, help, train, or cure them, or are skilled with words.

ARTISTIC—People who have artistic, innovative or intuitional abilities and like to work in unstructured situations using their imagination and creativity.

Agricultural Career Options

My name is _____

My career characteristics indicate that I am:

I am interested in these careers:

Realistic DOERS

Appliance Mechanic
Aquaculturist
Automobile Body Repairer
Automotive Engineer
Automobile Mechanic
Baker/Chef
Carpenter
Construction Worker
Diesel Mechanic
Electrical Engineer
Farm Equipment Manager
Farmer
Farm Manager
Forester
Groundskeeper
Industrial Supervisor
Instrument Repair and Maintenance
Laboratory Technician
Machinist
Maintenance Repairer
Mechanical Engineer
Oceanographer
Truck Driver
Water Quality Specialist

Investigative THINKERS

Agronomist
Biochemist
Biologist
Cartographer
Chemical Engineer
Chemical Technician
Chemist
Computer Engineer
Computer Programmer
Computer Systems Analyst
Ecologist
Economist
Electrical Engineer
Hazardous Waste Technician
Horticulturist
Industrial Arts Teacher
Management Consultant
Marketing Research Analyst
Research Analyst
Software Engineer
Statistician
Technical Writer
Veterinarian

Artistic CREATORS

Advertising Art Director
Advertising Manager
Copywriter
Graphic Designer
Journalist/Reporter
Landscape Architect
Photographer
Writer/Editor

Agricultural Career Options

Enterprising PERSUADERS

Advertising, Marketing
Public Relations Manager
Advertising Sales Representative
Financial Planner
Financial Manager
Buyer
Computer Operator
Cook/Chef
Credit Manager
Educational - Training Manager
Educational Administrator
Food Service Manager
Foreign Service Office
Industrial Engineer
Interpreter
Journalist
Lobbyist
Manufacturer's Representative
Office Manager
Restaurant Manager
Retail Store Manager
Sales Representative
Stockbroker

Social HELPERS

College Professor
Community Planner
Dietician
Family and Consumer Sciences
Teacher
Home Economist
Occupational Therapist
Park Naturalist
Personnel Recruiter
Personnel, Training
Labor Relations Specialist
Public Health Educator
School Principal-Administrator
Secondary School Teacher
Special Education Teacher
Teacher's Aide

Conventional ORGANIZERS

Accountant
Administrative Assistant
Bank Teller
Budget Analyst
Computer Operator
Cost Accountant
Financial Analyst
Internal Auditor
Safety Inspector

Think Like a Farmer

Common Core:

CCSS.ELA-Literacy.L.4.3; SL.4.1; SL.4.4

Background:

The job of a farmer requires much more than knowing about crops. Today's farmer uses computers and global positioning technology (GPS) to help determine where to plant crops. Other aspects of a farmer's job requires knowing about animal science, weather, and stock markers. Farmers use this knowledge to make decisions everyday.

Materials Needed:

- Career Ag Mag
- Farmer "Scenario Cards"
- Tape
- Markers
- Paper

Directions:

1. Start off by asking students what skills farmers need to do their jobs. Record the responses on the white board or a large piece of paper.
2. Prepare Farmer "Scenario Cards" for student use. Sample scenario cards are included. Each student will receive one scenario.
3. Prepare a category chart on the white board or wall for students to place cards on. The categories represent the knowledge/skills farmers need to do their jobs. Include the following categories:

Animal science

Technology

Meteorology (weather)

Botany (plants)

Bookkeeping

Commodity markets

Other

4. Have students read their card aloud. Then, have students place it in a category and explain why they put it there.
5. Finally, have students predict changes in agriculture for the year 2050.

Discussion Questions:

1. Did you discover anything new?
2. What type of training and education do farmers need?
3. What are you learning in school that might relate to a farmer's job?
4. How does a farmer use technology? How do you use technology?

FARMER SCENARIO CARDS

Your soybean plants are not growing very well this year. The plant color is light green and the leaves have small black spots. Is this a new plant disease?

