

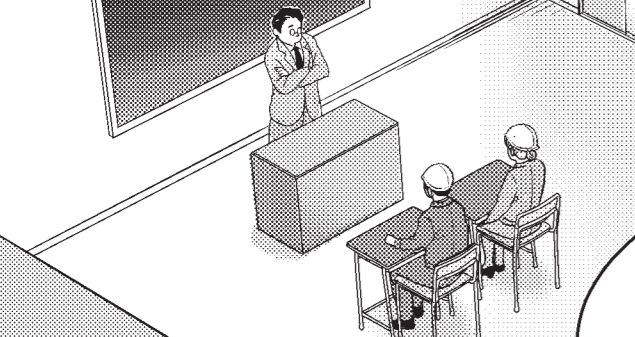
生コンクリート製造業の安全衛生

Learn Through Manga

Safety and Health Education in the Fresh Concrete Manufacturing Industry



These audiovisual materials have been prepared for the purpose of teaching the basics of safety and health for all those employed at workplaces related to the fresh concrete manufacturing industry.

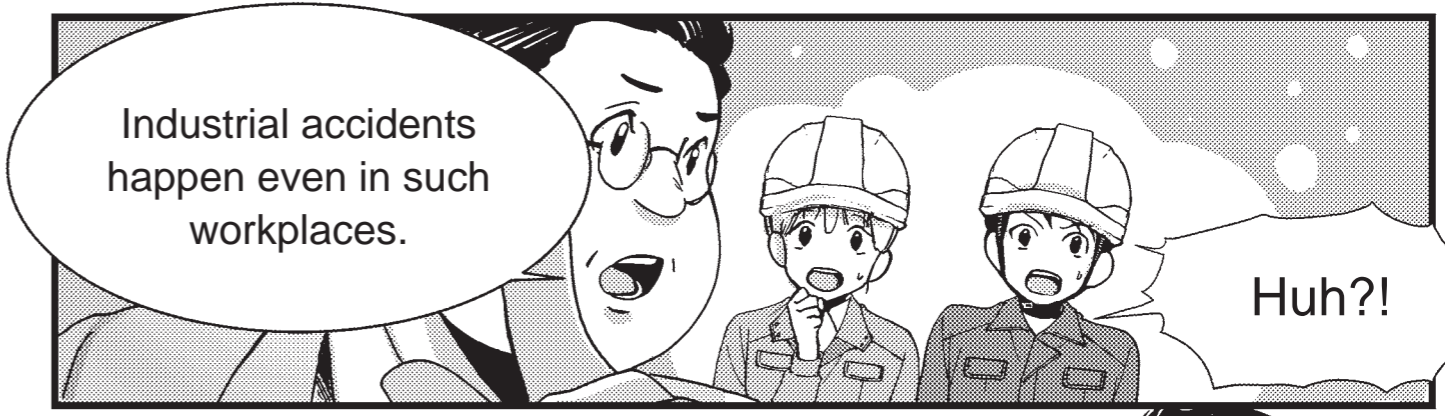
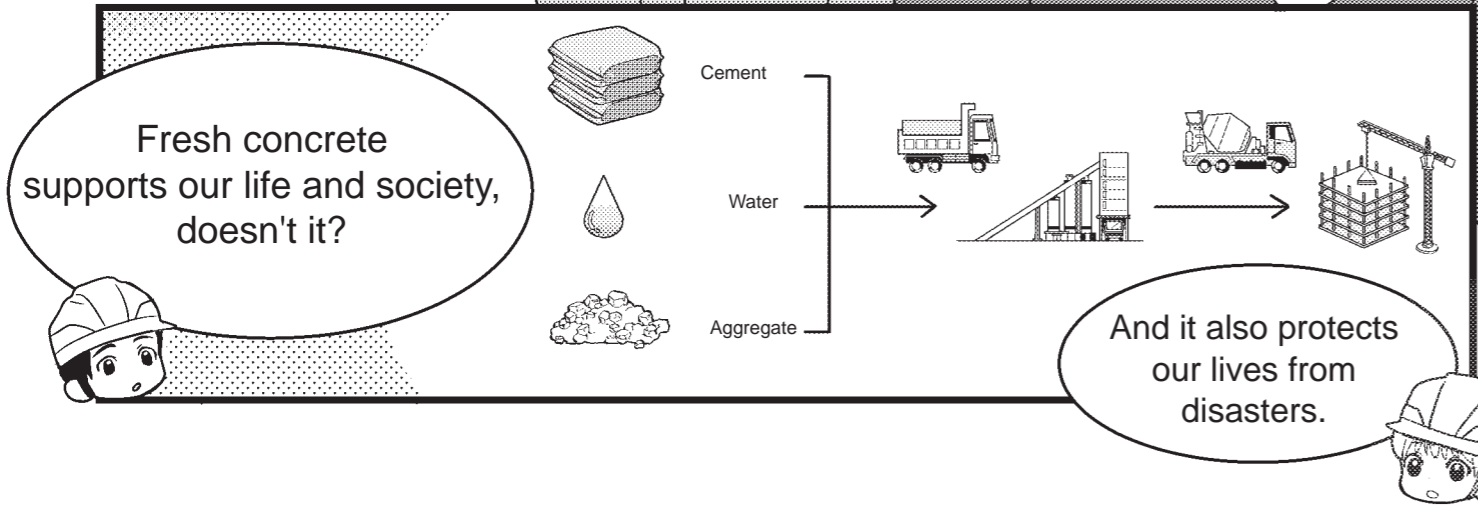


Today we're going to learn about safety and health education in the fresh concrete manufacturing industry!



Making materials that are indispensable for buildings, bridges, dams, and other construction is important work.

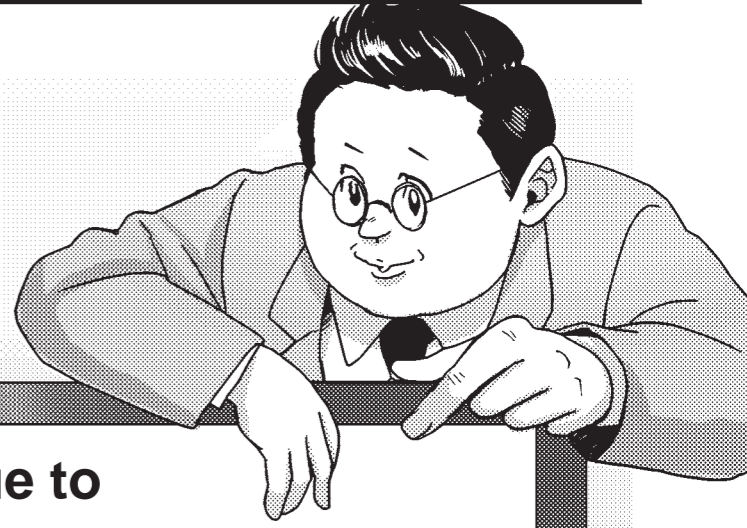
That's right!



Industrial accidents happen even in such workplaces.

Huh?!

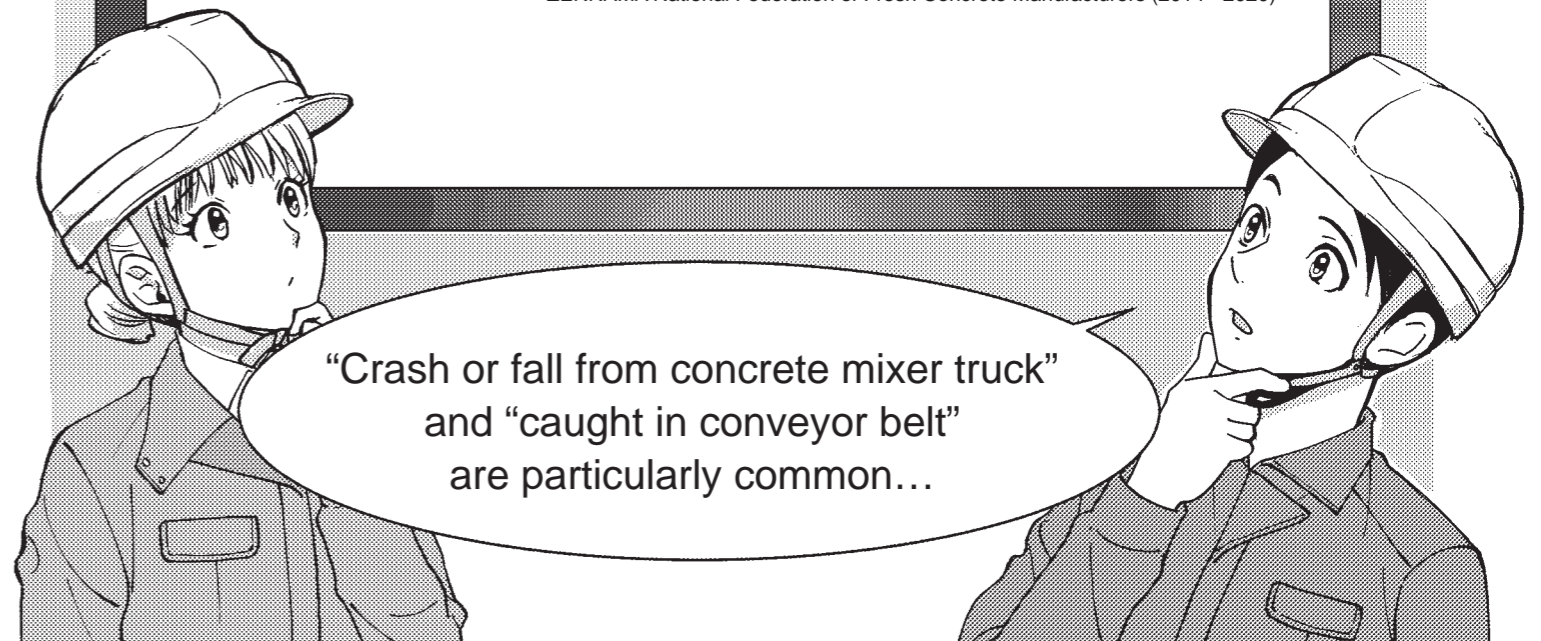
Alright, let's take a look at the main causes of industrial accidents.



Deaths and Injuries due to Industrial Accidents

1	Crash or fall from concrete mixer truck	55%
2	Caught in conveyor belt	21%
3	Caught in other machinery	14%
4	Buried alive in silo	6%
5	Fell over	4%

ZENNAMA National Federation of Fresh Concrete Manufacturers (2014 - 2020)



"Crash or fall from concrete mixer truck" and "caught in conveyor belt" are particularly common...

That's right.
For example, in the case of a "crash or fall from concrete mixer truck,"

the inside of the drum hopper is always washed once the concrete mixer truck returns to the factory after delivering fresh concrete to site,
The inside of a concrete mixer truck's drum hopper is washed 3-5 times a day.
and slip and fall accidents frequently occur when coming down the steps after washing.

Seems the steps get slippery when they get wet from the rain.
The concrete mixer truck's hopper is up high, so a fall could cause broken bones.

How can we prevent that?

