



Suri Network Youth Program



Resource Book



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What is 4-H?

“4-H is a community
of young people
across America who
are learning
leadership,
citizenship and life
skills”

The 4-H organization offers a wide variety of projects and activities, including workshops, conferences, camps, community service, and leadership development. The organization provides opportunities for both youth and adults at the local, district and state, national, and international levels. Many projects and related curriculum are detailed in this guide. More may be available through your local 4-H extension office.

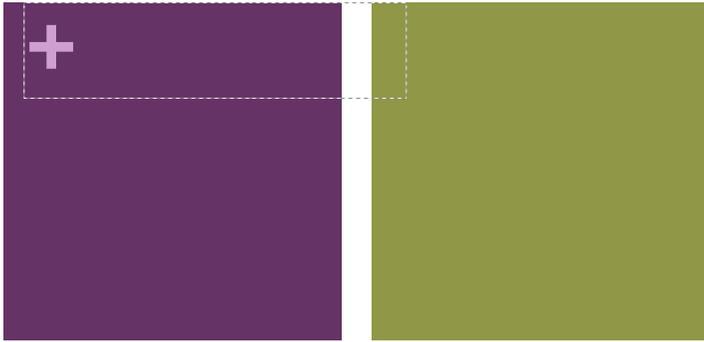
The eight major project areas include:

- Animal Sciences
- Engineering and Technology
- Environmental Stewardship
- Expressive Arts
- Family and Consumer Sciences
- Interdisciplinary
- Plant Sciences
- Social Sciences

4-H is represented by the *National 4-H Council*, a private sector non-profit partner of 4-H and the Cooperative Extension System. The council focuses on fundraising, brand management, and communications, legal and fiduciary support to national and state programs. It is the mission of this council to advance the 4-H youth development movement to build a world in which youth and adults learn, grow and work together as catalysts for positive change.

The council is also responsible for operation of the full service **National 4-H Youth Conference Center** in Chevy Chase, Maryland and the **National 4-H Supply Service**, the authorized agent for items bearing the 4-H name and emblem.

For information on scholarship and donation opportunities, please see your 4-H leader or program director for information and the proper forms.



Since ancient times, the South American Andes Mountains have been the ancestral home to the prized alpaca. The alpaca's fleece was cherished by members of the Incan civilization, often referred to as the "Fiber of the Gods."

In the 17th century, Spanish conquistadors killed a large portion of both the Incan and alpaca populations, forcing the remaining survivors to seek refuge in the high mountain plains known as the Altiplano. The high altitude and harsh landscape insured only the hardiest of these creatures survived and the ancestors of today's best bloodlines have provided a gene pool that is producing, hardy agile animals with dense, high quality fiber.

The Alpaca

Facts and Figures



A small group of importers brought the first carefully selected herd of the highest quality alpacas to the United States and Canada in 1984. Upon arrival, these gentle creatures immediately became a beloved part of the North American landscape.

Peru, Bolivia and Chile are home to the largest population of alpacas in the world and alpaca breeders in the United States have learned much from their southern neighbors.

When learning about a country and its culture, it's also important to learn about the climate and weather conditions. Alpacas originate from several different South American countries. Below are some facts about the countries they live in.

- **Peru**

The average temperatures range from 70° in January to 50° in June on Peru's seaboard, which is located in the tropical zone. In the Sierra, temperatures range from 48° to 58°, while in the Amazon region it can reach 90° year round. Rainfall here only occurs during the winter months, which are from May to October.

- **Bolivia**

Here weather conditions often vary over short distances. While temperatures are less variable from month to month. Average temperatures in the coldest months, June and July and the warmest month, November, are 43.5-51.8° respectively. Rainy season lasts from approximately October to March, with an average annual rainfall of 22.6 inches. The southwestern portion of Bolivia is arid and agriculture there is largely dependent on irrigation.

- **Chile**

Here climate conditions vary on the extreme. Arid climates prevail over the northern part of the country averaging about 0.04 inches in rainfall throughout the year.

