Ag Challenge
Task Cards

Solution #1

The solution to this challenge depends on your location, the availability of land or hay, and your budget!

As long as you can justify your answer, you are correct ☺

Ag Challenge #1

You can graze up to 6 alpacas on an acre (remember an acre is the size of a football field). Smaller pastures are okay if you have hay for them to eat as well. You have a herd of three alpacas.

Given the price of an acre of land and the price of a bale of hay, which would you choose and why? Don't forget to take different seasons into account.

Build a model when you are finished.

Hay needed each day	About 3 lbs/alpaca per day
Size of small hay bale	50-60 lbs
Alfalfa Bale	$14.00
Timothy Grass	$14.00
1 acre of farmland (average cost)	$3,160

Solution #2

typically kept in crates at before giving birth until the e weaned around four weeks

ates are called farrowing ney help protect the piglets g stomped or laid on by the ch could result in death

and contrast cture. Wh d why?

Ag Challenge #2

Vocabulary:

Term	Definition
Gilt	A small female pig that is less than 6 months old (has never had babies)
Sow	An adult female pig (able to have babies)
Piglet	A baby piglet
Farrowing	The process of giving birth to piglets

Piglets drink milk from their mother for 3-4 weeks after they are born. If left in a pen with their mother, the sow can lay or stomp on them. What would happen to the piglets if this occurred?

Come up with a solution to allow the piglets to reach their mother's milk and allow the sow to lay down and reach food without crushing her babies.

Build a model of your solution.

Farmin in 4th

How I Use Ag Challenges...

I use these Ag Challenge cards during my Soft/STEM start time before school begins.

During this time, I have a variety of activities for students to choose from as they enter each day. They are mainly some variation of STEM activities with challenges to complete with a variety of activities. Not only does this improve social and communication skills, but also problem solving and perseverance.

Students love these activities because they are real world scenarios. Materials can range from popsicle sticks and cardboard to MagnaTiles and PlayDoh, really anything you have on hand.

Ag Challenges are versatile. They can be used with any materials available. Students simply read the cards and draw, build, or discuss the solution to an industry problem.

This can also be used as a brain break or fast finisher activity.

Ag Challenge #1

You can graze up to 6 alpacas on an acre (remember an acre is the size of a football field). Smaller pastures are okay if you have hay for them to eat as well. You have a herd of three alpacas.

Given the price of an acre of land and the price of a bale of hay, which would you choose and why? Don't forget to take different seasons into account.

Build a model when you are finished.

Hay needed each day	About 3 lbs/alpaca per day
Size of small hay bale	50-60 lbs
Alfalfa Bale	$14.00
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Piglets drink milk from their mother for 3-4 weeks after they are born. If left in a pen with their mother, the sow can lay or stomp on them. What would happen to the piglets if this occurred?

Come up with a solution to allow the piglets to reach their mother's milk and allow the sow to lay down and reach food without crushing her babies.

Build a model of your solution.

Solution #1

The solution to this challenge depends on your location, the availability of land or hay, and your budget!

As long as you can justify your answer, you are correct ☺

Solution #2

Sows are typically kept in crates at one week before giving birth until the piglets are weaned around four weeks old.

These crates are called farrowing crates. They help protect the piglets from being stomped or laid on by the sows, which could result in death.

Compare and contrast your solution with the picture. Which do you think is better and why?

Ag Challenge #3

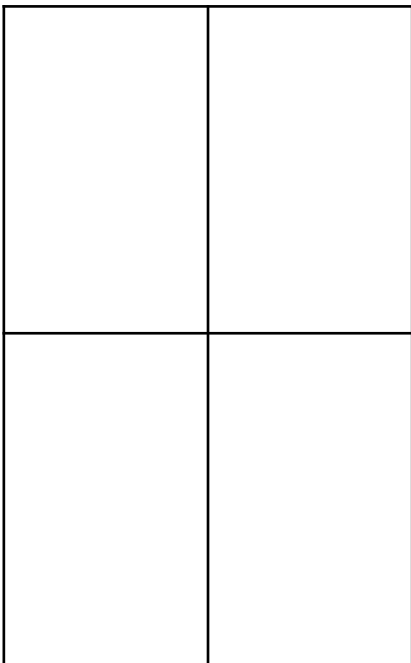You live in an extremely cold and windy area.

You have a herd of 4 Nubian goats. Most days, your wind comes from the North.

Design a shelter that will protect your goats as needed but allow them to graze as they wish.

Ag Facts!
• Nubian goats are the most popular dairy breed in the United States.
• They can have up to 5 kids (baby goats) at one time.
• This breed of goats can jump anywhere from 4-12 feet high.
• They can live up to 15 years in captivity and 12 in the wild!

Ag Challenge #4

You own a pasture like the one on the left. One horse can graze in each section for 2 months at a time when the weather is good.

You have one horse. Your neighbor has 3 horses and wants to lease, pay you to use, pasture from you during the summer.