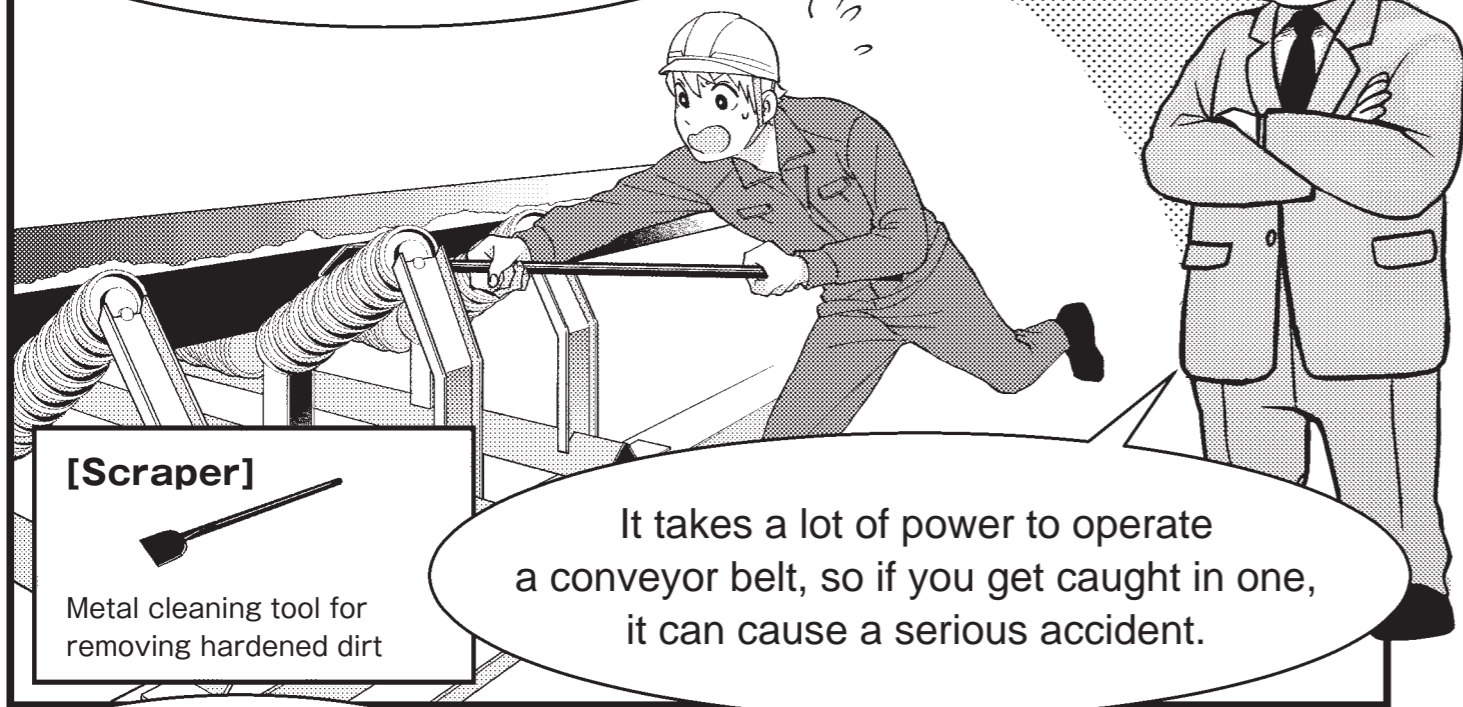
It's important for the person to pay attention of course, and also to follow the rules and work procedures that have been established.

There's so many rules and procedures, it's a pain.....
The point is to not slip and fall, right?

Hmm?

It's important to follow the rules and work procedures to keep you and those around you safe!
Ye, yes sir!

Next is "caught in conveyor belt."
During inspections, accidents occur where workers' hands get caught scraper and all while trying to remove foreign objects stuck in moving conveyor belts.



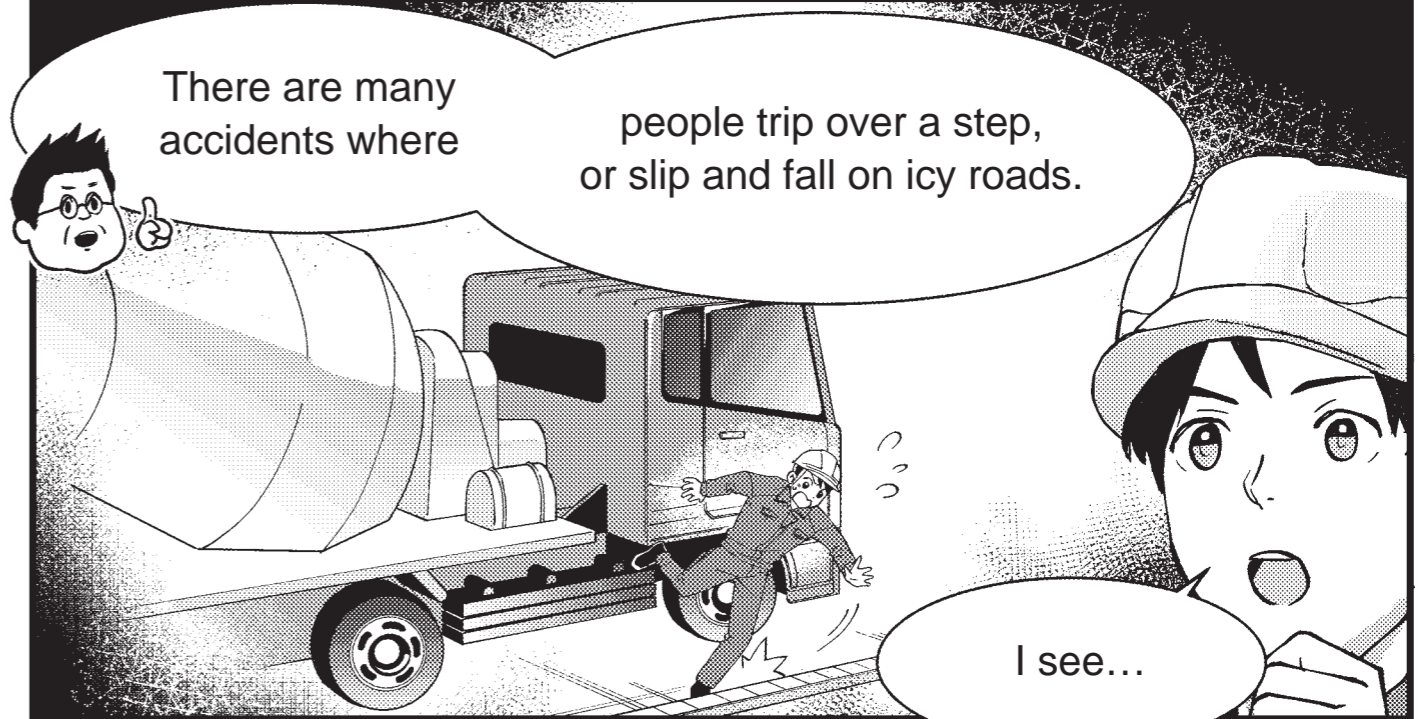
[Scraper]

Metal cleaning tool for removing hardened dirt

It takes a lot of power to operate a conveyor belt, so if you get caught in one, it can cause a serious accident.



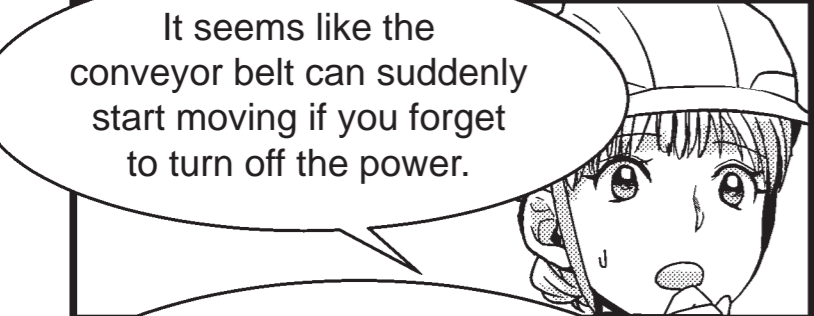
Accidents involving falls are also happening frequently, right?



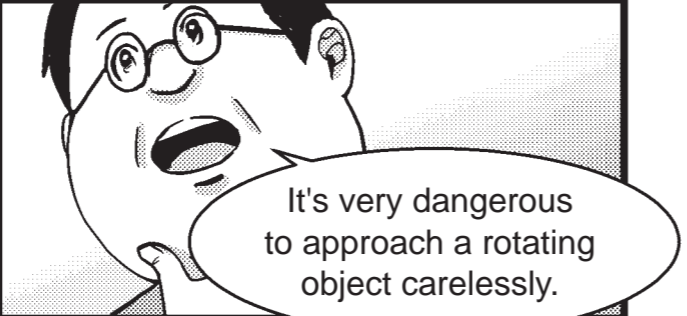
There are many accidents where

people trip over a step, or slip and fall on icy roads.

I see...



It seems like the conveyor belt can suddenly start moving if you forget to turn off the power.

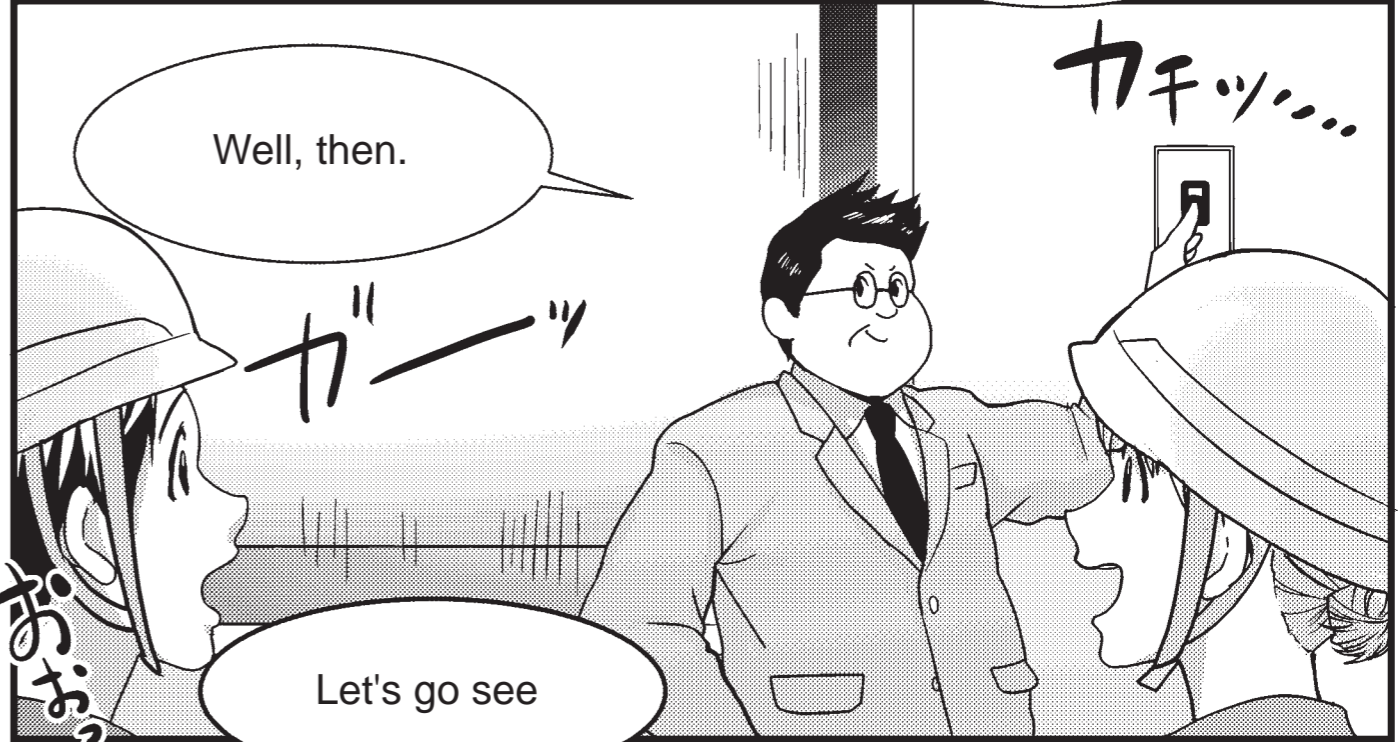


It's very dangerous to approach a rotating object carelessly.



