a how-to guide for

Ag Safety Days

ialf
Iowa Agriculture Literacy Foundation

Development of this resource is in part thanks to a Fire-Up Grant provided by the National Agriculture in the Classroom Organization, underwritten by the USDA National Institute of Food and Agriculture.

Updated August 2021

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What is Ag Safety?

Agriculture safety includes education about all of the various risks that appear on a farm or agribusiness site. These risks vary from chemical exposure to flighty livestock, and everything in between. Though only 2 percent of the nation's population is currently involved in production agriculture, many students find themselves in agricultural situations visiting families, on field trips, or even at fairs and festivals. Helping to educate these students can help keep them safe, and can also help increase their agricultural literacy!

Safety (fire, electrical, sun exposure, chemical, etc.) is all important. However, ag safety days allow the unique opportunity to also teach about agriculture and how safety practices can be applied in an agricultural setting.

We hope you find this booklet to be a helpful guide to best practices, resources, and ideas as you navigate planning an ag safety day that teaches safety and agriculture jointly!

Best of luck!

The IALF Team

Best Practices

For an ag safety day

Safety is an important topic. As individuals, we need to be able to identify risks to our health, to our bodies, and to those people around us. We need to be able to avoid dangerous situations. But some risks are unavoidable. Managing risks is just as important as identifying risks. This can mean wearing the appropriate clothing for a specific task, or trying to better control a risky situation so it doesn't become dangerous. Finally, understanding safety also includes understanding how to respond if a risky situation turns into a dangerous situation. If you accidentally spill chemicals onto your skin, how should you respond?

It is never too early to teach kids about safety. In agriculture there are many situations that present risks, so intertwining safety education with basic agricultural literacy can be easy! Here are our recommendations for setting up a successful ag safety day.

- Many ag safety days are set up with rotational stations that students can move to throughout the day. When setting up stations, **choose at least one lesson** or activity from the categories outlined on the following pages.
- **Seek out experts in safety AND agriculture to be presenters.** If your presenters are only knowledgeable in one area, train them or provide them talking points and background information in the other area.
- **Don't forget about the *agriculture* in an ag safety day.** These activities are a great way to advance student knowledge about the food and fiber system. Don't assume that your audience understands the agricultural situations that would require these safety practices. In fact, the audience might be wondering why they should pay attention if they are never going to be on a farm. Use facilitating questions and activities to make sure you cover the agricultural concepts as well as safety concepts.
- Your presenters may not be regular educators. They may need a lesson plan or an activity provided to them. **They may need some guidance and training** on how to present that activity and interact with students. Don't assume that everyone is well versed in educating other people.

With a little planning and effort, your ag safety day can be a great success!

Animal Safety

- **Animal Fences:**
  - **Safety concept:** Learning to stay outside animal fences.
    - **Resource:** Animal Fences: https://www.progressiveag.org/uploads/fs4jk/animal/AnimalFences.pdf
  - **Agriculture concept:** Why do we have fences? (To separate animals belonging to different farmers. To move animals from one area or pasture to another for fresh grass to graze. To keep animals from endangering humans. To keep animals safe so they don't wander onto roadways.)
    - **Resource:** At Home on the Range: https://www.agclassroom.org/matrix/lesson/554/

- **Animal Habits:**
  - **Safety concept:** Don't interfere with an animal's routine.
    - **Resource:** Animal Habits: https://www.progressiveag.org/uploads/fs4jk/animal/AnimalHabits.pdf
  - **Agriculture concept:** Why do animals have routines? This minimizes stress, which can leave an animal vulnerable to illness, or can become a danger to humans.

    Resource: Pork Feed Sacks: https://www.iowaagliteracy.org/Article/Feed-Sacks-Pork-Lesson

- **Animals and Noises:**
  - **Safety concept:** Recognize a physical response to a sudden noise.
    - **Resource:** Animals and Noise: https://www.progressiveag.org/uploads/fs4jk/animal/AnimalsandNoise.pdf
  - **Agriculture concept:** How do animals protect themselves? (Modern livestock were domesticated thousands of years ago from their wild counterparts. In the wild, animals had to protect themselves from predators. They developed a fight-or-flight response to things like loud noises. That means that after a loud noise they might become aggressive and fight or might dangerously run away. You should avoid sudden, loud noises when working around animals.)
    - **Resource:** Farm Animal Match: https://www.agclassroom.org/matrix/lesson/202/

- **Approaching Animals Safely:**
  - **Safety concept:** Learn where animal safety zones are and how to approach an animal.
    - **Resource:** Approaching Animals Safely: https://www.progressiveag.org/uploads/fs4jk/animal/ApproachingAnimalsSafely.pdf
  - **Agriculture concept:** Some animals are show animals or breeding animals and are handled individually at fairs or auction houses. Humans need to separate single animals

from a larger herd. When a whole herd is moved, similar rules apply. Handlers want to guide the whole herd which means directing individual animals back toward the group.