Temperatures are also the hottest in the north, with a high of 72° in February and low of 60° in July. In contrast, the southern region is cool and rainy year round.

Characterized by abundant low clouds, the average temperature reached 57° in January and drops to 40° in July. Average rainfall here reaches 119 inches every year.

Alpacas are a member of the Camelid family, which also includes Dromedary and Bactrian camels, llamas, vicuñas and guanacos. They are a modified ruminant having three stomachs, instead of four and chew cud similar to a cow. Alpacas selectively graze, eating pasture grasses and hay, a fact that makes feeding them relatively inexpensive.

In addition, there are two different types of alpaca, the suri and the huacaya. Over 90% of the alpacas in the world are huacaya and have a short, dense, crimped fleece, giving them a woolly, sheep like appearance. The suri are the rarer of the breed and have a lustrous, fine, dense fleece that hangs in long curling locks.



General Information:

- **Average Height**
 - 36 inches at the withers (shoulders)
- **Weight**
 - 100-150 pounds for adult females
 - 125-200 pounds for adult males
- **Life Span**
 - 20 to 25 years
- **Color**
 - 22 recognized natural colors –more than any other animal
- **Intelligence**
 - Alpacas are very well developed social animals. They communicate with one another using a gentle humming sound. Alpacas often combine this verbal communication with body positioning.
- **Offspring**
 - Baby alpacas are called “cria.” A female alpaca has a gestation of 11-12 months, after which a single cria is born. Multiple births are very rare but do happen. Average cria weigh between 13 and 20 pounds. Most can stand and are able to nurse within one hour of birth.



Caring For Alpacas

The majority of information presented in this *Caring for Animals* chapter, was originally published and distributed by The Ohio State University Extension in *Caring for Animals --- Discussion Guide*. The *Discussion Guide* was for use in conjunction with the *Caring for Animals -- -Video*.

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Everyone associated with livestock, either on the farm or in the show ring, is responsible for the well being of their animals. As a 4-H and/or FFA participant, you need to learn to care properly for your projects and develop acceptable husbandry skills. Your duty as a member of the Suri Network Youth Program is to properly care for your animals. As a 4-H or FFA animal owner, you need to understand the goals and objectives of the Suri Network Youth Program and the responsibilities expected of you.

Goals and Objectives

- Increase the awareness of the issues of animal well being, quality assurance, and show animal ethics.
- Encourage you, the 4-H or Future Farmers of America (FFA) member, to reflect on your values concerning these issues.

Responsibilities

- Treat all livestock projects in your possession humanely
- Be sincere and believe in the value of a job well done
- Be loyal to the values and ideals of the 4-H and/or FFA program
- Accept guidance and decisions of the program coordinator
- Have a willingness to learn and participate in training programs and meetings
- Continue learning throughout your time as a member of 4-H and/or FFA
- Follow good practices insuring a safe, wholesome product of the highest quality
- Share knowledge with and inspire your 4-H and/or FFA colleagues
- Represent the 4-H and/or FFA organizations to the highest standard

Rewards

- Receive public and personal recognition
- Learn new skills, special training, experience personal growth
- Make new friends and have fun
- Know you are special and can make a difference



Animal Well Being

As a 4-H and/or FFA member, you need to be aware of the things you can do with your own animal to promote animal well being. The image of the agricultural industry and the 4-H and FFA programs are affected by the decisions you make and actions you take in the care of your animal. You need to set goals and develop a plan that will positively impact your animals health and safety, whether on the farm, in your backyard, or at the county fair.

You can complete some tasks before you even obtain your animal. First, think about the size your animal will be as it grows to maturity. Are your facilities large enough? Is there room for the animal to exercise? Are there hazards such as protruding nails, broken boards, or wire? Is there potential for the animal to reach dangerous objects? (For example, electrical boxes or poisonous plants.) Think about the type of bedding you are providing. Will it keep the animal dry and comfortable? Can you provide an ample supply of clean water to your animal at all times?