I've heard of another accident where a worker died in a silo filled with sand....

That's right. A pile of sand collapsed and buried the worker alive while they were scraping sand off the silo walls.



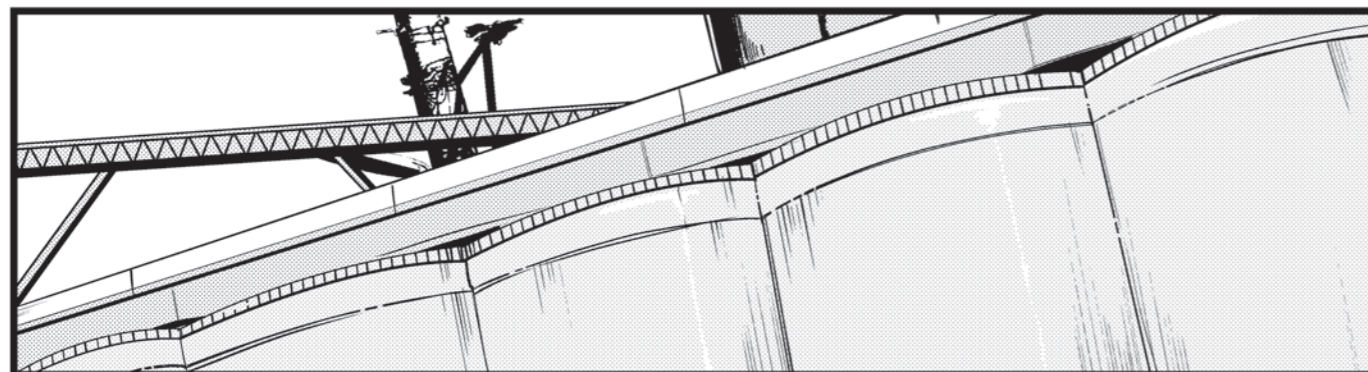
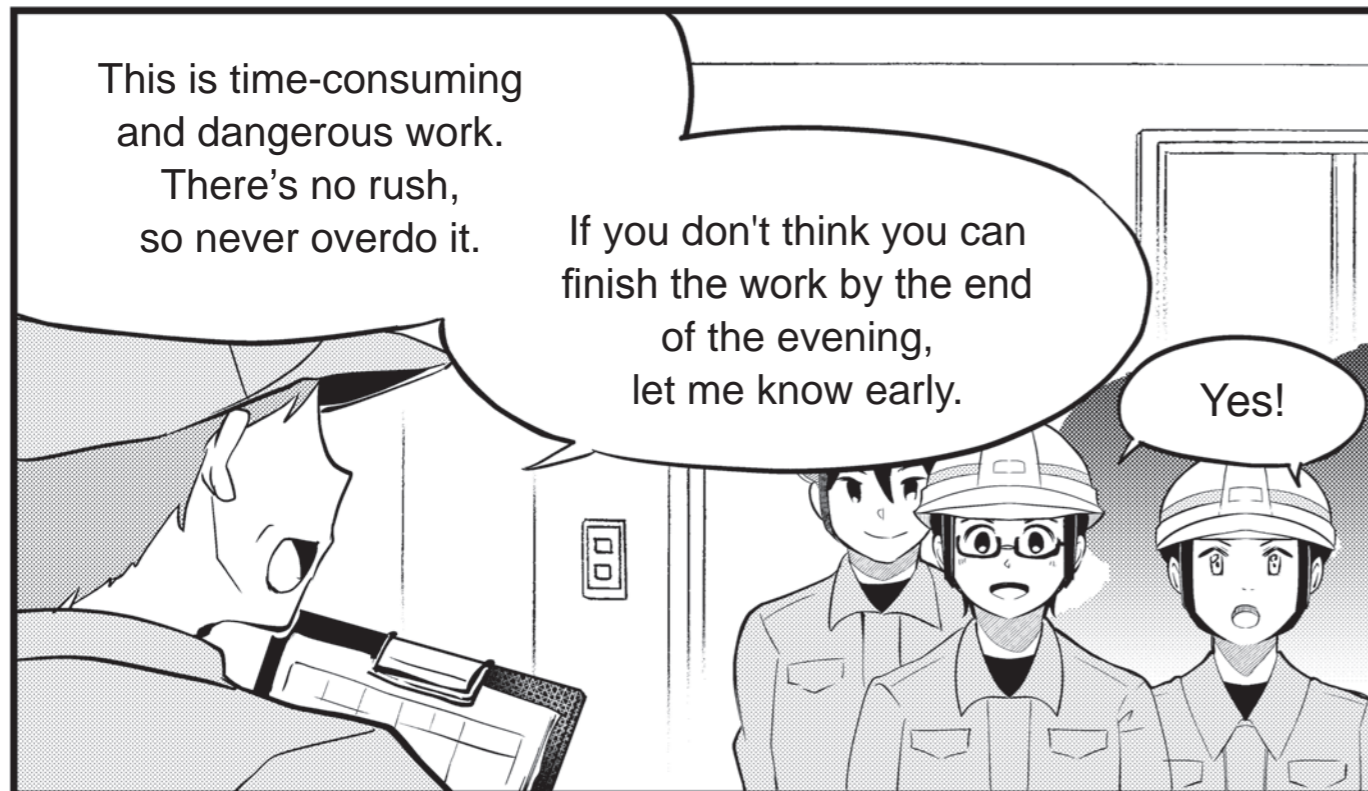
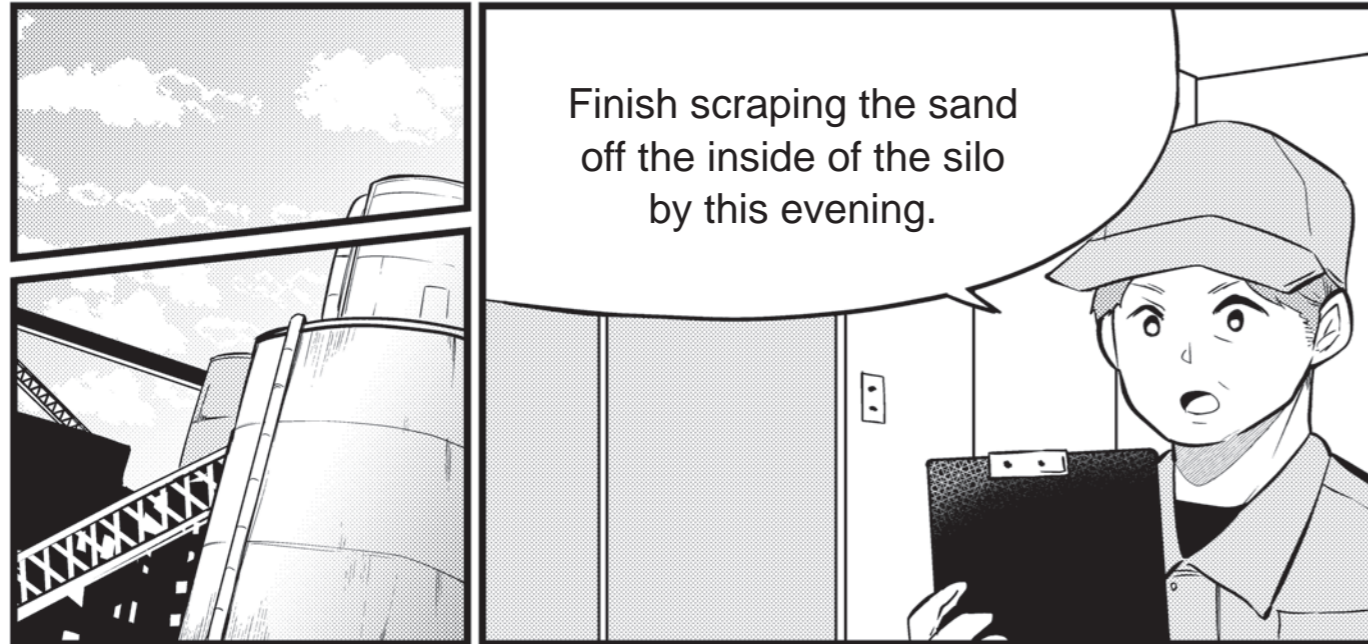
Well, then.

Let's go see



what's happening on-site!

CASE 1





Waiting around is a waste of time.

Let's get even a little bit done!



Whoa!



We're back!
...huh?
Where'd they go?

...somebody!



Oh, no!

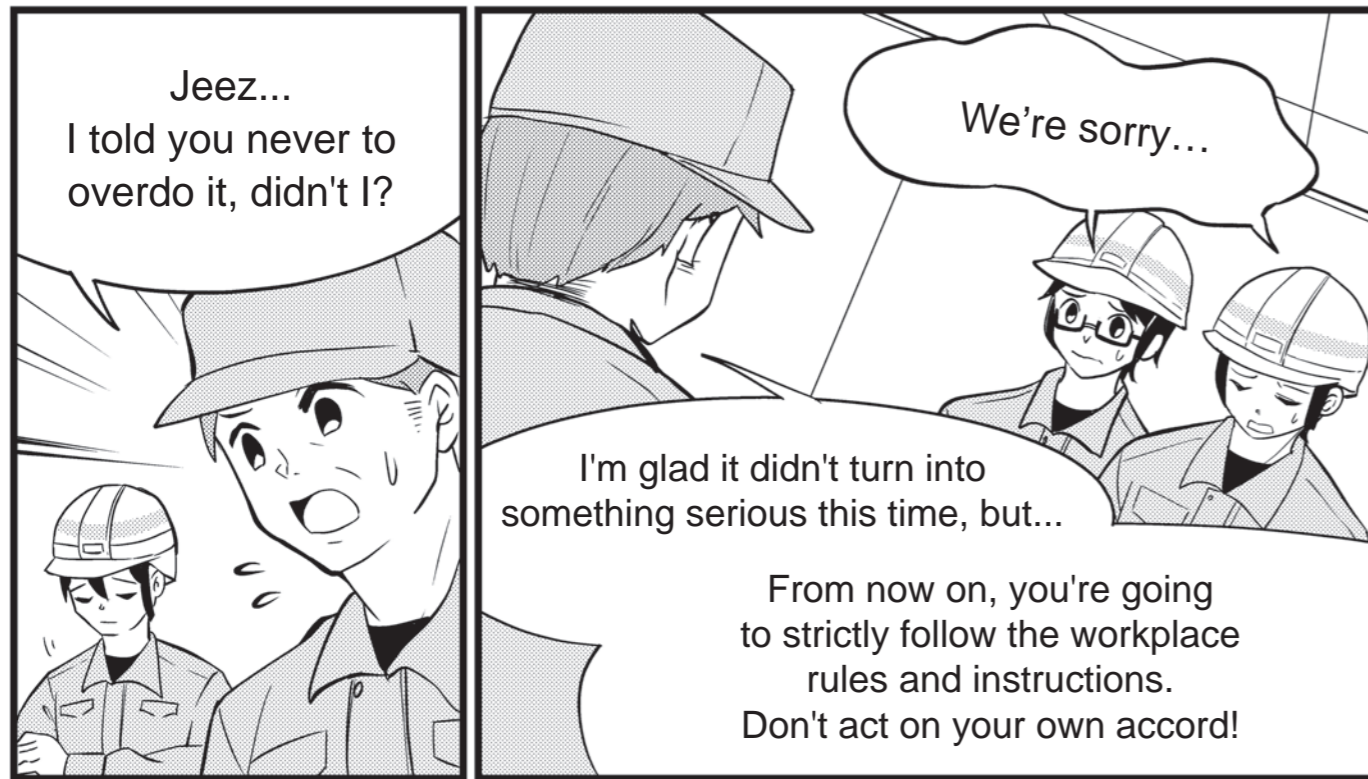
We have to help them, quickly...!