- **Resource:** Think in Pictures Like Dr. Grandin: https://www.agclassroom.org/matrix/lesson/710/

- **Reading Animal Language:**
  - **Safety concept:** Learn what body signals might indicate that an animal is distressed.
    - **Resource:** Reading Animal Language: https://www.progressiveag.org/uploads/fs4jk/animal/ReadingAnimalLanguage.pdf
  - **Agriculture concept:** How can humans better manage animals? (Temple Grandin discovered that cattle are less stressed if they move through chutes that have a curve to them. She designed S-shaped loading chutes to help with this.)
    - **Resource:** Build it Better: https://www.agclassroom.org/matrix/lesson/62/

- **Recognize the Dangers:**
  - **Safety concept:** Recognize physical characteristics of animals that may warn of impending dangers.
    - **Resource:** Recognize the Dangers: https://www.progressiveag.org/uploads/fs4jk/animal/RecognizetheDangers.pdf
  - **Agriculture concept:** Animals might become aggressive when they are stressed or threatened. Learn about different livestock species and their characteristics.
    - **Resource:** Farm Animals for Beginners: https://www.iowaagliteracy.org/Article/Farm-Animals-for-Beginners

- **Safe Animal Handling:**
  - **Safety concept:** What are the best procedures of approaching an animal based on their eyesight and awareness to surroundings?
    - **Resource:** Safe Animal Handling: https://www.progressiveag.org/uploads/fs4jk/animal/SafeAnimalHandling.pdf
  - **Agriculture concept:** How is an animal's eyesight different from a human's? Consider biology and how the animal is built. Where are its eyes located on its head?
    - **Resource:** Beef Basics: https://www.agclassroom.org/matrix/lesson/284/

- **Size Differences:**
    - **Safety concept:** Recognize how the mass of a large animal could lead to human injury.
        - **Resource:** Size Differences: https://www.progressiveag.org/uploads/fs4jk/animal/SizeDifferences.pdf
    - **Agriculture concept:** How big are farm animals? (A steer taken to market might weigh around 1,000 pounds. The meat from that one animal can make up to 1,000 quarter pound hamburgers.)
        - **Resource:** Where Does Your Cheeseburger Come From?: https://www.agclassroom.org/matrix/resource/942/

- **Wearing the Right Shoes:**
    - **Safety concept:** Identify proper shoes for working around livestock.
        - **Resource:** Wearing the Right Shoes: https://www.progressiveag.org/uploads/fs4jk/animal/WearingtheRightShoes.pdf
    - **Agriculture concept:** Shoes are important on farms. But what about all of the hats a farmer wears?
        - **Resource:** The Many Hats of an Iowa Farmer: https://www.iowaagliteracy.org/Article/Many-Hats-of-an-Iowa-Farmer

Chemical Safety

- **Accuracy When Working with Chemicals:**
  - **Safety concept:** Decrease likelihood of negative effects from chemical exposure.
    - **Resource:** Accuracy When Working With Chemicals: https://www.progressiveag.org/uploads/fs4jk/chemical/AccuracyWhenWorkingWithChemicals.pdf
  - **Agriculture concept:** Whether it is chemicals or food, having the right measurement is important. Most chemicals sprayed on crops are mixed with water. Many have low application rates. For example, glyphosate (RoundUp) might only be one quart per acre.
    - **Resource:** FoodMASTER: Measurement: https://www.agclassroom.org/matrix/lesson/257/

- **Chemical Look-a-Likes:**
  - **Safety concept:** Decrease the likelihood of negative effects from chemical exposure.
    - **Resource:** Chemical Look-a-Likes: https://www.progressiveag.org/uploads/fs4jk/chemical/ChemicalLook-A-Likes.pdf
  - **Agriculture concept:** Why do farmers use chemicals? Chemicals can clean equipment (solvents), cure animals (antibiotics), kill weeds (herbicides), kill insects (insecticides), or help plants grow (fertilizers).
    - **Resource:** Crop Case Files: Dichotomous Keys: https://www.agclassroom.org/matrix/lesson/620/

