Southwest Florida & Lee County Fair

Goat Skillathon Study Guide
Dear 4-H and FFA youth participant,

Welcome to the Southwest Florida and Lee County Fair Skill-a-thon study guide. This manual is provided as a study guide and should be used as an aid to help youth prepare for the skill-a-thon which will be held at the Southwest Florida Lee County Fair.

A Skill-a-thon is a method of involving 4-H and FFA youth in challenging activities to increase knowledge of their animal project. The skill-a-thon is designed to take youth through a series of mini learning stations and the activities involve hands on learning. Participants will rotate from station to station attempting to perform a given task.

Junior participants will have fewer stations than Intermediate and Senior youth. It is recommended that youth study the entire booklet to prepare them for this challenge.

Curriculum in this package was developed by Extension Services. If you have questions, please contact your 4-H or FFA leader to assist you with your preparation.

Study hard and you will be successful with this skill-a-thon.

Sincerely,

Cathy Suggs
Lee County 4-H Agent
Breed

Identify the names and descriptions of different breeds
<table>
<thead>
<tr>
<th>Breed</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alpine</td>
<td>This breed originated in France. These goats have upright ears, a straight face, and medium to short hair. All coat colors or combinations are acceptable. They are medium to large (30 inches or more), and alert and graceful.</td>
</tr>
<tr>
<td>Angora</td>
<td>This breed originated in the Himalaya Mountains of Asia. It is one of the smallest goat breeds. They have a straight or concave nose; pendulous ears; and large, twisted horns. They are commonly white. Their long, upper coat of mohair is a fine and lustrous fiber. They are primarily browsing animals.</td>
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<tr>
<td>Boer</td>
<td>This breed originated around the late 1950's and is characterized by excellent early growth rates, high weaning rates, and early maturity. These goats have exceptional mothering qualities, and kidding is possible every eight months. Their sturdy legs allow them to move easily through rugged terrain and to withstand a wide range of climatic conditions. They are best known for the production of low-fat meat.</td>
</tr>
<tr>
<td>Lamancha</td>
<td>This is the only breed developed in the United States. Its distinctive characteristic is gopher (less than 1 inch) or elf (less than 2 inches) ears. Gopher ears are preferred. Any coat color or combination is acceptable. Mature does are a minimum of 28 inches; mature bucks are a minimum of 30 inches.</td>
</tr>
<tr>
<td>Nubian</td>
<td>This goat breed originated in India and Egypt. They have a strong convex facial profile and long, bell-shaped ears. Any color or pattern is acceptable. These goats have a long breeding cycle, and their milk is known for its high protein and butterfat content.</td>
</tr>
<tr>
<td>Oberhasli</td>
<td>This breed of dairy goats originated in Switzerland. These goats have a black belly and a light gray to black udder. They are known for their upright ears, straight face, and chamoisee color. With a minimum height of 28 inches, this breed is one of the smaller Swiss breeds.</td>
</tr>
<tr>
<td>Pygmy</td>
<td>This dwarf breed originated in Africa and the Caribbean. They are short-legged and small (16 to 22 inches), with a compact body. Their various coat colors are white caramel, caramel, gray agouti, black agouti, and charcoal agouti. The head has a dish profile and a broad, well-muscled jaw. These goats are hardy and alert.</td>
</tr>
<tr>
<td>Saanen</td>
<td>This sturdy-boned breed originated in Switzerland. Their hair is short and fine. Although white is preferred, coat color can also be light cream. Their face is straight or dished with erect ears. These goats are medium to large (over 30 inches) and known for their high milk productivity.</td>
</tr>
<tr>
<td>Toggenburg</td>
<td>This medium-size breed originated in Switzerland. These goats have upright ears and a dished or straight face. Their coat is a solid color, varying from light fawn to dark chocolate. There are distinctive white markings on the ears, legs, face, and tail. These goats are known for their high milk productivity.</td>
</tr>
</tbody>
</table>
Anatomy

Identify the different parts of a goat
Identify the different parts and functions of a goat’s digestive tract
Farm animals are grouped by what they eat, which is based on the type of digestive system they possess. *Herbivores* are vegetarians (cattle, sheep, goats, rabbits). *Carnivores* are flesh eaters (dogs). *Omnivores* eat both flesh and plants (pigs, chickens, humans). Based on the digestive system, animals are grouped as *monogastric* or *simple stomach* (pig), *polygastric or ruminant* (cattle, sheep, goats), *avian* (chickens), or *pseudo-ruminants* with a functional cecum (rabbits). Understanding the digestive system is fundamental to selecting the proper feeds and feeding system for your animal.