It's not safe, so stay still!
We'll help you right away!

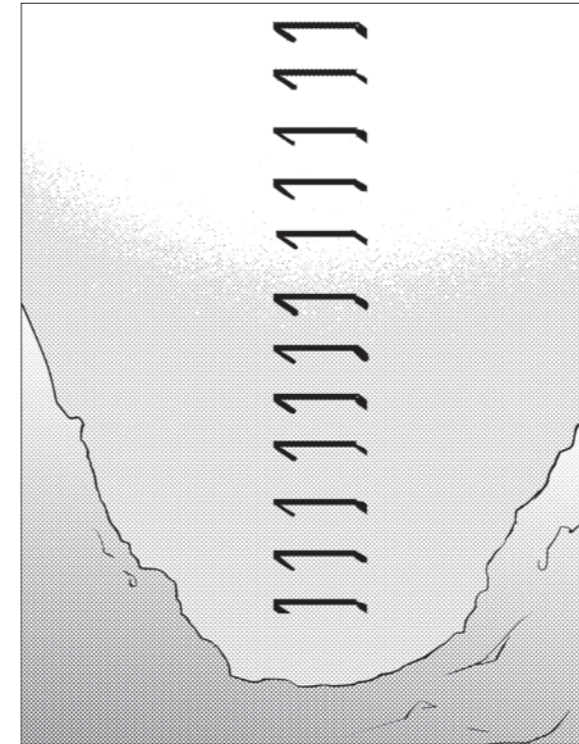


...Okay.

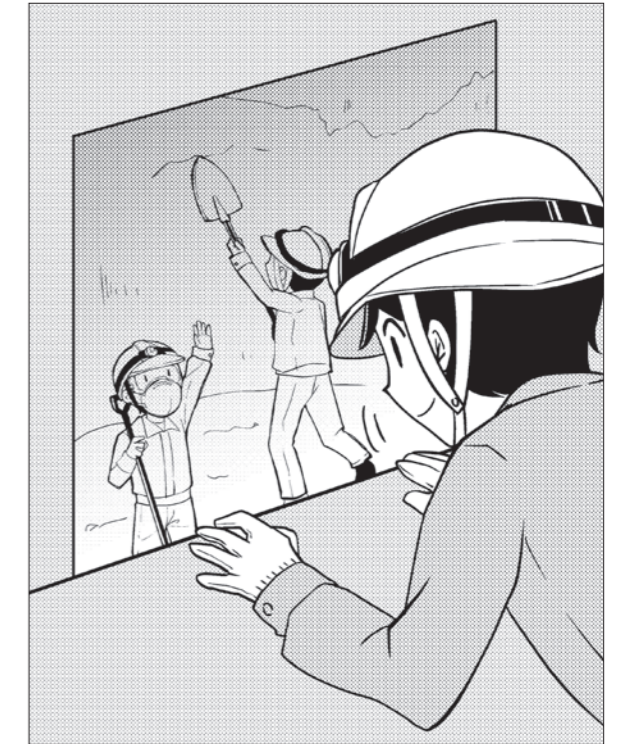


Working Safely in Silos

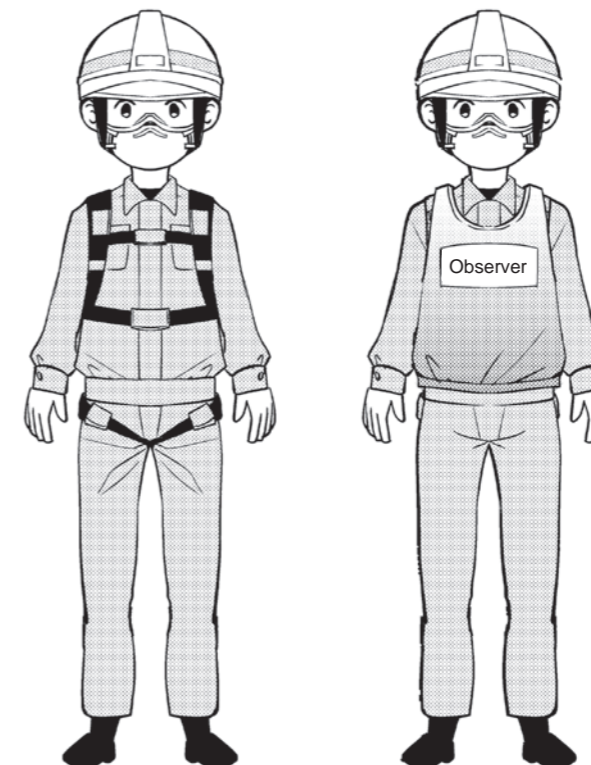
1 As a general rule, do not work in places where there is a risk of being buried under dirt or sand.



2 When working in a silo, have an observer and do not work alone.

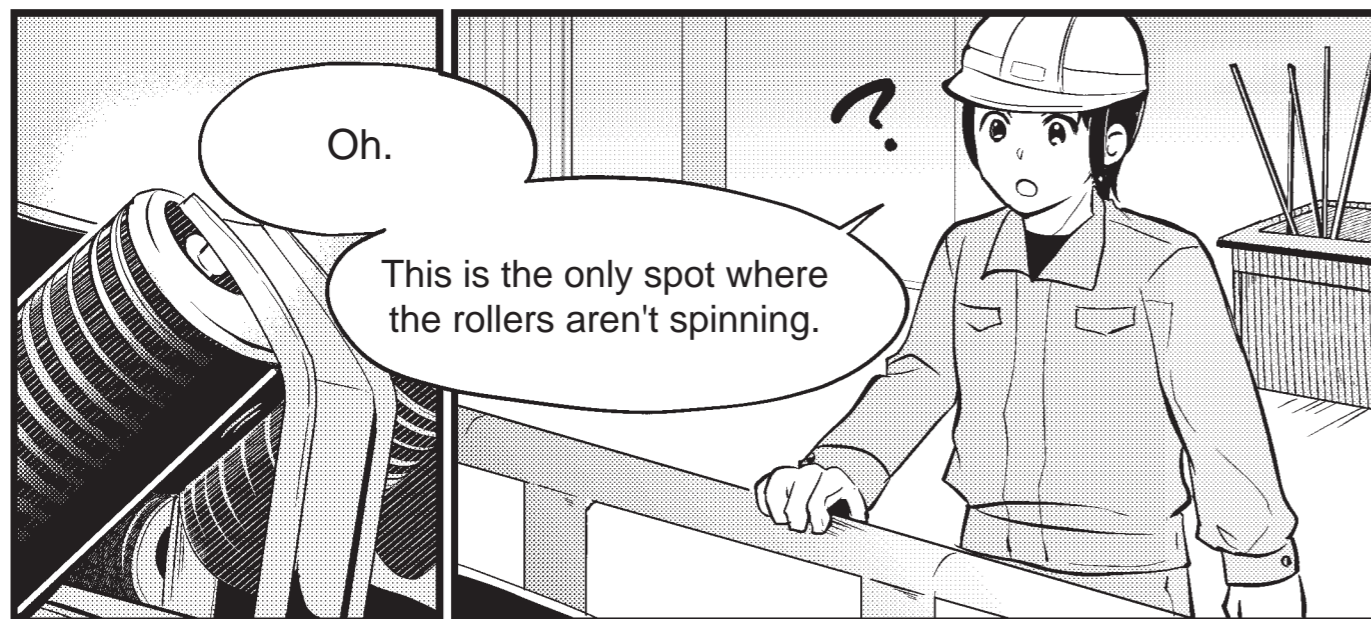


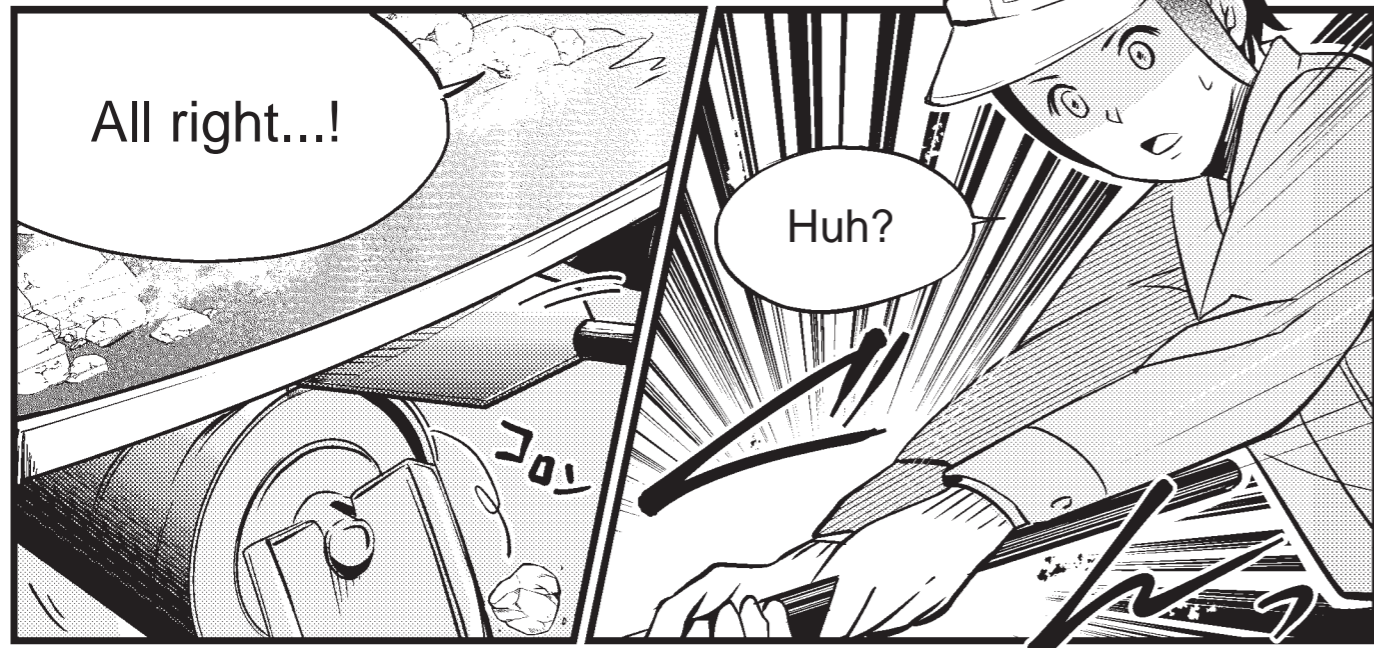
3 Work in the silo only after putting on the specified protective equipment and confirming that it is safe to do so. When working, an observer must be in place.



It can be difficult to escape when buried under a large amount of sand, especially if it is damp. Being buried under large amounts of sand strongly compresses the lungs, blood flow is reduced, breathing becomes difficult, and it may result in death.