- **Chemicals Abound:**
  - **Safety concept:** Identify where chemicals are found, used, and stored.
    - **Resource:** Chemicals Abound: https://www.progressiveag.org/uploads/fs4jk/chemical/ChemicalsAbound.pdf
  - **Agriculture concept:** How do farmers use chemicals? Farmers sometimes need special training to handle some chemicals. Many pesticides require a certification before farmers can purchase them so they can safely handle them.
    - **Resource:** Pests and Pesticides in Agriculture: https://www.agclassroom.org/matrix/lesson/403/

- **Decisions about Chemical Use:**
  - **Safety concept:** Decrease the likelihood of negative effects from chemical exposure.
    - **Resource:** Difficult Decisions About Chemical Use: https://www.progressiveag.org/uploads/fs4jk/chemical/DifficultDecisionsAboutChemicalUse.pdf
  - **Agriculture concept:** What chemicals should farmers use? If a farmer has a weed problem in a field, there are many herbicides or chemical inputs they can choose from.
    - **Resource:** Watershed Decisions: https://www.iowaagliteracy.org/Article/Water-Quality-Nutrient-Management-and-Cropping-Systems-Lesson-4-Watershed-Decisions

Food Safety

- **Bacteria:**
  - **Safety concept:** Bacteria growth on food can cause illness. Keep materials clean and keep foods at the appropriate temperature to keep bacteria from growing.
    - **Resource:** Hand's Off, Bacteria!: https://www.agclassroom.org/matrix/lesson/450/
  - **Agriculture concept:** Farmers keep bacteria from entering the food supply by doing things like washing produce, livestock trailers, and other equipment.
    - **Resource:** Microbes—They're Everywhere: https://www.agclassroom.org/matrix/lesson/608/

- **How Germs Spread (Cross-Contamination):**
  - **Safety concept:** Germs are ever-present. They can live on shoes, under your fingernails, and even on your skin. By touching one germy surface and then touching a clean surface, the clean area is now subject to new germs.
    - **Resource:** Food Safety and Sanitation: https://www.txcte.org/resource/lesson-plan-food-safety-and-sanitation-guidelines-culinary-arts
  - **Agriculture concept:** Livestock farmers help keep germs from spreading on their farms by practicing biosecurity.
    - **Resource:** Outbreak Investigation—Salmonella Muenchen: https://www.agclassroom.org/matrix/lesson/479/

- **Cooking Temperatures:**
  - **Safety concept:** Meat needs to be cooked to a minimum temperature to ensure that pathogens are killed and meat is safe.
    - **Resource:** A Chilling Investigation: https://www.agclassroom.org/matrix/lesson/448/
  - **Agriculture concept:** Farmers work to raise healthy animals so that properly prepared meat is safe for all humans.
    - **Resource:** FoodMASTER: Food Safety: https://www.agclassroom.org/matrix/lesson/256/

- **Vaccinations:**
  - **Safety concept:** Vaccinations help an organism build an immune response for a threatening virus, like the flu.
    - **Resource:** Meet the Heroes: https://vaccinemakers.org/lessons/elementary/meet-heroes
  - **Agriculture concept:** Farmers may give certain vaccinations to their livestock if they are concerned about viral diseases like Bovine Respiratory Disease. These are given in specific doses and are overseen by veterinarians.

        - **Resource:** Youth Beef Quality Assurance, Chapter 3: https://extension.usu.edu/cache/files/Youth_Beef_Quality_Assurance.pdf

- **Antibiotics:**
    - **Safety concept:** Sometimes bacteria can make us sick. In some cases, an antibiotic can kill the bacteria and make us healthy again.
        - **Resource:** E-Bug; Antibiotics: https://e-bug.eu/lang_eng/young_adult/teacher/Young_Adult_Antibiotic_Full_Pack.pdf
    - **Agriculture concept:** Livestock get antibiotics if they get sick, too. Each antibiotic has a withdrawal period to ensure that it is metabolized by the animal and is out of the meat or milk before that food product is harvested.
        - **Resource:** Youth Beef Quality Assurance, Chapter 4: https://extension.usu.edu/cache/files/Youth_Beef_Quality_Assurance.pdf