Farming requires book and record keeping. You need a quick, easy way to organize this information.

Last year, corn was extremely profitable. Should you only plant corn?

Weather forecasters are predicting heavy rains this week. You planned on spraying fertilizer. Should you?

The price for corn keeps changing. Should you store your corn? Or, should you sell it?

A cow has a broken leg and needs care NOW. There is no time to call for help. It is up to you!

You need to get the latest information on the prices of farm products.

The last spring frost is predicted for April 14. It is April 13th and the weather is still very cold. Do you prepare to plant crops on April 15? Or, do you wait?

You are working in the fields and the temperature drops. Is a storm coming? You need current information about the weather.

You are a first-time pork farmer. Your sow just gave birth to a litter. What do you need to consider?

FARMER SCENARIO CARDS

It is 2 AM. Your favorite mare is giving birth to a filly SOON! The veterinarian is 30 minutes away.

After 10 years of farming in California, you decided to relocate and farm in Illinois. You need to make decisions about what crops to plant.

It has been raining for two weeks straight. Do you plant now or wait?

There are 50 acres of farmland for sale near your property. This land was once owned by organic farmers, but would be an asset to your successful farm. Do you buy?

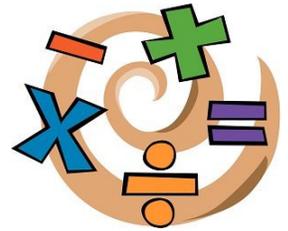
Soybean prices rose to \$6.80 a bushel. Do you sell now? Or, do you wait?

Your combine just broke down. Weather predictions indicate a large hail storm next week. You need to get the combine fixed and the crops out of the field.

There is a new beetle eating your crops. What do you do?

It's tax time. You need to determine your farm's earnings for the year.

Logically Thinking



Common Core:

CCSS.ELA-Literacy.RI.4.5; RI.4.6

Background/Directions:

The Smith brothers researched each career featured at the local career fair and then attended the fair. Each of them picked two careers that interested them. Use the clues to find out each person's career choice. The chart below will help you identify what you learned from each clue. In the square where the vertical and horizontal lines meet is where you mark your possible answers. Read each clue and record the information on the chart. When you find a true match, put a yes in the appropriate box. When you prove a combination false, put an x in the box. Continue until you find all the answers. Each person will have two careers. Each career will have only one person.

1. The person who enjoyed learning about veterinarians also chose feedlot manager.
2. Daniel did not pick the forester.
3. Joshua was not interested in being a farmer or a feedlot manger.
4. Daniel did not choose the writer.
5. Bret was not interested in being a photographer or a food safety specialist.
6. Jacob did not choose the teacher.
7. Michael did not choose to be a forester.
8. The person who chose to be a farmer also chose the writer.
9. Bret picked either the writer or the feedlot manager.
10. Jacob did not choose the food safety specialist.
11. Bret was not interested in being a forester.
12. Michael did not choose the farmer or the food safety specialist.
13. Jacob chose either the food safety specialist or the conservationist.
14. Joshua did not choose the forester or the writer.
15. The person who chose the chemist did not choose the teacher.
16. Bret did not choose the feedlot manager.
17. The person who chose the photographer also chose the teacher.
18. One person chose both the chemist and the food safety specialist.
19. Joshua chose either the conservationist or the teacher.

	Farmer	Forester	Vet	Chemist	Photographer	Writer	Feedlot Manager	Teacher	Food Safety Specialist	Conservationist
Jacob										
Daniel										
Joshua										
Michael										
Bret										

Logically Thinking (Answer Key)

	Farmer	Forester	Vet	Chemist	Photographer	Writer	Feedlot Manager	Teacher	Food Safety Specialist	Conservationist
Jacob	X	YES	X	X	X	X	X	X	X	YES
Daniel	X	X	X	YES	X	X	X	X	YES	X
Joshua	X	X	X	X	YES	X	X	YES	X	X
Michael	X	X	YES	X	X	X	YES	X	X	X
Bret	YES	X	X	X	X	YES	X	X	X	X

Jacob chose Forester and Conservationist.