CASE 2





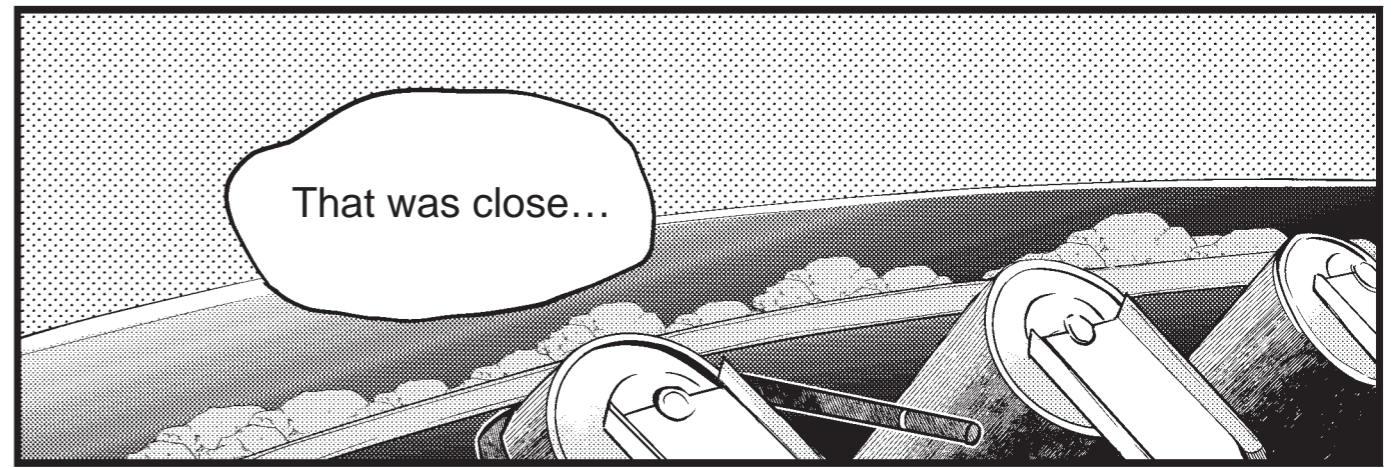
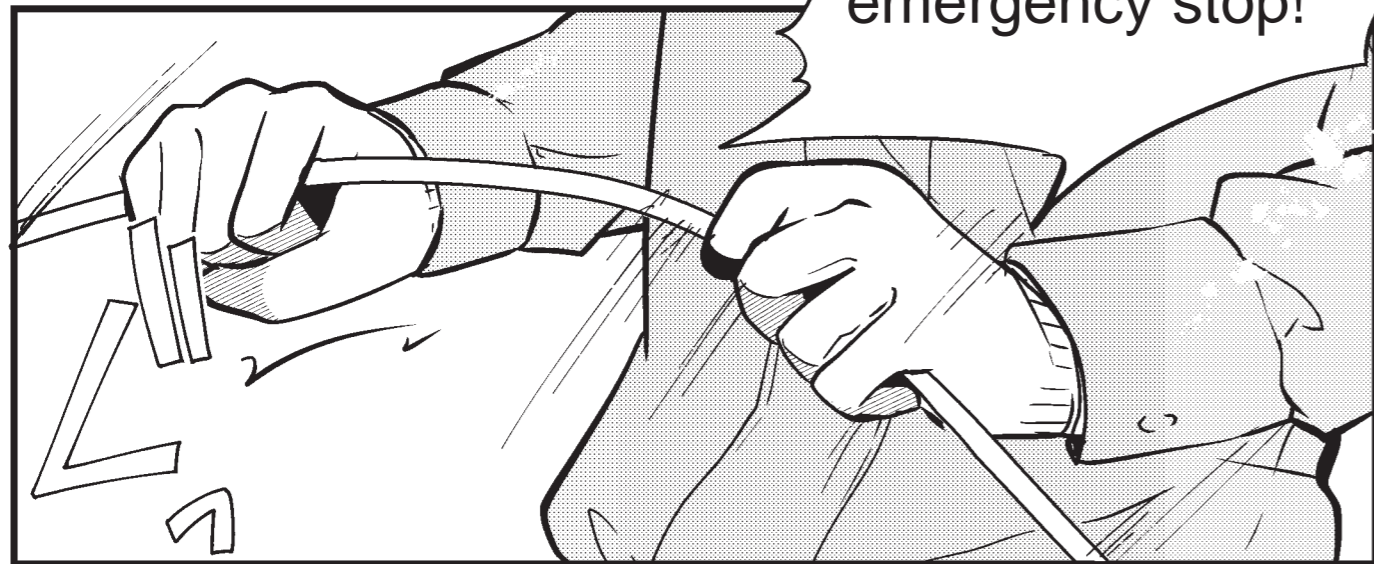
All right...!

Huh?

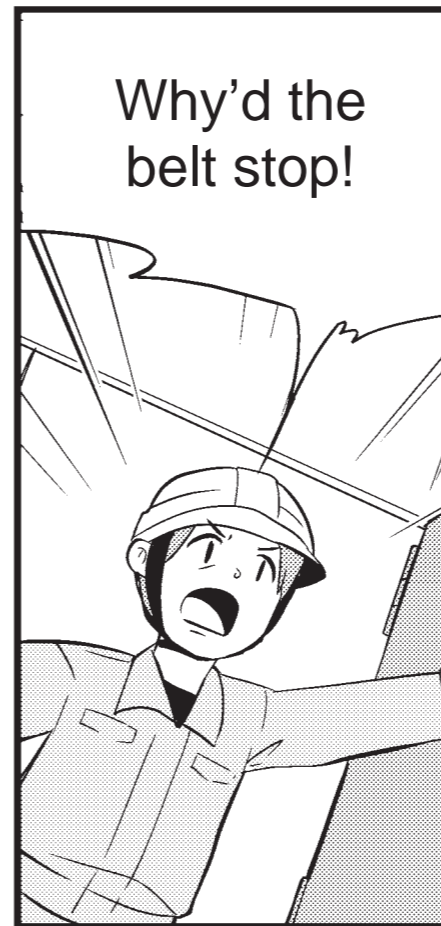


Whoa!

This is bad,
emergency stop!



That was close...



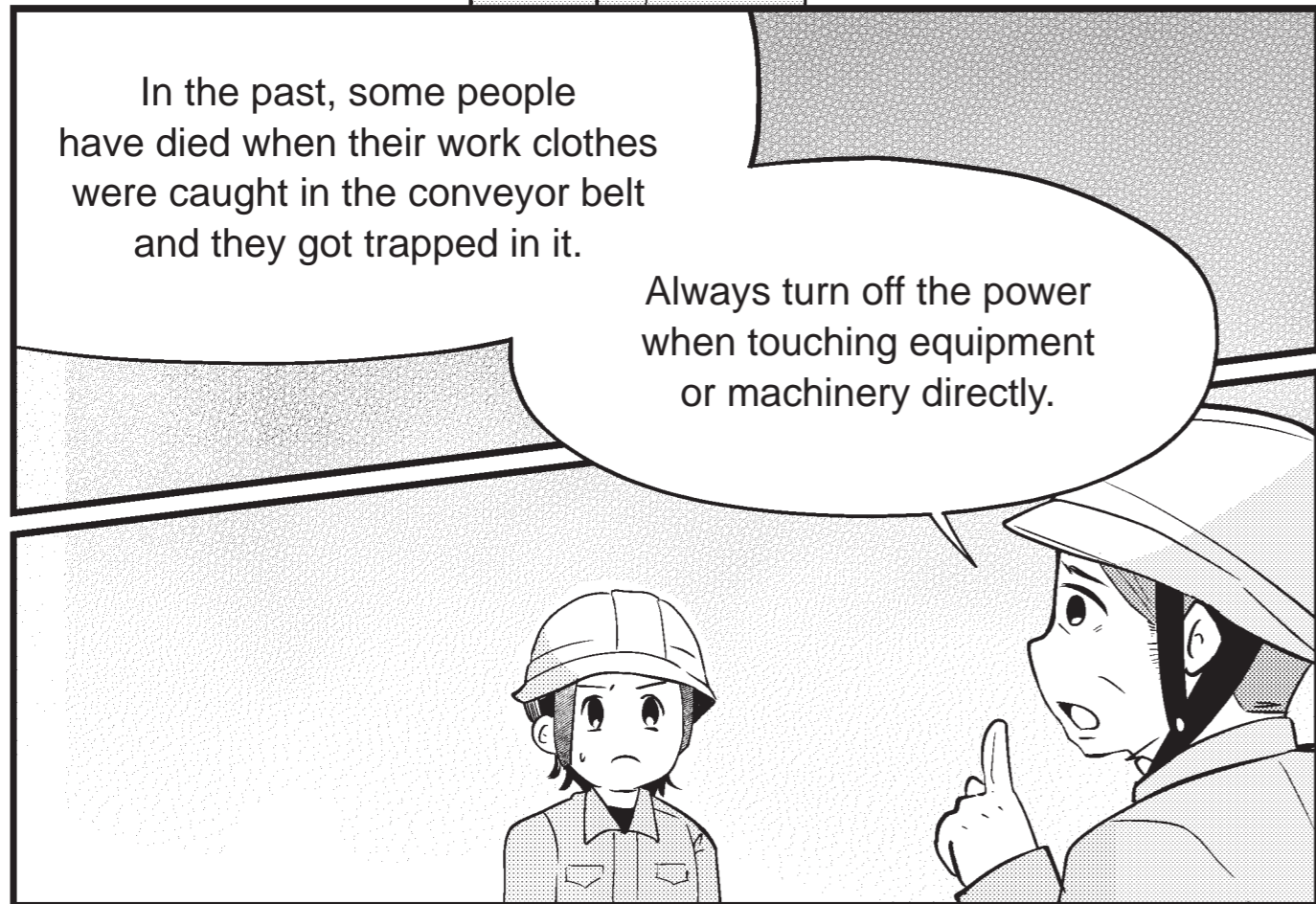
Why'd the
belt stop!



That's because...



...I see what's
happened.

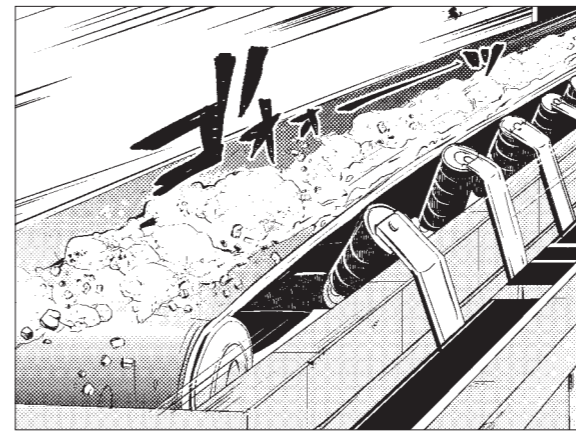


Working Safely Near a Conveyor Belt

1 Before touching a conveyor belt, be sure to contact the operation room and have it stopped.



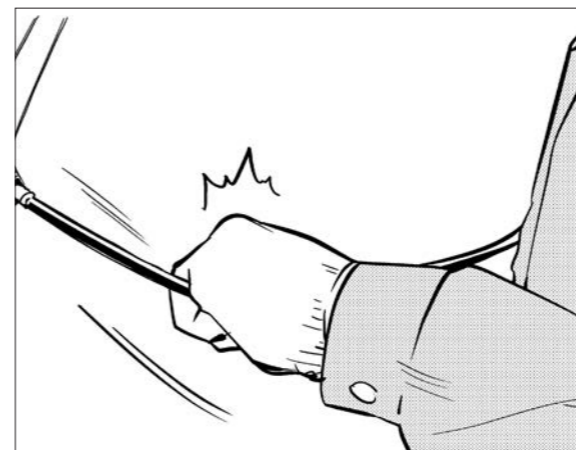
2 Never touch moving machinery.