A feeding area should be designated and kept free of manure, urine, and bedding. Once your animal arrives and is in your care, providing it with a balanced ration is an important first step. Processed feeds, supplements, and pre-mixed grains are available to you. Be sure your animal is receiving the nutrition it needs in relation to its age, growth cycles and purpose. Your animal also needs special consideration if it is in gestation or lactation.

Animal Health

When questions or concerns arise, involve your veterinarian. Develop a veterinarian-client-patient relationship (VCPR). This relationship requires that the vet has seen and has knowledge of the animal (patient) and has discussed a health plan or any treatments with the owner (client). Your veterinarian can assist in developing a health care program for the animals in your care. This plan should include an appropriate schedule for vaccinating, castrating, internal/external parasite control, etc.

You should check with your vet before administering treatments, especially if there is any question about the diagnosis or medication you plan to use. If injections are necessary, give them in the proper location using good technique, so as not to injure the animal. Injection sites in the thigh are recommended and use of subcutaneous (SQ) injections (under the skin) whenever allowed by the label directions.

A withdrawal time may be indicated on the label of certain medications. This is the period of time that must pass between the last treatment and the time the animal may be slaughtered. For example, if a medication with a 14-day withdrawal period was last given on August 1st, the withdrawal would be completed on August 15th and that would be the earliest the animal could be processed for human consumption. It is important that you follow withdrawal time directions as stated on the label or as prescribed by your veterinarian.

In addition to the withdrawal time, the label of a drug lists the animal species for which it is approved for use, the dosage to be administered, how it is to be given, and for what diseases/conditions it can be used as treatment. Any use of the drug, can only be directed or prescribed by your veterinarian. An example would be, a neighbor's animal is sick and a vet has treated it using twice the dose listed on the label of an over-the-counter (OTC) product. Your animal becomes ill and is showing the same symptoms as your neighbor's. You may not use the neighbor's double dose for your animal without a vet examining and prescribing the specific treatment. Any deviation from the label directions when using a drug is referred to as extra-label drug use. Unless otherwise directed by your vet who has established a VCPR, extra-label drug use is illegal.



Each animal in your care should be permanently identified. Individual animal identification enables good record keeping from which you can measure your progress. If your animal becomes lost, stolen, or needs medical attention when you are not available, the only way to know the animal's identity and health history is by permanent identification. This is most commonly done by tattooing or in the alpaca industry, by inserting a small microchip under the skin at the base of the ear.

From the day you acquire your project animal until the day it leaves your care, you should maintain feed and treatment records. This is important for the day-to-day care of your animal and for whoever might later purchase them. This is also the best way to keep track of the type and amount of expenses you incurred over the duration of your project.

Training Your Animal

Acquainting yourself with your animal(s) needs to begin at an early age, or as soon as you acquire it. If at all possible, you should spend time with your animal daily. As you walk, stand, and set up your animal, you develop a trust in each other and become accustomed to each other's movements. You will also form an awareness of what sounds or sights bother your animal and in which direction it tends to jump or shy away. Handling your animal on a daily basis also helps you recognize any abnormal behaviors in the animal that could signal illness, stress, or pain. The longer you avoid working with your animal, the more difficult training and preparation for a show becomes. Keep in mind the two "P's," --- **practice and patience** --- usually pay off.

Finally, if you plan to exhibit your animal for show, continue the same quality care program throughout the exhibition as you do at home. This starts by loading and hauling your animal safely and with concern for its well being. The exhibition facilities should be prepared and checked ahead of time, just as you prepared the facility at your home when you first acquired your animal.

Continually watch the animal for signs of stress, pain or illness. Exercise your animal daily and keep the corral area clean. Feed and water the animal regularly.

Quality Assurance & The Livestock Industry

With the start of your livestock project you have now become a member of the livestock industry. This industry, like any other, provides a product to the public, be it for consumption or fiber production.

