That snout!

What an adaptation!

This Ossabaw Island sow uses her snout to sniff and locate roots and tubers, that she then digs up with her strong, shovel-like snout.

Why is her snout an adaptation?

Imagine how she sounds, snorting and grunting as she searches.

Adaptations are unique body structures *(such as a snout)*

Adaptations are
unique body structures

or behaviors
(such as digging with a snout)

Adaptations are unique body structures or behaviors

that help an animal to survive and reproduce in a specific environment.

(such as on Ossabaw Island!)

In other words…

An adaptation is a special body shape, or something special an animal can do that helps them live longer in a certain place so they can make more babies.

Can you find the adaptation?

Hint: Think unique <u>body structure</u>

The Hoof:

Hooves come in a variety of shapes for different environments.

Cloven hooves

Cloven hooves appear divided into two or more parts.

A cloven hoof helps goats
and sheep to walk and
keep their balance
on uneven ground
such as rocky hillsides.

By climbing high into the hills, they can escape predators and find food that others cannot reach.

There are also wild mammals with cloven hooves.

Can you think of some examples?

Wild North American ungulates with cloven hooves include deer, elk, moose, bighorn sheep, pronghorn, and bison.

Psst:

Did you say "ungulates"?

All mammals with hooves
are called Ungulates.

Do pigs have hooves?

Yes!

Pigs' hooves are cloven (divided) into four parts.

The upper hind toes prevent them from sinking into muddy ground.

Cattle hooves are also divided into four parts.

Healthy, hardy hooves help!

- Cattle hooves help them maneuver in wet, muddy areas.
- Healthy hooves are important to survival.

Goats, sheep, cattle and pigs all have cloven hooves.


Not all hooves are cloven.

Horses, Mules and Donkeys are all ungulates with a solid hoof.

The solid hoof is built for speed when crossing wide open places.

Survival strategies

When horses sense danger,
they use their hooves for flight.

When defending the herd, a horse will use hooves for fighting.

Why are hooves an adaptation?

Hooves are adaptations because hooves are a unique body structure that help an animal to survive and reproduce in a specific environment.

Summary

Hooves help these animals escape danger, protect themselves and find food in regions where other animals cannot. Hooves help these animals to survive and reproduce.

Adaptations are

unique body structures
or behaviors
that help an animal to
survive and reproduce
in a specific environment.

Horns - what a great idea!

- Horns help a goat pull weeds for eating. And, as we know, eating is rather important to survival!
- Bucks sometimes use their horns to play, or to perform for a doe at breeding time. Breeding is the key to reproduction.

Thick wool coat for cold climates proves useful!

This Cotswold ewe has ancestors in the English hill country of the Cotswolds where it is chilly and wet much of the year.

A thick wool coat keeps her (and those of her breed) warm and protected.

In warmer climates, her wool is shorn short for her comfort.

Pilgrim Geese: The male is white and the female is grey. Why? Is that an adaptation? Why would it be a desired trait on farm?

- Who wants to show off and attract a mate? (The male!)
- Who wants to hide while sitting on eggs? (The female!)
- Who wants to know if a goose is male or female? (The farmer!)

Behavioral adaptation

An adaptation can be a specific body structure or a behavior.

Behavioral adaptation

Gulf coast native sheep have not been domesticated for very long. They are very flighty and leapy. They are alert to predators and constantly on the look out. That's a useful behavioral adaptation, or survival trait.

Fat and happy in the hills

- The flighty sheep breeds are less likely to be eaten by a predator than a Cotswold or a Dorset.
- These breeds of sheep take longer to recognize danger.

Human decisions determine success for domestic livestock

This Milking Devon cow can pull a cart or plow, produce enough milk for a family and be used for meat. She is small and therefore doesn't need much space.

Her multi-purpose nature made her the perfect family cow for generations.

Usefulness to humans is an adaptation of domestic animals. If humans value them they will survive.

At one time, the Milking Devon's combination of traits increased this breed's chances of reproduction and survival.

Farmers would breed the Milking Devon cow for more of her kind.

Traits no longer an adaptation

Today, the Milking Devon's qualities are less valued. Farmers breed for milk *or* meat, but not both at once.

Traits that once were regarded as useful no longer help this breed to survive and reproduce.

As a result of losing usefulness, this breed is now endangered.

Domestic Livestock: desirable and helpful

- Nature selects for specific traits that help the animal to survive and thrive in a certain location.
- Humans select for specific traits because they are desirable and/or helpful to humans.

One more thing…

Adaptations are
unique body structures or behaviors
that help an animal to survive and
reproduce
in a specific environment

For domestic livestock, this environment is the farm!

Credits

In order of appearance:

- Ossabaw Island sow, Historic Brattlesville, SC
- Angora Goat and lamb: Dew Dance Farm, Sanford, N.C. Owner: Laura Young
- Cotswold sheep: Historic Brattlesville, SC and Latta Plantation, Charlotte, NC
- Nigerian Dwarf Does: Tranquility Acres, Mebane, N.C. Owner: Sharon Rupp
- Pigs Woodcrest Farm, Chapel Hill, N.C. Owners: Chris and Allen Green
- Milking Devon cow: Latta Plantation, Charlotte, N.C.
- Halflinger ponies Chapel Hill, N.C. Owners: Chris and Allen Green
- Morgan horse hooves: Latta Plantation, Charlotte, N.C.
- Horse head (mix breed): Dew Dance Farm, Sanford, N.C. Owner: Laura Young
- Clydesdales: Victoria Horse Show, British Columbia
- Nigerian Dwarf Buck: Tranquility Acres, Mebane, N.C. Owner: Sharon Rupp