3 Fasten the sleeves of your work clothes properly and wear protective equipment according to the rules.



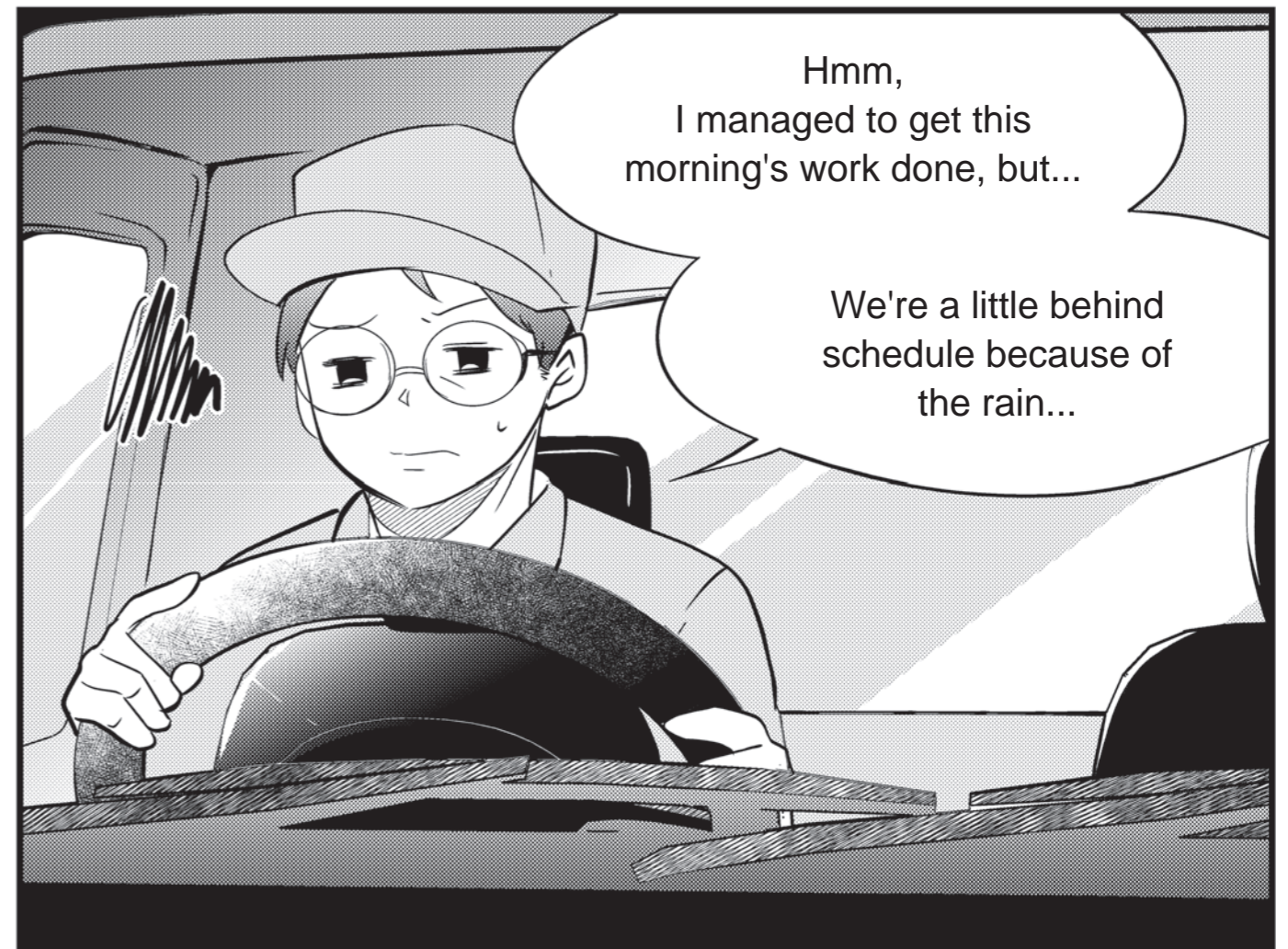
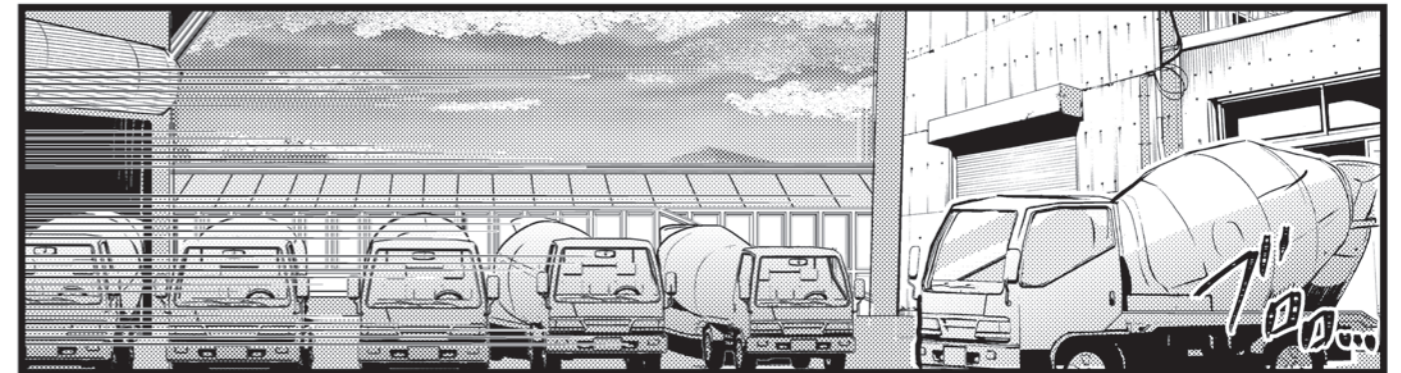
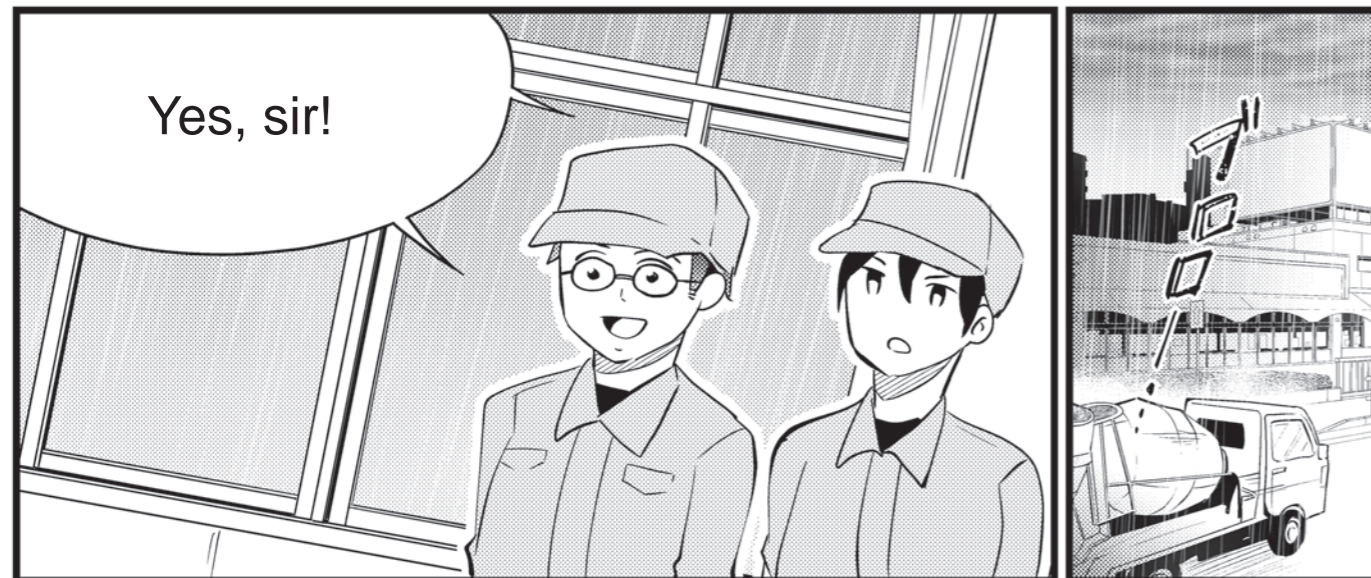
4 Know the location of the emergency stop and how to use it just in case.

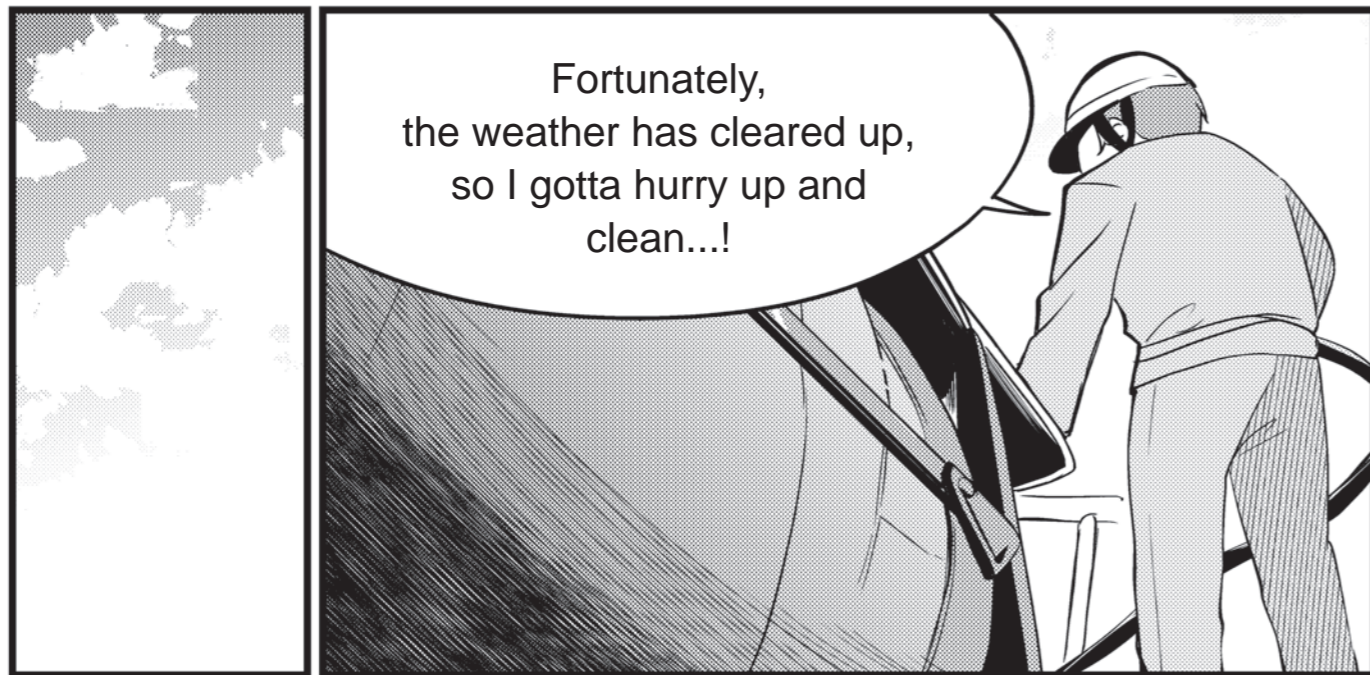


5 The operator in the operation room will turn on the switch after confirming the workers have finished their work on-site.