Make a schedule to rotate the horses through the sections without overgrazing and ruining the grass in your pasture.

*Remember 1 month is about 4 weeks.

Solution #3

One example of a shelter is included in the picture to the left.

As long as the closed side of your shed is toward the North, your goats should be well protected.

Other factors to consider would be materials to build it with and keeping one side open so they have free access to pasture.

Solution #4

If one horse can graze in each section for 2 months, then the time would be shorter for 4 horses.
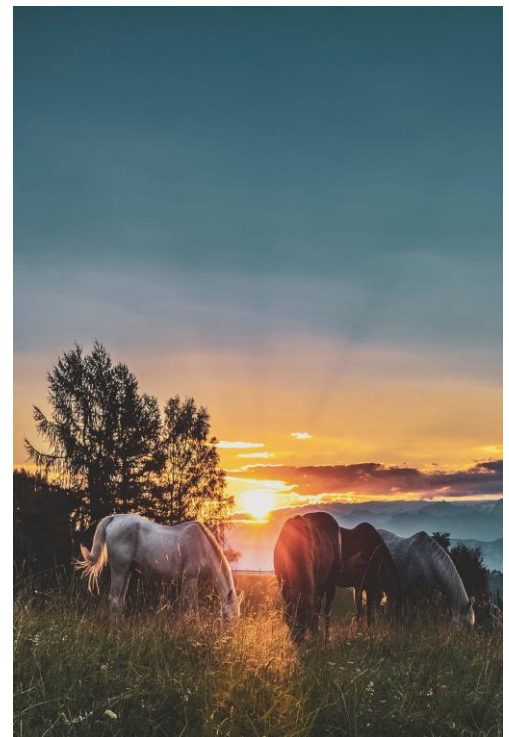
Since one month is 4 weeks.

4 weeks x 2 months = 8 weeks

8 weeks ÷ 4 horses = 2 weeks

As the work shows, you will need to rotate the horses every 2 weeks.

Why do you think you should you keep all the horses together in one pasture?

Ag Challenge #5

Cattle are easily spooked or scared.

You need to vaccinate, deworm, tag, and brand your herd of cattle.

Design a working system that will allow you to do what you need with your cattle while helping them to feel more comfortable.

Extension –> Research Dr. Temple Grandin's work in this area.

Vocabulary:

Term	Definition
Vaccinate	Treat with a vaccine to keep the animal from getting sick
Deworm	Treat an animal to free it of worms
Tag	Put a tag in the cow's ear to use as an identification tool
Brand	A design to identify the owner of the animal

Ag Challenge #6

Ag Facts!

- Ducks can close one eye and turn off half of their brain while leaving the other half alert for predators.
- They can see 360° around them and can see 3 times better than humans.
- Ducks can produce more eggs than chickens.

Ducks like to root or search in the ground for bugs. They also enjoy splashing in water and swimming/diving if the water is deep enough.

As a result of these tendencies, they make a large mess with their food and water. What could you do to control the mess without taking away their food and water?

Build a model of your solution.

Solution #5

A curved alley way and tall side walls reduces what the cattle can see. This gives them less to be scared of around them.

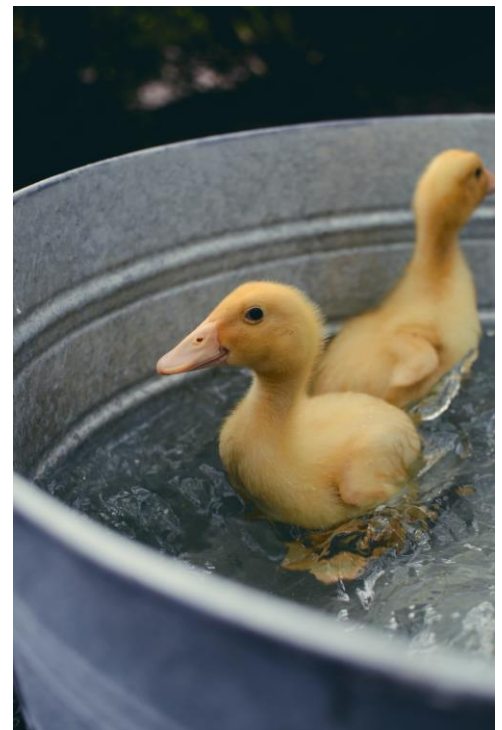Quiet chutes cut down on noise and don't startle the cow when they enter and exit.

Squeeze chutes provide comfort as the cattle are squeezed tightly like a hug. It helps you get the job done more quickly since the cows cannot move.

Solution #6

While anything you do may not get rid of the mess completely, you may want to elevate, lift up to a higher position, their feeder and waterer. This will prevent them from rooting in it and spreading it all over.

You can also ensure they have a water source to swim and dive in to satisfy their natural urges.

There is more than one solution to this challenge!

Thank you!

I appreciate your support. I truly hope this resource makes life in the classroom a little easier for you.

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