- **Biosecurity:**
    - **Safety concept:** If someone is sick or is carrying disease, they may stay home and not spread that disease or illness.
        - **Resource:** Building on Biosecurity: Reducing the Risk: https://www.canr.msu.edu/uploads/236/65684/4H1667_AnimalScienceAnywhere-BuildingOnBiosecurity.pdf
    - **Agriculture concept:** Livestock on farms are also kept away from diseases. Farmers keep their livestock safe by washing trailers, shoes, clothing, and even showering before going into their barns to avoid bringing in dangerous pathogens and getting their animals sick.
        - **Resource:** Youth Beef Quality Assurance, Chapter 5: https://extension.usu.edu/cache/files/Youth_Beef_Quality_Assurance.pdf

Grain Safety

- **How Grain Affects Breathing:**
  - **Safety concept:** People can become trapped in grain, which compresses the chest, restricting the lungs from expanding.
    - **Resource:** Grain Type Affects Breathing: https://www.progressiveag.org/uploads/fs4jk/grain/GrainTypeAffectsBreathing.pdf
  - **Agriculture concept:** Grain can be stored in grain bins, silos, grain hopper wagons, or even large grain semi-trailers. These collections of grain should never be played on.
    - **Resource:** Farm Machines Then & Now: https://www.iowaagliteracy.org/Article/Farm-Machines-Then-Now

- **Grain's Weight:**
  - **Safety concept:** If a person is stuck in grain, it would take a very great force to pull the person from it due to the pressure and weight of the grain.
    - **Resource:** Grain Weight: https://www.progressiveag.org/uploads/fs4jk/grain/GrainWeight.pdf
  - **Agriculture concept:** One bushel of corn weighs 56 pounds. One bushel of soybeans weighs 60 pounds.
    - **Resource:** Serious Cereal Science: https://www.agclassroom.org/matrix/lesson/417/

- **Gravity's Pull:**
  - **Safety concept:** When grain is flowing out of a wagon, trailer, or bin, it can act like quicksand and pull a person down under the grain.
    - **Resource:** Gravity's Pull: https://www.progressiveag.org/uploads/fs4jk/grain/GravitysPull.pdf
  - **Agriculture concept:** Grain is often stored in places where it can be removed from easily using gravity. Why might that be?
    - **Resource:** Grain Moisture Content: https://www.iowaagliteracy.org/Article/Grain-Moisture-Content

- **How the Lungs Need Space to Breathe:**
  - **Safety concept:** Lungs need to expand and contract to breathe and keep us alive.
    - **Resource:** Lungs Need Space: https://www.progressiveag.org/uploads/fs4jk/grain/LungsNeedSpace.pdf
  - **Agriculture concept:** Farmers grow grains as a carbohydrate source for humans and livestock. Carbohydrates are energy for us.
    - **Resource:** FoodMASTER: Grains: https://www.agclassroom.org/matrix/lesson/264/

Rural Roadway Safety

- **Attitude Influences Behavior:**
  - **Safety concept:** Humans can make bad decisions if they are in a bad state of mind. A positive mental attitude and awareness are important in maintaining safety.
    - **Resource:** Attitude Influences Behavior: https://www.progressiveag.org/uploads/fs4jk/ruralroadway/AttitudeInfluencesBehavior.pdf
  - **Agriculture concept:** Why are things transported to and from a farm? Think about all of the transportation needs to get food from the farm to your plate.
    - **Resource:** By Land, Air, or Sea: https://www.agclassroom.org/matrix/lesson/660/

- **Big vs. Small:**
  - **Safety concept:** Large vehicles can damage small vehicles more than small vehicles can damage large vehicles.
    - **Resource:** Big vs. Small: https://www.progressiveag.org/uploads/fs4jk/ruralroadway/BigvsSmall.pdf
  - **Agriculture concept:** Many farm implements (and other large vehicles like school buses) use diesel instead of gasoline. Farmers can help make renewable diesel by growing soybeans for soy biodiesel.
    - **Resource:** What are Biofuels?: https://www.iowaagliteracy.org/Article/Ag-Energy-Lesson-8-What-are-Biofuels

- **Braking for Safety:**
  - **Safety concept:** Rural gravel roadways interact with braking vehicles differently than highways do. Snow, ice, and mud can also impact driving and braking conditions in rural areas.
    - **Resource:** Braking for Safety: https://www.progressiveag.org/uploads/fs4jk/ruralroadway/BrakingforSafety.pdf
  - **Agriculture concept:** The tires of farm implements are designed not just for highways, but for the fields they will be working in. Think about the differences between tractor tires and car tires!
    - **Resource:** Terrific Tractors: https://www.iowaagliteracy.org/Article/Terrific-Tractors