CASE 3

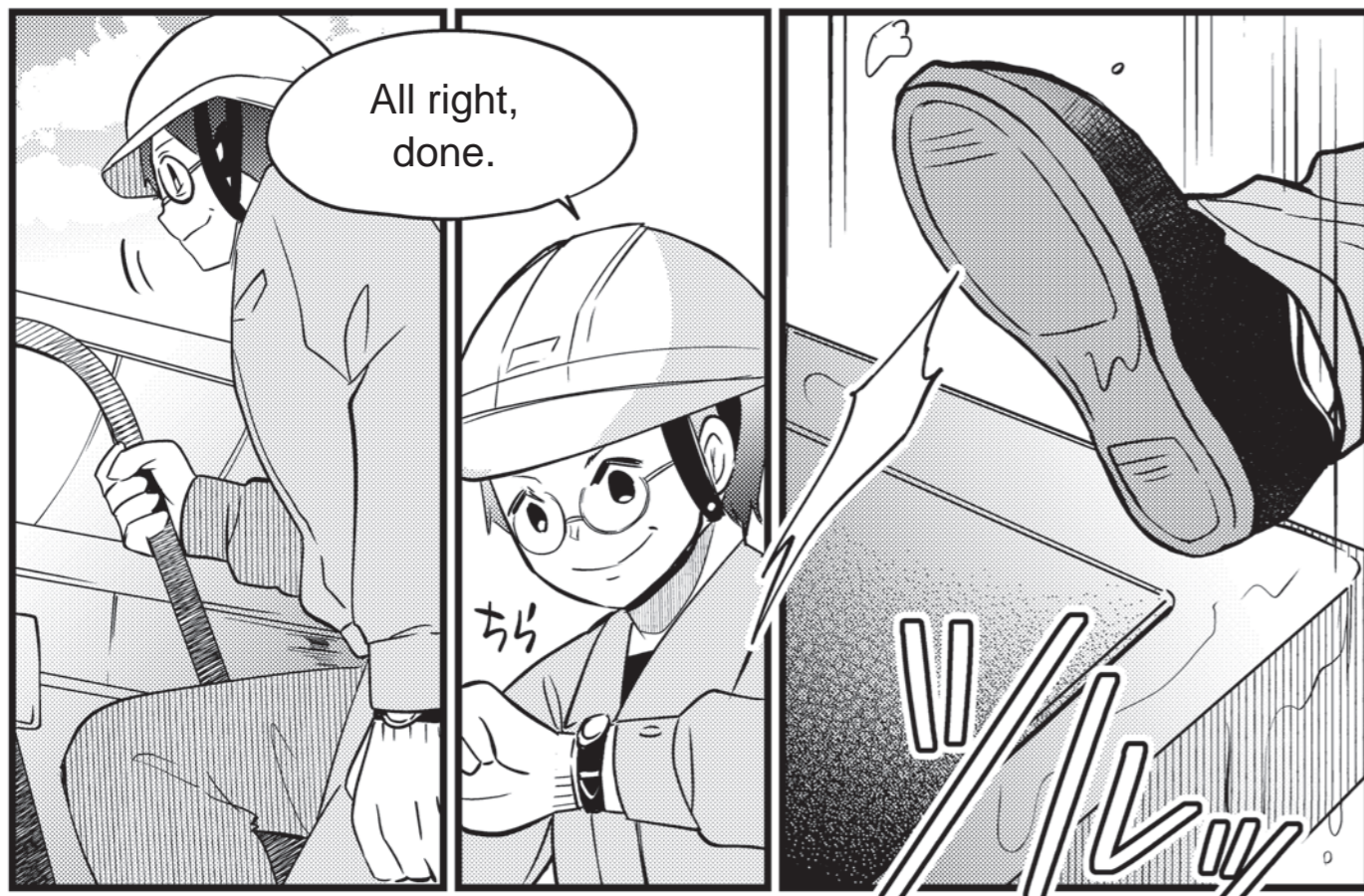




Fortunately,
the weather has cleared up,
so I gotta hurry up and
clean...!

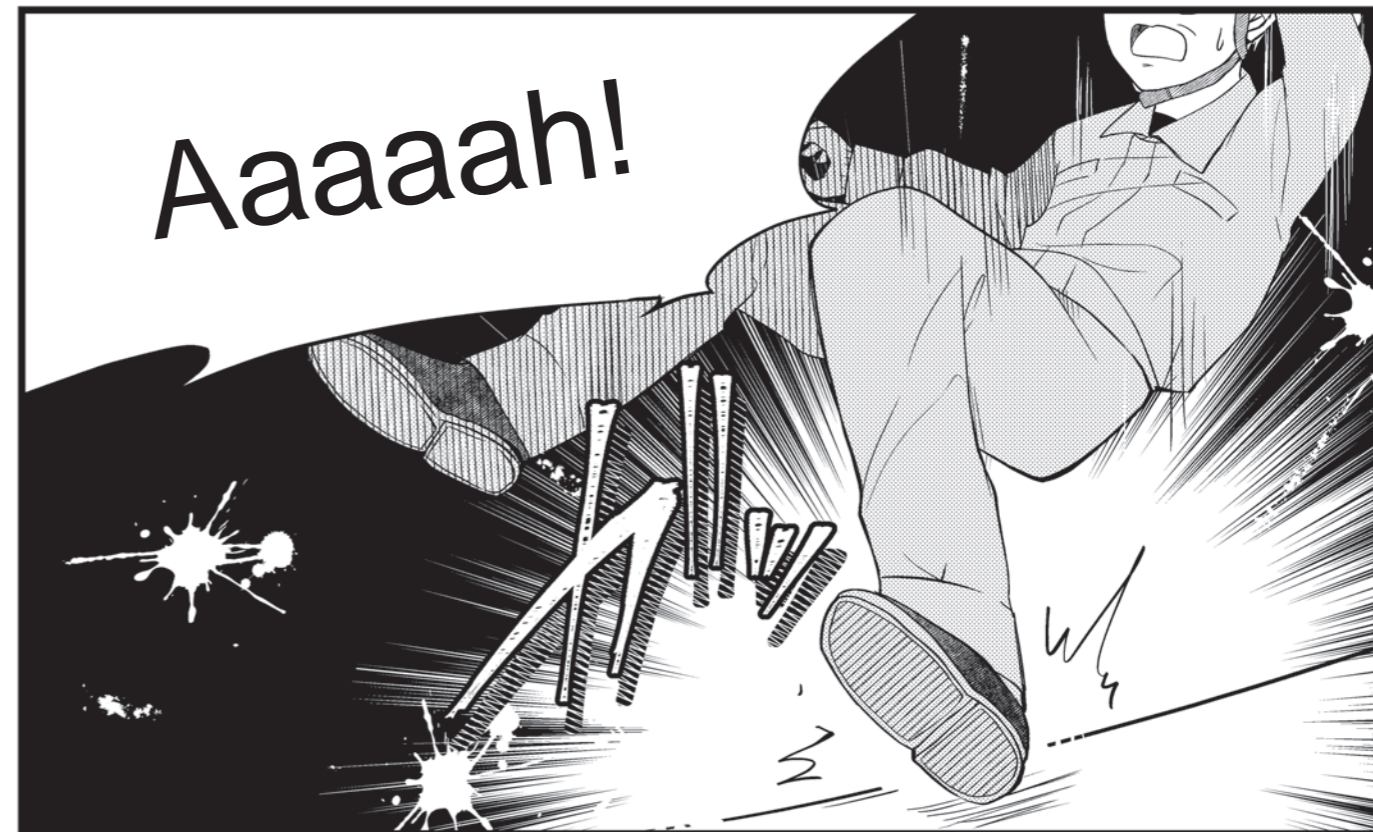


I'm used to this, so I guess
I don't need to wear
a safety belt.



All right,
done.

ちん



Aaaaah!

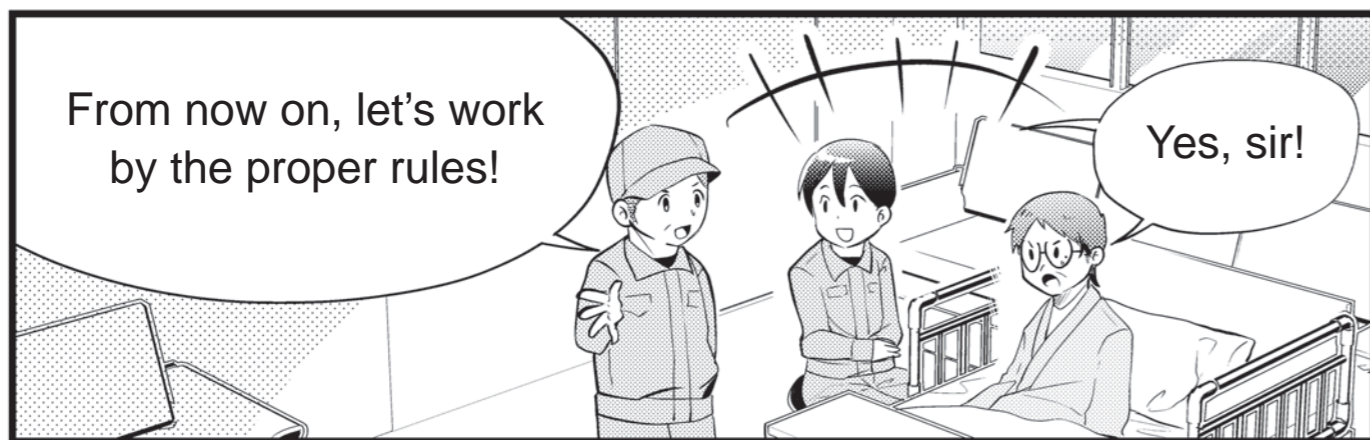
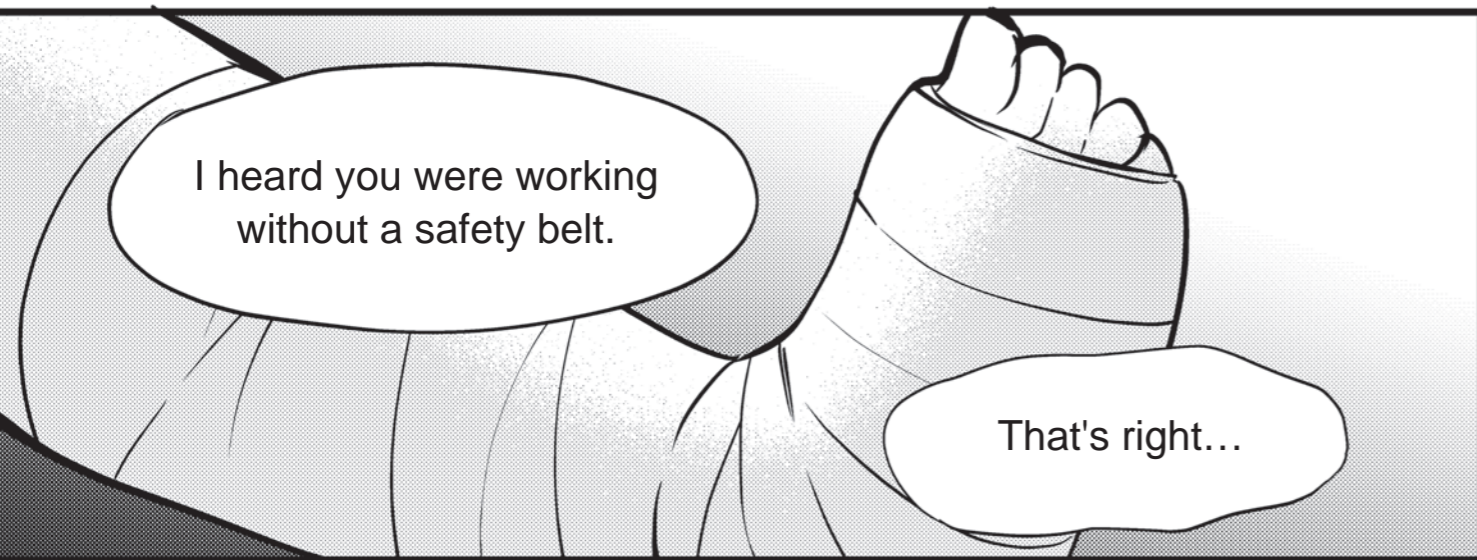


What happened!?



Oh, no!

Somebody call
an ambulance!