Think back to some time when you bought a product and were disappointed with it. Would you buy it again? Consumers will choose to buy or not buy a product based on their perception of the products quality and value. What would happen to a business if no one purchased its products? Many businesses have a *quality assurance* department to make sure the products are of the highest quality. Businesses pay close attention to the quality of their products to build consumer satisfaction. When quality is high, consumers will buy again. In the livestock industry, products must be safe, wholesome and produced in a manner that meets customer approval.

Who is in charge of quality assurance in the livestock industry? When you feed and care for an alpaca, who is responsible for assuring that it is a high-quality product? Is it you, the breeder or even the buyer? **Everyone involved in the livestock industry is obligated to do his or her part to provide a quality product to the buyer.**

In the alpaca industry, quality assurance begins with providing the right genetics and continues with the proper husbandry skills of the live animal. The genetics or family history of each animal will vary. Breed preference relies much on the consumer, producer needs, suitability and current industry standards.



Quality assurance in raising livestock involves providing for the animal's needs in order to produce a healthy animal. Basic needs include water, food, shelter, and care. Proper attention to animal husbandry, the science of breeding and caring for farm animals helps ensure the production of a high-quality animal. Good animal husbandry practices, require an understanding of many different sciences. These include:

- **Nutrition**

- Essential nutrients
- Feed and forage analysis
- Ration balancing

- **Environmental Design**

- Space requirements
- Ventilation
- Feeding system
- Handling/loading
- Manure handling
- Freedom from harm

- **Veterinary Health**

- Disease prevention
- Proper drug use
- Drug residue
- Withdrawal times
- Injection technique
- Record keeping

- **Production**

- Quality Assurance
- Genetics

- **Economics**

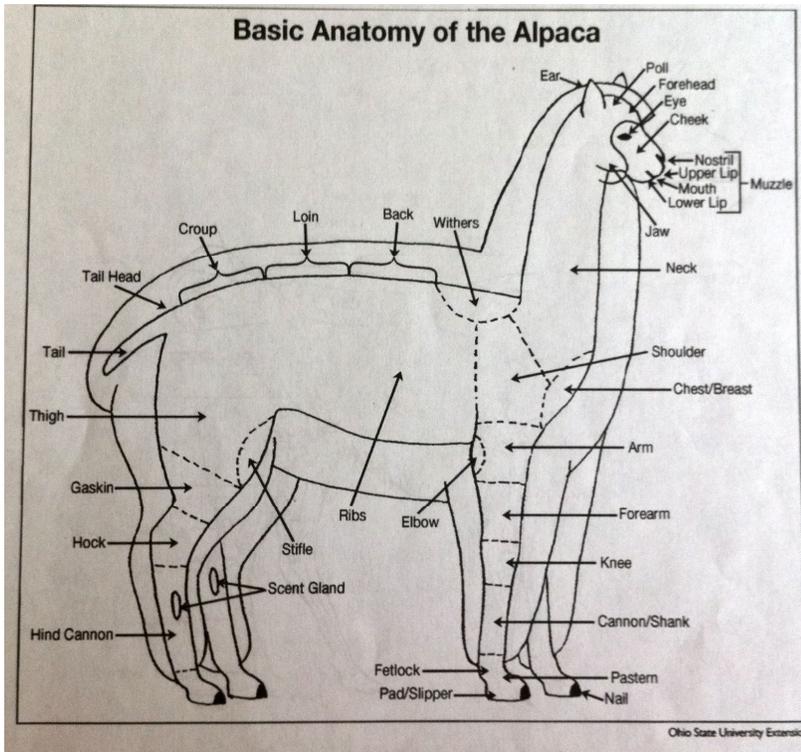
To learn more, consult your project book, a 4-H or FFA instructor, your local 4-H extension office, a veterinarian, or an alpaca industry expert.

Evaluating the quality assurance of your project is something like looking into a mirror. Reflect on your project for a moment. Do you like what you see? More importantly, will your buyer like it? Does the end result, your product, represent you and the 4-H and/or FFA organizations to the highest standard?