- **Seatbelts:**
  - **Safety concept:** Seatbelts help keep people safe and in the vehicle in the case of an accident or sudden stop.
    - **Resource:** Seatbelt Sanity: https://www.progressiveag.org/uploads/fs4jk/ruralroadway/SeatBeltSanity.pdf
  - **Agriculture concept:** Livestock in trailers can't wear seatbelts like we do, but different species have different modifications to trailers to help keep them safe on the road. These can be smaller divisions of the trailer, safe floors, and plenty of ventilation. Products from farms, like fruits, vegetables, and eggs, are also transported carefully to keep them from being damaged.
    - **Resource:** Cruisin' for a Bruisin' - Food Packaging Specialist: https://www.agclassroom.org/matrix/lesson/288/

- **Watching for Other Traffic:**
  - **Safety concept:** All drivers need to pay attention to other vehicles on the road. It is important to be aware of your surroundings and what others are doing.
    - **Resource:** Watch for Slowpokes: https://www.progressiveag.org/uploads/fs4jk/ruralroadway/WatchforSlowpokes.pdf
  - **Agriculture concept:** Farm implements are large and move slowly. If a car is moving at highway speeds, it can come up on an implement quickly. Tractors and other machinery do not have to move very fast in a field—in fact, they work best when they move slowly!
    - **Resource:** Transportation Breakout Kit: https://www.iowaagliteracy.org/Article/Transportation-Breakout-Kit

Tractor Safety

- **Slow Moving Vehicle Signs:**
  - **Safety concept:** Recognize what a slow moving vehicle sign is and how to treat it.
    - **Resource:** Slow Moving Vehicle Emblems: https://www.progressiveag.org/uploads/fs4jk/tractor/SlowMovingVehicleEmblems.pdf
  - **Agriculture concept:** Tractors and farm vehicles are machines. What do they do?
    - **Resource:** Machines in Agriculture: https://www.agclassroom.org/matrix/lesson/342/

- **Tractor Hazards:**
  - **Safety concept:** Tractors have many moving parts and dangerous pieces that can be harmful to students. Introduce places where hazards like pinching, cutting, crushing, fires, falls, or others can happen.
    - **Resource:** Tractor Hazards: https://www.progressiveag.org/uploads/fs4jk/tractor/TractorHazards.pdf
  - **Agriculture concept:** In the past few decades, there have been many improvements to tractor safety. For example, tractors now have cabs to keep farmers safe inside the tractor. They can include air conditioning to keep farmers from overheating. These basic things were unheard of 50 years ago!
    - **Resource:** Family Farms Then and Now: https://www.iowaagliteracy.org/Article/Family-Farms-Then-and-Now

- **Tractor Stability:**
  - **Safety concept:** What is a tractor's center of gravity? How might that change if a different scoop or fork is attached to the front? Or if a wagon is attached to the rear? Consider how weight distribution can influence the implement's risk of overturning.
    - **Resource:** Tractor Stability: https://www.progressiveag.org/uploads/fs4jk/tractor/TractorStability.pdf
  - **Agriculture concept:** A tractor's weight can compact the soil and eventually harm soil health. Modern tractors are designed to distribute this weight to minimize soil compaction.
    - **Resource:** High Tech Farming: https://www.agclassroom.org/matrix/lesson/656/

Miscellaneous Safety

- **Cold Weather Safety:**
  - **Safety concept:** It is important to stay warm during winter months. Extreme weather or extended periods outside can bring the risk of hypothermia and frostbite.
    - **Resource:** Cold Weather Safety: https://www.progressiveag.org/uploads/fs4jk/miscellaneous/ColdWeatherSafety.pdf
  - **Agriculture concept:** Livestock also needs to stay warm in the winter. Some animals (like poultry and pigs) live in barns that can be controlled for temperature. Other animals (like cattle) live outside and need things like shelters and windbreaks to keep warm.
    - **Resource:** Let's Raise a Barn: https://www.agclassroom.org/matrix/lesson/701/