Daniel chose Chemist and Food Safety Specialist.

Joshua chose Photographer and Teacher.

Michael chose Veterinarian and Feedlot Manager.

Bret chose Farmer and Writer.

Let's Interview!



Common Core:

CCSS.ELA-Literacy.L.4.3; SL.4.1; SL.4.4

Directions:

1. Exposing students of all ages to the world of work can broaden their perspectives and spur them to more interesting and productive careers! Take time to conduct mini interviews with each student.
2. Give the students a list of sample questions that they will ask their peers and also answer themselves. Allow the students to practice with their classmates before meeting one on one with the teacher.
3. The students will now meet with the teacher. Use some of the questions below during the interview. The students will become more comfortable with speaking and listening and will have the opportunity to see the teacher modeling how to answer interview questions.

Lesson Extender:

Ask questions related to a specific career that the child has researched and is interested in.

Questions to ask the student:

1. Would you like to work alone or in a group?
2. Would you rather work inside or outside?
3. Would you prefer working during the day or the night?
4. Would you mind wearing a uniform?
5. Would you like to make things or sell things?
6. Would you rather travel or stay close to home?
7. Would you like to work with your hands?
8. Would you prefer to give directions or follow directions?
9. Would you rather use communication skills or math skills?

Questions the student can ask the teacher:

1. What were your favorite school subjects?
2. What did you like to do with your free time?
3. What career did you think about when you were a child?
4. Did you follow the career path you dreamed about when you were a child? Why or why not?
5. Who helped you make your career decision?
6. What did you learn in school that helped you the most?
7. What is your favorite thing about the work you do now?
8. What skills in elementary school did you learn that you use in your work now?

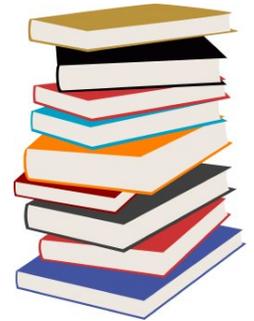
Recommended Reading/Links

Books:

Career Ideas for kids who like Animals and Nature by Diane Lindsey Reeves
ISBN-13: 9780816065400

Career Ideas for kids who like Science by Diane Lindsey Reeves ISBN-13:
9780816065509

Careers in Agriculture by Christopher Benson ISBN-13: 9780898120172



Career Links:

Ag Career Apps (search the app store on your smartphone):

Ag Career Finder

Agcareers.com

Illinois Farm Bureau:

<http://www.ilfb.org/resources/ag-careersopportunities-in-ag/jobsinagcareerlist.aspx>

Agriculture Council of America:

<http://www.agday.org/education/careers.php>

Department of Labor:

<http://www.bls.gov/ooh/farming-fishing-and-forestry/home.htm>

Illinois Agriculture Education:

<http://www.agriculturaleducation.org/>

Careers/Occupations/Colleges in Illinois:

<http://www.mycaert.com/career-profiles/>

My Next Move:

<http://www.mynextmove.org/find/browse?c=11>

Video interviews of people working in ag from Utah's Agriculture in the Classroom:

<https://www.youtube.com/playlist?list=PL7B61381EE0438243>

USDA AITC National Resource Directory:

<http://www.agclassroom.org/directory/index.cfm>



Illinois Agriculture in the Classroom

1701 Towanda Ave.

Bloomington, IL 61701

Phone: 309-557-3334

Fax: 309-557-2098

www.agintheclassroom.org



facebook.com/agintheclassroom



twitter.com/ilagclass



pinterest.com/iaitc

Illinois Agriculture in the Classroom Ag Mags are four-page colorful agricultural magazines for kids. They contain information about agriculture, classroom activities, career interviews and bright pictures.

To place your order for this **FREE** resource, visit www.agintheclassroom.org to find your county contact information.