Above all, enjoy your animal project experience. You should feel good about the knowledge you have gained and the work you have done to establish and implement a quality care program for your project.

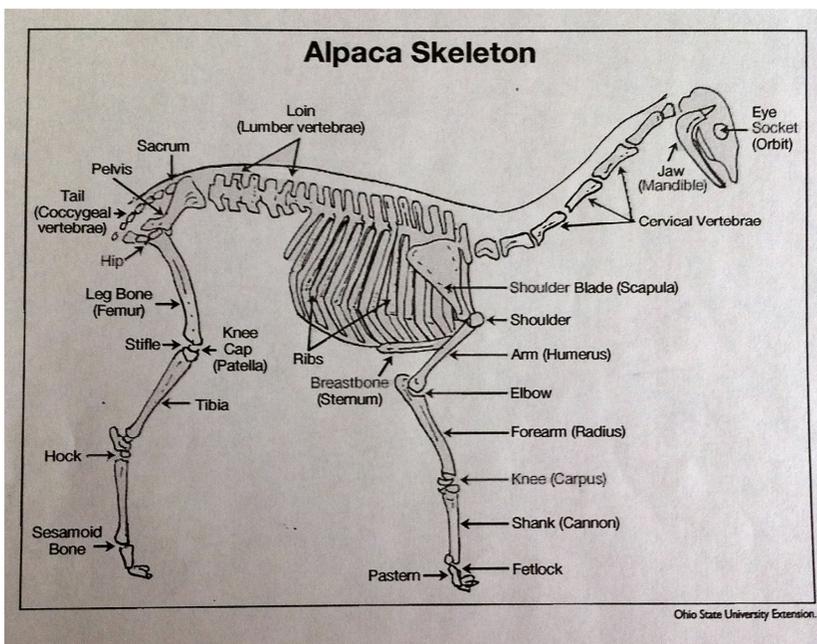


Alpaca Anatomy



Animals have typically been placed in groups based mainly on visible physical traits that you can observe by looking at them. Today, scientists have learned more about the impact of genetics and genetic relationships on scientific classification. This suggests that animals could possibly be reclassified into another group based on their genetic makeup.

The alpaca was originally classified in the same group as their cousin the llama, whom they greatly resemble. With this new research, alpacas are likely to be reclassified into the group Vicugna, alongside their other cousin the vicuna.*



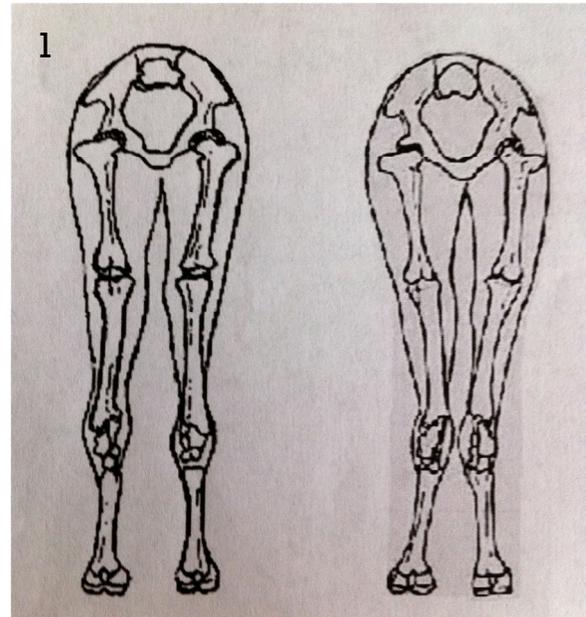
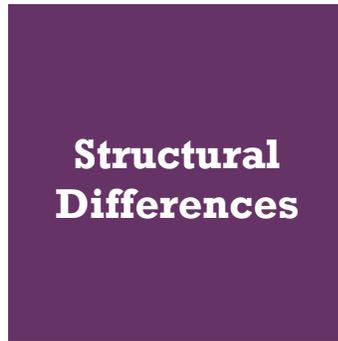


Balance

Another important factor in the structure of the alpaca is balance or the proportionate shape/contour of the animal. When evaluating your animal be sure to examine the length of its neck, the length of its back (withers to loin), and the length and structure of the legs. Structural correctness is very important for your animal to thrive and be useful. Be sure to note any deviations in the animal's frame.