**Mouth**  - Upper dental pad, lower incisors and both upper and lower molar teeth, and tongue are used in prehension, mastication, and salivation.

**Esophagus**  - Hollow muscular tube that transports food from the mouth to the stomach

**Stomach**  - four compartments: Rumen, Reticulum, Omasum and Abomasum (8-16 gallons)

**Rumen**  - Large, hollow, muscular compartment that almost entirely fills the left side of the abdomen, functions in storage, soaking, mixing and microbial fermentation, and acts to absorb some specific nutrients (volatile fatty acids, ammonia). (5-10 gallons)

**Reticulum**  - Nicknamed honeycomb, functions in moving ingested feed into the rumen or into the omasum and regurgitation of partially chewed food during rumination. Has very thick walls, traps foreign objects. (½ gallon)

**Omasum**  - Nicknamed “many plies” or butcher’s Bible, reduces particle size and removes water. It is located on the right side. (¼ gallon)

**Abomasum**  - This is the glandular portion of the stomach which produces acid and pepsin. It is located on the right, is called the true stomach and is where enzymatic digestion begins. (½ - 1 gallon)

**Sm. Intestine**  - Pancreatic and intestinal juices break down proteins and carbohydrates while bile from the liver breaks down fats. The first section (duodenum) is involved in digestion, and the next two sections (jejunum & ileum) are actively involved in nutrient absorption. (2-2½ gallons and 80 feet)

**Lg. Intestine**  - Mainly absorbs water and end products of microbial digestion. The cecum has little function in ruminants. The colon is the site for water resorption and storage reservoir of undigested material which exits the rectum as feces. (½ - 1 gal.)
Conformation

Feet & Legs (Front, Back, Side view)

Topline Structure
Goat Feet and Leg Structure
(Part I)

Front Legs

Buckled Knees
Ideal
Knock-Knee

Rear Legs

Close at the Hocks
Ideal
Bowlegged

Exploratory Learning: Educational Program
This component adapted from materials published in the Dairy Goat Journal, Helenville, WI
Goat Feet and Leg Structure
(Part II)

Ideal Rear Legs

Post-Legged

Sickle-Hocked

Weak Pasterns

Exploratory Learning: Educational Program
This component adapted from materials published in the Dairy Goat Journal, Helenville, WI
Goat Topline Structure

Wavy Back  Ideal Back  Sway Back

Roached Back  Weak in the Chine

Exploratory Learning: Educational Program
This component adopted from materials published in the Dairy Goat Journal, Holonville, WI

Product distribution through the Curriculum Materials Service
Mammary Structure

Know the correct structure of the mammary and teats
Goat Mammary Structure
(Attachments)

Fore Udder Attachments

Ideal
Broken

Rear Udder Attachments

Ideal
Broken

Medial Suspensory Ligaments

Broken
Ideal
Weakened
Goat Mammary Structure (Teats)

- Bottle-Shaped Teats
- Spur Teat
- Double Teats
- Teats that Point Sideways
- Pencil-Shaped Teats
- Uneven Teats
- Extremely Small Teats
- Ideal Teats
Meat Cuts

Identify the different cuts of meat that come from a goat
Wholesale Cuts of Chevon

- Arm Chop
- Fore Shank
- Breast
- Rolled Shoulder
- Blade Chop
- Rib Roast
- Chop
- Loin Chop
- Loin Roast
- Leg, Sirloin Off
- Rolled Leg
- Stewed Cubed

Exploratory Learning: Educational Program
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Tattooing Procedure

Know the process of tattooing a goat
Tattooing
Procedures and Techniques

1) Fill out ADGA Application for Registration or Recordation. (Optional - see ADGA application for registration poster.)

2) Gather equipment.
   a) Tattooing outfit - should include pliers, ink (green is usually best), and digits
   b) Alcohol or prep pads
   c) Toothbrush
   d) Cotton swab
   e) Sheet of paper or cardboard for tester
   f) Means of restraint such as a kid box
   g) Petroleum jelly
   h) Disinfectant

3) Disinfect tattoo pliers and character pins.

4) Set characters in pliers.

5) Test puncture by applying tattoo pins to a stiff paper to check alignment and sharpness.

6) Restrain animal.

7) Choose clear area (between ridges and veins) of ear or tail web and clean area with alcohol prep pad.

8) Apply tattoo ink to area with cotton swabs, toothbrush, or applicator.

9) Puncture area with pins on inside of ears by squeezing pliers. Hold for three (3) to five (5) seconds.