- **Electrical Safety:**
  - **Safety concept:** Electricity can be dangerous. Electric plugs and electric lines can cause shocks, burns, and even death.
    - **Resource:** Electrical Safety: https://www.progressiveag.org/uploads/fs4jk/miscellaneous/ElectricalSafety.pdf
  - **Agriculture concept:** Modern livestock barns have electricity. Electricity is important in safety monitoring, automatic feeders, temperature control, air quality control, and more. These systems are important in livestock health.
    - **Resource:** Hen House Engineering: https://www.agclassroom.org/matrix/lesson/799/

- **Emergency Services:**
  - **Safety concept:** It can take longer for emergency services to arrive in rural areas. Cell phone service can also be spotty. Be aware of location and have plans for communication in all situations.
    - **Resource:** Emergency Services: https://www.progressiveag.org/uploads/fs4jk/miscellaneous/EmergencyServices.pdf
  - **Agriculture concept:** Livestock can have emergencies, too. Large animal veterinarians are often on call so that farmers can reach them during a livestock health emergency.
    - **Resource:** Charting Agricultural Careers: https://www.agclassroom.org/matrix/lesson/612/

- **Ergonomic Safety:**
  - **Safety concept:** Physical labor can be hard on a body. Be aware of pains or strains that could cause long-term pain. Make good decisions about footwear, carrying appropriate amounts, and other tasks to ensure your long term health.
    - **Resource:** Ergonomic Safety: https://www.progressiveag.org/uploads/fs4jk/miscellaneous/ErgonomicSafety.pdf
  - **Agriculture concept:** Many Iowa farms are now equipped with modern technologies that

save strenuous labor from the farmer. Things like automatic feeders and even autosteer in tractors help mitigate physical stress. However, in many fruit and vegetable farms, many things are still done by hand.

- **Resource:** Robots in High Tech Farming: https://www.agclassroom.org/matrix/lesson/690/

- **Fire Safety:**
  - **Safety concept:** Understand what to do in case of a fire at home or on a farm.
    - **Resource:** Fire Safety: https://www.progressiveag.org/uploads/fs4jk/miscellaneous/FireSafety.pdf
  - **Agriculture concept:** Some things on a farm can be flammable. Grain, hay, straw, and chemicals can all pose fire risks.
    - **Resource:** Clothes on the Grow: https://www.agclassroom.org/matrix/lesson/486/

- **Hearing Safety:**
  - **Safety concept:** Being around loud things (music, machinery, tools, etc.) can damage hearing permanently.
    - **Resource:** Hearing Safety: https://www.progressiveag.org/uploads/fs4jk/miscellaneous/HearingSafety.pdf
  - **Agriculture concept:** Hearing is important and so is listening. People in the food industry listen to consumers to create products they want to buy.
    - **Resource:** Mix it Up! Food Scientist: https://www.agclassroom.org/matrix/lesson/287/

- **Heat Stress:**
  - **Safety concept:** Heat can be dangerous. An overheated person can become dehydrated, get heat cramps, heat exhaustion, or heat stroke. Water, ventilation, and adequate breaks are important.
    - **Resource:** Heat Stress Safety: https://www.progressiveag.org/uploads/fs4jk/miscellaneous/HeatStressSafety.pdf
  - **Agriculture concept:** Livestock are

also subject to heat. For example, pigs do not sweat to cool themselves. It is important for pig farmers to provide a cool space that often include misters to help cool the pigs similar to how sweat would.

- **Resource:** Pigs on the Farm: https://www.agclassroom.org/matrix/lesson/714/

- **Lawn Mower Safety:**
  - **Safety concept:** Lawn mowers have many dangerous aspects: blades, operating engine, and the potential for flying debris.
    - **Resource:** Lawn Mower Safety: https://www.progressiveag.org/uploads/fs4jk/miscellaneous/LawnMowerSafety.pdf
  - **Agriculture concept**: Much like a lawnmower, farmers may cut hay with large implements. The hay is then used as livestock feed.
    - **Resource:** Forage Production: http://courses.missouristate.edu/WestonWalker/AGA375_Forages/Forage%20Mgmt/Lesson%202/..%5C%5CREFERENCES%5C%5C3IMLAdvCrop%5C%5CUnit9Les1.pdf

- **Manure Safety:**
  - **Safety concept:** Manure pits and lagoons can create dangerous gases. People should never enter a manure pit without a breathing apparatus and a harness.
    - **Resource:** Manure Safety: https://www.progressiveag.org/uploads/fs4jk/miscellaneous/ManureSafety.pdf
  - **Agriculture concept:** Manure pits are used to collect waste. The manure can then be used as a high-quality fertilizer on farm fields.
    - **Resource:** Nitrogen Cycle: https://www.iowaagliteracy.org/Article/Water-Quality-Nutrient-Management-and-Cropping-Systems-Lesson-5-Nitrogen-Cycle-Option-1