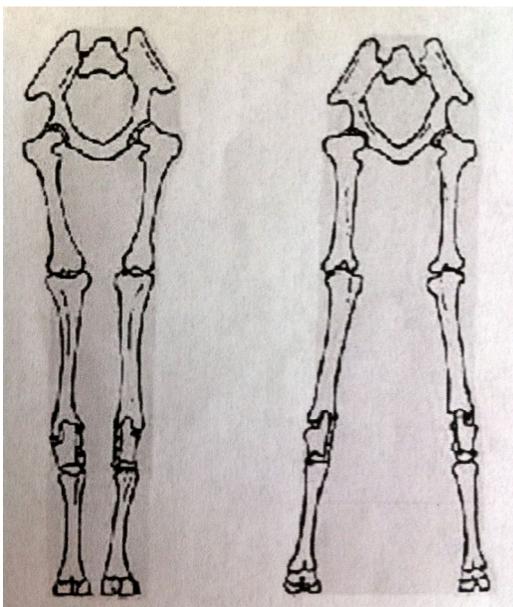
Conformation

An alpaca's appropriate arrangement of body parts is called its conformation. These images demonstrate five structural differences in the way an alpaca stands. A **normal** stance places the legs an even width apart under the hips, while a **cow hocked** stance pulls inward at the knees as if they touch. The **narrow base** brings the legs inside the hip instead of directly under them. **Wide base** means the animal stands with its legs outside the hip instead of directly beneath them and the **bow legged** stance shows the animal as if they were hugging a barrel between their knees.



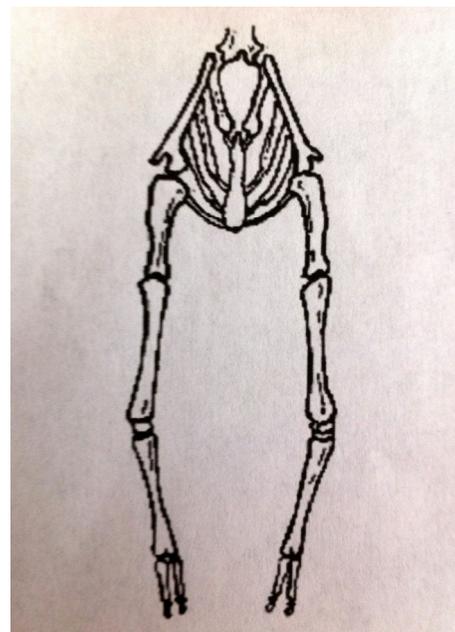
Normal

Cow hock



Narrow base

Wide base



Bow legged



Age Divisions and Expectations

Beginner (AGES 9-11)

1. Attend all regular meetings possible
2. Learn basic health, nutrition and conformation
3. Complete project book covering health, nutrition and conformation (leaders will check project book)
4. Complete record keeping section of your project book
5. Make 2-5 minute presentations to your 4-H group on different aspects of alpacas
6. Work with an alpaca, includes halter training
7. Attend your 4-H fair and complete the following:
 - a. Make and exhibit a poster for your project
 - b. Show your alpaca in a showmanship class or participate in a farm or fiber project
 - c. At least one other class (if offered)
 - d. Attend to all your animals basic needs as scheduled

Intermediate (AGES 12-14)

1. Beginner level requirements #1 through #7
2. Spend 6 hours per month at your leader or animal lender's farm, helping with everyday alpaca chores (unless you have an alpaca at your place of residence and participate regularly in its care). All hours must be logged in your record book
3. You may lease or adopt adult female(s) or male(s) from your leader or lender's herd (or your own). Observe and log important events throughout the year including births, lactation, breeding, re-breeding, and development.
4. You are responsible for halter training and showing your animal (if a male)
5. Participate in at least two areas of community service
6. Attend your 4-H fair and complete the following in addition to Beginners #7:
 - a. Must practice judging at least 1 halter class for alpacas
 - b. Must show in a showmanship class and at least two other classes (if offered)

