

AgriKids Farm Safety Ambassador

Theme 4: Slurry and Water Safety

Level: 3rd – 4th Class

Objective

In this theme the children will learn about slurry and water safety as well as being made aware about where and why other toxic elements might be used on a farm.



Learning outcome topics

1. Water safety and staying safe around water areas on a farm
2. Knowing the dangers around slurry & agitation of slurry.
3. Knowing examples of chemicals used on a farm & safety regarding same.

Tip: You can use the Farm Safety Workbook in conjunction with this discussion.

Topics

1. Staying safe with water

Start off by asking the class why and where water is used on a farm. The below list will help:

- For animals to drink
- Water crops
- Cleaning machinery
- Washing out dairy parlours.



Now ask the class where on a farm you might see a large area of water or water stored? Here is a list that will help the conversation.

- River
- Lake
- Pond
- Animal drinkers
- A ditch
- A drain
- A barrel
- A slurry pit



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Now ask the children how farmers or people visiting a farm can stay safe when around an open water area. Create a list on the board.

- Put up fences around pits and open water
- Cover the tops of barrels

- Put up signs warning people
- Fill in holes that could fill with water
- Make sure ditches are not blocked

Ask them what might happen if these things are not done!



Now ask the children to look at the following pictures and in groups write down two things that could happen in pictures 1 & 2 and what they notice about Picture 3.



Now ask the class to present their answers and write them up on the board.

- Are all the answers the same
- Has any group noticed anything different?

The Signs

Remind the children never to approach an open water area alone and to always look out for the safety signs.



2. Slurry and slurry safety!

Lead the class discussion with the following questions.

Q. What is slurry made of?

- A. Slurry is the name given to the mixture of manure and urine produced by farm animals such as cattle and pigs.

Q. What is slurry used for?

- A. It used by farmers to fertilise their grass and is typically stored in a slurry tank or a slurry pit.

Q. Where on a farm does the farmer keep slurry?

- A. Farmers can only spread slurry at certain times of the year. Under a rule called the Nitrates Directive, slurry cannot be spread over the winter so as to protect ground and surface water, including drinking water. Therefore slurry is kept on a farm in tank or a pit. Some pits, (slatted pits) are indoor and the poo is gathered underneath the sheds from animals over the winter months.

Q. Why can it be dangerous for farmers to have slurry?

- A. There are two dangers we can associate with slurry:
- Risk of drowning
 - Poisoning by toxic gases.

**Drowning**

As slurry is stored in a tank or pit and is made up of solids and water, anyone that falls in is at risk of drowning. Therefore it must be fenced off to ensure no people or animals falls in. When left alone for a long period of time (such as over the winter storage months), the surface of the slurry can harden and form a crust. To some this looks like a solid surface and believe they can walk across it.

Poison gases:

Hydrogen Sulphide is the name of the toxic gas in slurry! Just one lungful of this gas can be fatal. Other gases produced by slurry are Carbon Dioxide (CO₂), methane and ammonia.

Mixing slurry is called Agitation. This allows all the nutrients that have settled on the bottom of the tank to be mixed up and it breaks the hard crust that can form on the surface.

However it can also cause the release of hydrogen sulphide gas.

The first 30 minutes of agitation are the most dangerous as this is when the highly toxic gas is strongest. Farmers should leave the area once agitation starts and not return for up to one hour!

Therefore during agitation of slurry all animals must be taken out. Farmers when agitating slurry must also keep well away from the area.

Staying Safe:

There are certain rules and tips all farmers should follow when agitating slurry!

- Mix slurry on a windy day so to help the gasses blow away!
- Make sure all animals have been removed from the building
- Keep all doors and windows open
- Start the mixer and stay out of the building for at least 30 minutes as this is when slurry gases are at their highest levels (longer depending on the tank size)
- No children should be present when farmers are mixing their slurry



Slurry mixing point



Slurry mixer (agitator)



A tractor is used to power the agitator.



Spreading slurry on grass



Tip: a great way to explain how gas is released during agitation is to shake a fizzy bottle and open it slowly so the children can hear the gas escape



3. The Chemical shed

Farmers use many different chemicals to help them on their farms.

Question:

How do you know if something is dangerous to touch or smell?

When we talk about chemical safety, we can use words such as poisonous and toxic to explain the dangers. The label may read “caution,” “poison,” or “danger.”

Chemicals may cause death or serious injury in different ways –

- Inhalation (breathed in) – asphyxiation.
- Ingestion (swallowed) - poisoned
- Absorption (soak into skin or eyes) – burnt skin
- Fire hazards



**ONE
LUNGFUL OF
SLURRY GAS
CAN KILL**



ALWAYS OBEY SAFE AGITATION GUIDELINES

- ✓ Agitate on Windy Days
- ✓ Remove all Livestock & Control Pets
- ✓ Open all Doors & Control Access
- ✓ Agitate/Ventilate & Stay Away for 30 minutes
- ✓ Work Upwind at all times
- ✓ Do not enter Tanks, even when empty
- ✓ Keep Tank Openings secure at all times
- ✓ If possible, avoid agitating alone

Question:

What types of chemicals do farmer's use on farms and why?

- Fertilizers - help crops to grow
- Oils - for machinery
- Disinfectants - keep yard clean and hygienic especially in areas with animals and young animals.
- Animal medicines
- Pesticides,

This is the collective term for an array of products used by farms to help get rid and control 'Pests' on farms. Examples of pesticides are:

- Rodenticide: Rats & Mice
- Herbicide: Weeds
- Fungicide: Fungal and diseases on crops
- Insecticide: Lice and flies on animals.

Staying safe:

If working with chemicals, farmers must wear the correct clothing and safety accessories:

- Overalls
- Gloves
- Face Masks
- Boots

Keep all chemicals in a room which must be locked with a warning sign on the door.

Using props such as washing up liquid, detergents or household cleaners, see if the children can identify the warning signs and labels. Then ask the questions:

Questions:

Are there warning signs on the labels?
What does the label tell you?



Toxic / Poisonous /
Danger of death

***Farmers must lock all
chemicals away!***



Can be an irritant to
skin, eyes, etc.

Dangerous if
inhaled



Can burn skin -
caustic



Dangerous to
environment.
Dispose carefully



Flammable

*What to wear – Watch out for the
mandatory Blue Sign*

Follow up activities & projects

- Complete the activities in the workbook
- Check out our white board and PC games: Farm Yard Safety, Off to Work and Follow the Signs on agrikids.ie
- Download and fill in our 'Spot the Dangers' worksheets.
- Sign up for an AgriKids webinar
- Invite a farm representative from IFA or Teagasc to show the children more about animal care and safety
- If you have a model farm in class add in an area for a slurry pit and put up the correct signs.
- Check out the PAWS the water safety programme from Irish Water Safety.
- With their parents / guardians ask the children to carry out a survey of any potential toxins in their home. Are they stored out of harm's way?
- Invite a First Aid professional to your school to talk about first aid and dealing with burns and chemicals.
- Check out www.poisons.ie