- **Play Area Safety:**
  - **Safety concept:** A safe play area can keep children from playing on or in dangerous areas. Consider safe boundaries and safe areas.
    - **Resource:** Play Area Safety: https://www.progressiveag.org/uploads/fs4jk/miscellaneous/PlayAreaSafety.pdf
  - **Agriculture concept:** Livestock can also like playing in dangerous areas. Fencing can help keep livestock in safe, controlled areas. Livestock then become the food that fuels our play!
    - **Resource:** Beef Basics: https://www.agclassroom.org/matrix/lesson/284/

- **Power Tool Safety:**
  - **Safety concept:** Power tools require training and special care. Only adults with proper knowledge or students with the help of a responsible adult should use power tools.
    - **Resource:** Power Tool Safety: https://www.progressiveag.org/uploads/fs4jk/miscellaneous/PowerToolSafety.pdf
  - **Agriculture concept:** Power tools aren't the only type of technology on a farm. Modern farms can use drones to monitor their crops and livestock.
    - **Resource:** Drones in High Tech Farming: https://www.agclassroom.org/matrix/lesson/688/

- **Respiratory Safety:**
  - **Safety concept:** Many things on a farm can interfere with breathing. Wildflower pollen can cause allergies. Dust can collect in sheds and shops. Tractors and other machinery have fumes. Be aware of air quality and wear a mask if necessary.
    - **Resource:** Respiratory Safety: https://www.progressiveag.org/uploads/fs4jk/miscellaneous/RespiratorySafety.pdf
  - **Agriculture concept:** Livestock barns include air quality monitors to ensure the animals have safe air to breathe.
    - **Resource:** Animal Life Cycles: https://www.agclassroom.org/matrix/lesson/81/

- **Sun Safety:**
  - **Safety concept:** The sun can not only cause sunburn, but can hurt eyes and increase risk of skin cancer. Remember to wear sunglasses, hats, and sunscreen to protect yourself.
    - **Resource:** Sun Safety: https://www.progressiveag.org/uploads/fs4jk/miscellaneous/SunSafety.pdf
  - **Agriculture concept:** The sun is the source of all energy. Plants capture the sun's energy using photosynthesis, and animals get that energy by eating plants!
    - **Resource:** Sun, to Moo, to You!: https://www.agclassroom.org/matrix/lesson/251/

- **Water Safety:**
  - **Safety concept:** Bodies of water pose risk to drowning, injury, or contamination. Be aware of safe swimming areas and never drink from standing water.
    - **Resource:** Water Safety: https://www.progressiveag.org/uploads/fs4jk/miscellaneous/WaterSafety.pdf
  - **Agriculture concept:** Safe drinking water is very important for livestock. A pig can drink up to six gallons of water a day!
    - **Resource:** Water Pollution: https://www.iowaagliteracy.org/Article/Water-Pollution

Resources

There are many organizations from which you can find related resources. Consider using materials and information from these groups.

- **The National Agriculture in the Classroom Organization**
  - At www.agclassroom.org you can find hundreds of agricultural lesson plans, all related to educational standards. You can also find an online store to purchase kits and materials to help teach some of these lessons.
- **The Iowa Agriculture Literacy Foundation**
  - IALF strives to be a centralized resource for Iowans wanting to teach about agriculture in k-12 classrooms. At www.iowaagliteracy.org you can find a collection of Iowa specific lessons, student publications, and a library of books and other items.
- **The Progressive Agriculture Foundation**
  - The Progressive Agriculture Foundation puts forth the Progressive Ag Safety Day program to help educate and train volunteers so children can be safer in their communities. You can find information and resources at www.progressiveag.org.
- **The National Education Center for Agricultural Safety**
  - NECAS has been dedicated to farm safety for 75 years. They have a collection of resources online, as well as brick and mortar education centers for individuals to be trained in ag safety. Visit their website at www.necasag.org.
- **The National Children's Center for Rural and Agricultural Health and Safety**
  - NCCRAHS is a research institute of Marshfield Clinic. This organization studies children's health in rural areas and has some resources available on their website at www.marshfieldresearch.org/nccrahs.
- **The AgriSafe Network**
  - The AgriSafe Network is a nationwide effort to improve the lives of rural Americans through education and occupational health services. Find resources and information at www.agrisafe.org.
- **Penn State Extension**
  - Pennsylvania State University's Extension program has farm safety information and materials on their website. Find articles and videos on a variety of farm safety topics, from silos to biosecurity and more at www.extension.psu.edu/business-and-operations/farm-safety.