Advanced (AGES 15-19)

1. Intermediate level requirements #1 through #6
2. Take on a leadership role and assist at least one new member of your group



Project Levels & Activities:

Check the activities you plan to do for your project level and select a minimum of five activities per year. Members should choose different activities each year the project is taken. Have an adult initial and date the activities you complete in your record book. Activities may be modified or added in the space provided.

Each project level contains four sections,

- **Basic Knowledge**
 - Anatomy Identification
 - Definition of basic terms
 - History of the alpaca
 - Alpaca characteristics
 - Thank you notes for donors and sponsors
- **Alpaca Care and Management**
 - Feeding and supplements
 - Healthcare
 - Auctions and sales
 - Recordkeeping
- **Showing**
 - Training and preparation
 - Show visits
 - Best practices and techniques
 - Tools
- **Fiber**
 - Differences between breeds
 - Uses and purpose
 - Mills
 - Products

These sections are made up of activities to be completed by the beginner and intermediate age divisions. Advanced members of the 4-H and FFA organizations follow a different format. Instead of section, the advanced age division will be responsible not only for the completion of five yearly projects but also, for assisting new 4-H and/or FFA members with their project.

You should choose different activities each year this project is taken. There are specific projects that each age division must complete every year. For the specific activity, please review the project and activities section of your record book.

In addition, check the *Leadership and Citizenship* activities you plan to do or write your own in the space provided in your record book. Plan to complete at least two activities from this section. These may be added or changed at any time. Keep track of your progress by recording the date that you complete each activity.



Glossary

Abnormal: different from what is normal or usual

Administer: dispense or give (a remedy)

Agriculture: the science of practicing farming

Alpaca: longhaired domestic South American animal, valued for its wool

Altiplano: the high tableland of central South America

Altitude: the height of an object or point from ground level

Amazon: tropical region around the *Amazon* River, which runs through Peru, Bolivia, and Chile into the Atlantic Ocean

Andes: major mountain range that runs the length of the Pacific coast of South America

Arid: having little or no rainfall

Bactrian Camel: two humped camel, origin central Asia

Bloodline: animal's set of ancestors or pedigree

Bolivia: a landlocked country in western South America

Camel: long-necked mammal of arid country, with long slender legs, broad cushioned feet, and one or two humps used for fat and water storage

Camelid: mammal of the camel family

Castration: removal of testicles (male animal)

Chile: South American country that occupies a long coastal strip down the west coast of Bolivia

Conquistador: a conqueror (Spanish)

Consumer: a person who purchases goods and services for personal use

Cria: a baby alpaca

Crimp: having a curl or wave (huacaya fleece)

Dense: closely compacted in substance

Deviation: departing from the established course or accepted standard

Diagnosis: identification of the nature of an illness or other problem

Dose: quantity of medicine to be taken

Dromedary Camel: light and swift camel, bred for racing, origin Arabia

Economics: the branch of knowledge concerned with the production, consumption, and transfer of wealth

Environmental Design: addressing the surrounding areas before designing a plan for building

Exhibit: public display

Expense: cost required for and incurred by something

Fiber: strands of fleece or wool from your alpaca

Fleece: the woolly covering or hair of your alpaca

Genetics: the study of hereditary and the variation of inherited characteristics

Gestation: duration of pregnancy (female animal)

Guanaco: wild Andean animal similar to a llama

Hazard: a danger or risk

Haul: pull an attached trailer or load

Huacaya: an alpaca that grows soft spongy fiber with crimp (resembles a sheep)

Humane: having and showing compassion

Husbandry: the care, cultivation, and breeding of crop and animals

Implement: put into effect

Incan: member of a South American Indian people living in the central Andes before Spanish conquest