10) Rub ink into puncture holes with cotton swabs or toothbrush.

11) Clean tattoo pliers and character pins.

12) Repeat steps three (3) through eleven (11) for tattooing the next animal.

TAKE YOUR TIME!
If done properly, tattoos are forever!

GOAT LEARNING LABORATORY KIT
Exploratory Learning: Educational Program
This component developed by Christy Black

Product distribution through the Curriculum Materials Service
Know the parts of the hoof and how it should look when it is properly trimmed
Goat Hoof Trimming

Anatomy
- Toe
- Wall
- Sole
- Heel

Tools
- Foot Rot Shears
- Pruning Shears

Overgrown Hoof
Cut from Heel to Toe
Properly Trimmed Hoof
Bottom View
Properly Trimmed Hoof

Exploratory Learning: Educational Program
This component adapted from materials published in the Dairy Goat Journal, Holmen, WI

Product distribution through the Curriculum Materials Service
Hooves that are overgrown will turn under around the sides and may even grow out in front like elf shoes.

Start by cleaning the manure and crud out from the toes with a hoof pick or the point of your shears. Then trim off the overgrown sides down to the white sole.

Now take a tooth brush and some water and scrub the sides of the hoof until you can see the little growth lines that are circling the hoof parallel with the hair at the top of the hoof. This is the correct angle for the trimmed hoof to end up.

The toes of the hoof grow faster than the heel. Because of this many people tend to trim at the wrong angle – like this → This will cause the foot to roll backwards, forcing the pasterns to break down.

Start trimming slices off the hard side nail and the soft, white center to level out the hoof. Trim down until you can see the white change to pink. Trim the heel only down until it is level with the growth ring that the toe is on. The toe and heel should be at the same level.

There may be some little flaps coming out of the middle, between the hooves, these will need to be snipped off.

Then, using your carpenter’s plane, and holding both toes together, so they will come out level, plane off the entire bottom of the hoof (including the heel) until it is level. If the hoof oozes little pinpricks of blood, don’t worry, but definitely stop trimming for the day. (it's not a bad idea to brush a little iodine on it before you set it down in the dirt and manure)

Sometimes, the heel is the part that seems to grow too fast, causing the goat to walk on the back of the hoof above the heel. In this case, be sure that you trim the hooves more often, and that you are not leaving the heel so long that the goat is walking on ‘high heels’. If the hoof was drastically overgrown, and you didn’t get it into the right shape, it is better to come back to it later than to make the goat lame, or risk serious bleeding and infection, by cutting too much at one time. Try again in 1-3 weeks. If it still isn’t right, come back in another 2-3 weeks. Sometimes it takes a while to whip a goats hooves into perfect shape.

Goats hooves need to be trimmed regularly. That will mean different things depending on your ranch and conditions. If your goats have plenty of rocks to walk on, or are in a large heard that travels over many acres a day, you might be able to escape this chore for 4-6 months. Some people even build low platforms of rock and cement for the goats to play on to help them keep their hooves in shape. In most cases, when the goats are walking on grass or in pens, hooves should be trimmed every 4-12 weeks.
Age by Teeth

Identify a goat's age by looking at the teeth
Determining the age of a goat is easy to do for the first few years of its life. The procedure is called toothing a goat.

A goat has no teeth in the upper front of its mouth, but it has eight teeth in the lower front. The size and condition of these eight teeth is the best gauge to determine the goat's age.

A goat is born with eight baby teeth in the lower front gum. All eight teeth are similarly small sized. When the goat approaches a year of age, give or take a few months, the two center front baby teeth are replaced by two permanent teeth. Therefore, a goat with only two permanent teeth is called a two-toother and is considered at least one year old.

The same procedure occurs again as the goat approaches two years of age. The next two baby teeth, one on each side of the two permanent teeth, are replaced by two more permanent teeth. This goat is called a four-toother and is two years of age. A goat who is between one year of age and two years old is called coming two's.

At three years of age, the third set of two teeth, one on each side of the permanent teeth, is replaced by permanent teeth, and this goat is now a six-toother. Soon it will be coming three's, age-wise. And the last two baby teeth become permanent teeth as the goat approaches four years of age, hence the animal is an eight-toother.

From age four onward, the process for determining the goat's age becomes less precise and an exact age is difficult to determine. As the goat grows older, the teeth begin to buck out and spread. By the time the goat is ten years old, the teeth are generally pretty worn . . . . depending upon what the goat has been fed or how tough its forage has been or whatever injuries the goat may have sustained to its mouth during its lifetime.
Poisonous Plants

Identify the different plants that are harmful to goats