Checklist

For a successful ag safety day

- Create a program budget
- Set a program date and time
- Organize program location
- Plan for program vision and direction
- Invite presenters
- Invite participants
- Recruit volunteers
- Plan logistics and details
  - Lunch details (caterer, cost, location, servers)
  - Check-in process (location, volunteers, materials)
  - How will rotations be organized?
  - Will there be nametags, group leaders, teacher bags, etc.?
- Create safety plans
  - Medical emergencies
  - Inclement weather (rain, thunderstorm, tornado)
  - Lost student
  - Fire
- Create final day itinerary to share with all involved
- Train presenters and volunteers
- Follow up with participants to confirm itinerary and day-of plans
- Alert local media
- Enjoy!

After the event:

- Evaluate program success and how to improve next year
- Thank all volunteers, presenters, and attendees

Tips for Presenters

Ag safety days tend to have multiple stations of educational lessons that classes rotate through. Don't get stressed trying to staff all of these stations yourself—ask for help from experts! Look toward county promotion and education councils, Extension and Outreach, FFA chapters, 4-H clubs, commodity groups, implement dealers, veterinarians, EMS and fire departments, medical professionals, and community service organizations for help. These groups have expertise in different areas and can be great assets.

When you find willing presenters, they may not be comfortable or familiar with presenting to students. Help prepare them with reasonable expectations and helpful tips, like the ones below.

- **Presentations should be educational and hands-on**
    - Remember, the goal of a great ag safety day is that it teaches both safety and agriculture. Help presenters see that vision, and encourage them to include hands-on, engaging lessons in their station.
- **Start at an introductory level**
    - Encourage presenters to not use industry jargon and start at a very basic level of knowledge. Most students in America do not grow up on farms and these topics can be brand new information to them.
- **Speak clearly**
    - If the classes are very large, it's especially important to speak clearly and loudly so that everyone can hear. If students can't hear, they will become disengaged and restless. If areas are loud, consider bringing small microphone systems or even separating the group into smaller groups with a presenter for each smaller group.
- **Keep students engaged**
    - Presentations go best if students are engaged the entire time. To keep students engaged, ask questions, be emphatic about the subject, include activities and opportunities for engagement, and include some form of hands-on activity for the students.

Other Considerations

- **When should the event be?**
  - Consider school calendars and events like National Farm Safety and Health Week (third week of September) or National Ag Week (third week of March). If the event will be held entirely indoors, you have more of the school year available than if you'd like to have outdoor stations.
- **Where should the event be held?**
  - Consider rental costs, accessibility, availability of restrooms and inclement weather shelters. Some options may be a fairground, community center, historic farm, or other local venue. Do these venues include tables, chairs, or other set-up materials?
- **What should we hand out?**
  - Student handouts are largely unnecessary. If the student can gain real value from the information or pass it on to their parents, there might be merit, but don't worry too much about funding toys or other promotional materials that may get thrown away at home.
  - Teacher handouts, on the other hand, can be helpful. A folder or bag for each teacher with contact information, resources, or brochures on each group attending can help them follow up with presenters and equip them to keep the agriculture conversation going in the classroom.
- **What do we do in an emergency?**
  - Create plans ahead of time for what to do in case of a medical emergency, fire, tornado, or a missing child. Venues will likely have plans in place for many emergencies. Ensure that all presenters and teachers are aware of these plans prior to start of the day.
- **Will we need other volunteers besides presenters?**
  - As they say, many hands make light work! Though presenters are some of the most forward-facing people at the event, chaperones, food servers, registration table attendees, station helpers, and even a photographer can be helpful additions. Consider members of your organization, FFA students, 4-H students, or other service organization members for these roles.
- **What forms do we need?**
  - If funding is necessary, consider sponsorship letters. Thank you notes will be good for all volunteers, presenters, and attending teachers. Consider what type of registration process will work best (mail, email, online form, etc.). Consider creating an evaluation for the event and each presenter. When schedules are created, consider sending them along with a station map to volunteers, presenters, and attendees. Will waivers be necessary for any of the stations?

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