Incur: become subject to (expenses)

Industry: economic activity concerned with the production of raw materials and manufactured goods

Lactation: secretion of milk (from utter)

Livestock: farm animals regarded as an asset

Llamas: a domestic pack animal of the Camelid family found in the Andes

Luster: a gentle sheen or soft glow from the alpacas fleece

Maturity: state, fact, period of being mature

Microchip: implant under the skin as a means for identification

Nutrition

- **Processed Feeds:** specially formulated premade at a feed mill
- **Supplements:** minerals and additional nutrients for health
- **Pre-mixes:** two or more feeds mixed together to create a new feed

Over-the-Counter (OTC): no prescription needed to purchase medications or drugs

Parasite: an organism that lives in or on an animal (host) and lives off the nutrients of that host

Peru: a country in South America on the Pacific coast, crossed by the Andes Mountains

Product: article or substance that is manufactured for resale

Quality Assurance: maintenance of the desired level of quality in a product

Ration: an amount of food supplied on a regular basis

Reflect: to think deeply and carefully about

Ruminant

- **True:** mammal that chews cud regulated from its one of its four rumen (stomach)
- **Modified:** also chews cud but only has three rumen (stomach)

Sierra: a long jagged mountain chain

Suitability: right or appropriate for a particular purpose

Subcutaneous (SQ): situated or applied under the skin

Suri: an alpaca that grows long ropy locks that hang from the animals top-line (back)

Veterinarian: person qualified to treat diseased or injured animals

Vaccine: substance used to stimulate production of antibodies and provide immunity against disease

Vicunas: wild relative of the llama that lives in the high mountain regions of South America, valued for its silky fleece

Withdrawal time: time required after taking a drug to assure that drug residue has been eradicated from any marketable product



4-H Extension Office

Alaska (907) 746-9499

Arizona (520) 621-5326

Arkansas (501) 671-2053

California (530) 754-8518

Colorado (970) 491-1152

Connecticut (888) FOUR-H-CT or (860) 486-4127

Delaware (302) 831-2509

District of Columbia (202) 274-7136

Florida (352) 846-0996

Georgia (706) 542-4H4H

Hawaii (808) 322-4892

Idaho (208) 885-6321

Illinois (217) 333-0910

Indiana (765) 494-8433

Iowa (515) 294-1018

Kansas (785) 532-5800

Kentucky (859) 257-5961

Louisiana (225) 578-2196

Maine (800) 287-0274 or (207) 581-3877

Maryland (301) 314-9070

Massachusetts (800) 374-4446 or (413) 545-4800

Michigan (517) 432-7575

Minnesota (612) 624-2116

Mississippi (662) 325-3350

Missouri (573) 882-7430

Montana (406) 994-3501

Nebraska (402) 472-2805

Nevada (775) 784-4378

New Hampshire (603) 862-2132 (interim)

New Jersey (732) 932-5000 x596 or x601

New Mexico (505) 646-3026

New York (607) 255-0896

North Carolina (919) 515-2801

North Dakota (701) 231-7251

Ohio (614) 292-4H4H

Oklahoma (405) 744-5390

Oregon (541) 737-2421

Pennsylvania (814) 863-3824

Rhode Island (401) 874-2981

South Carolina (864) 656-3848

South Dakota (605) 688-4167

Tennessee (865) 974-2128

Texas (979) 845-1211

Utah (888) 4H-YOUTH or (435) 797-4444

Vermont (866) 800-9944

Virginia (540) 231-6371

Washington (253) 445-4589

West Virginia (304) 293- 2694

Wisconsin (608) 262-1221

Wyoming (307) 766 5170

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2. Purdue University Extension 4-H-996. *Llamas & Alpacas*. Purdue University, West Lafayette, IN. (2008)
3. The Ohio State University Extension 4-H-132R. *Llama and Alpaca Resource Handbook*. The Ohio State University, Columbus, OH. (2008)

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Suri Network Youth Program

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www.surinetwork.org