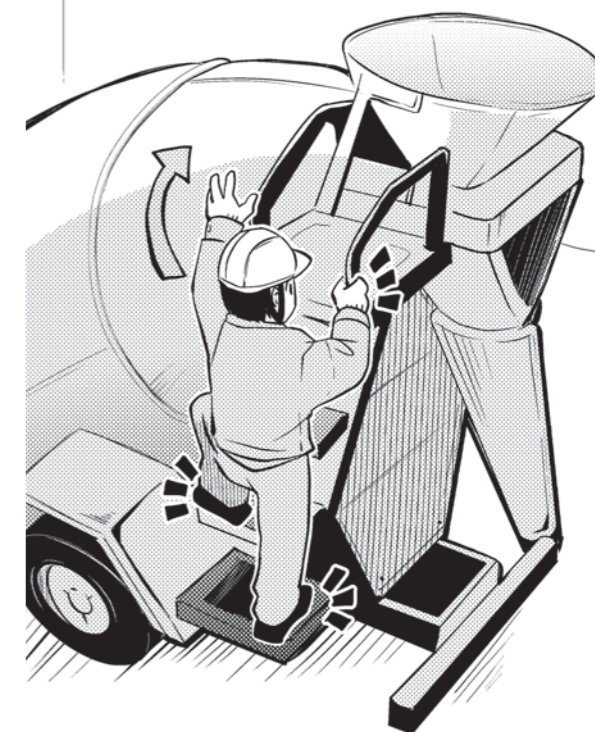


Working Safely on Steps

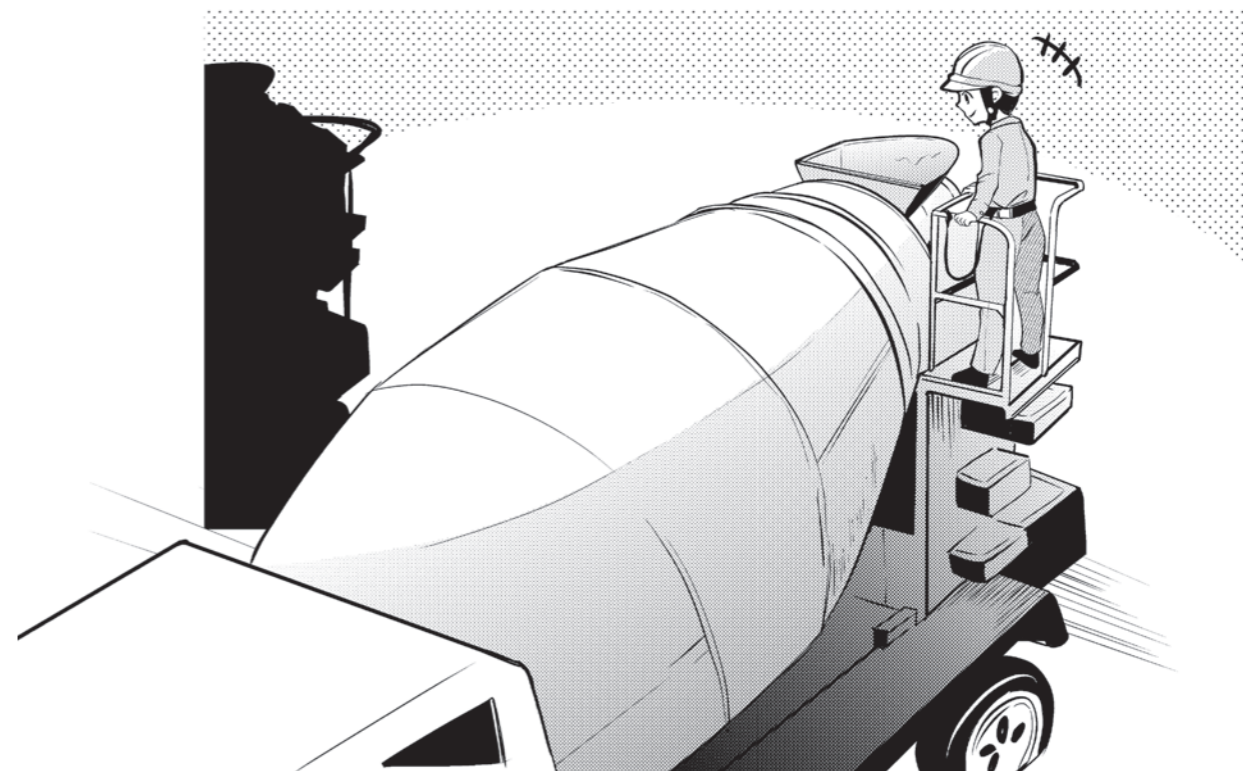
- 1** Properly wear protective equipment (helmet, safety belt, non-slip shoes).

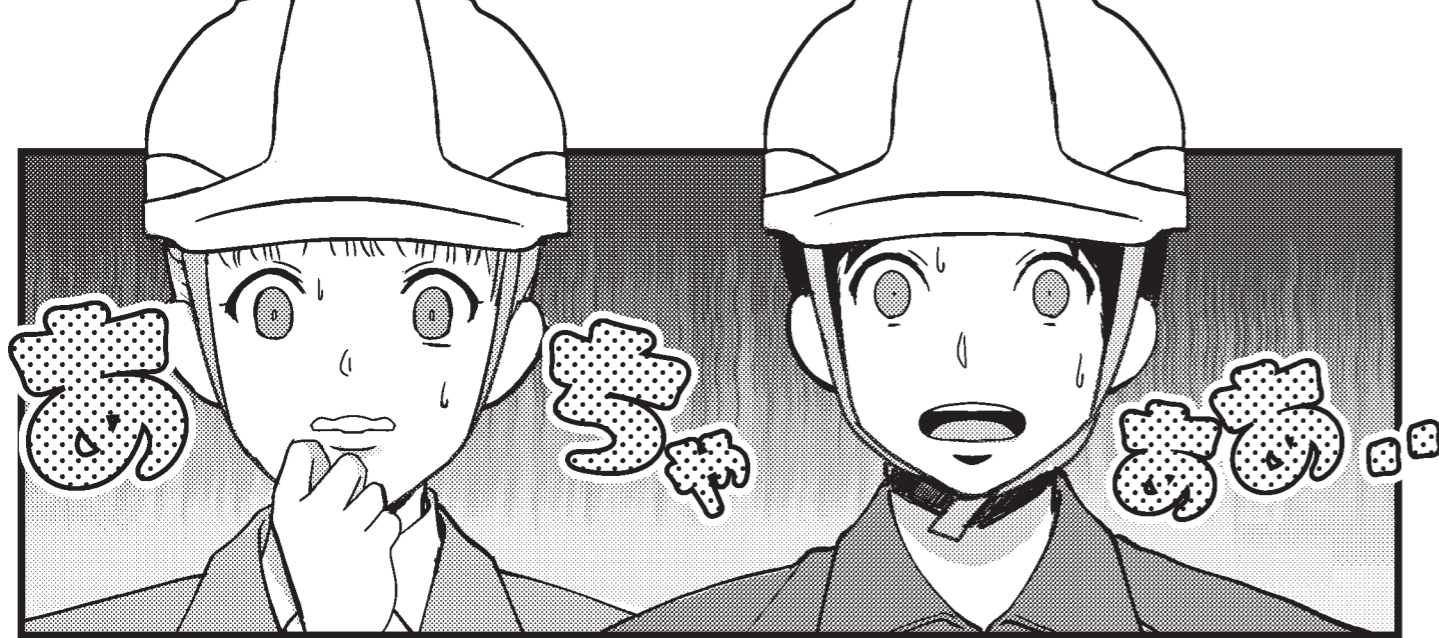


- 2** Always ascend and descend with 3 points of contact while using the safety belt hook.



- 3** The rear-end of the concrete mixer truck is high and narrow, so be aware of the danger of losing your balance and falling, and follow the rules while working.





Key Points to Watch Out For in the Fresh Concrete Manufacturing Industry

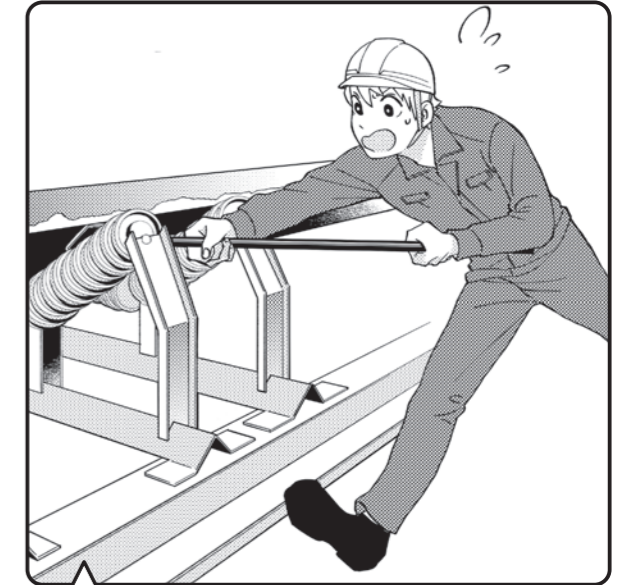


1 | Scraping off sand in a silo



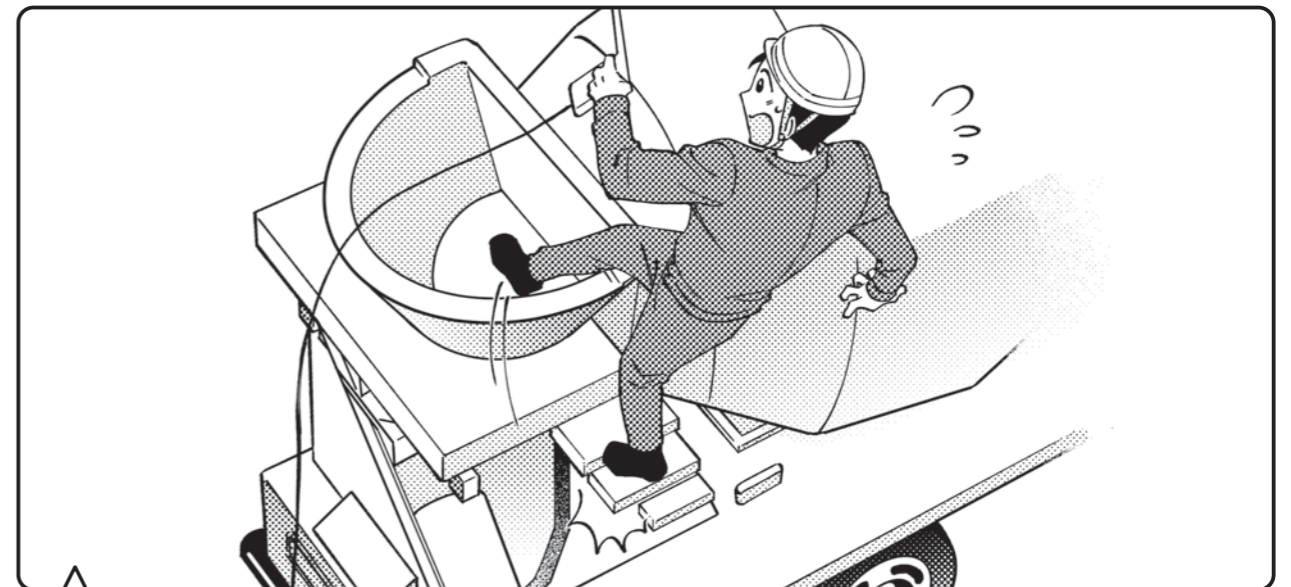
When working in a silo, always follow the rules with an observer present.

2 | Removing foreign objects from conveyor belts



Always turn off the power supply when coming in direct contact with a conveyor belt, and notify relevant personnel that work is in progress.

3 | Falling off concrete mixer truck steps



When ascending or descending the steps of a concrete mixer truck, use a safety belt hook and always support yourself with 3 points of contact with your hands and feet.

You've learned that danger is closer than you think now, haven't you?

The characters were so clumsy, they reminded me of someone.

Hmm? Did you say something?

It's important for each and every person to be aware of and follow the safety and health education rules in the workplace.

Let's take another look back at the case studies here.

Industrial accidents are no stranger and a familiar problem for us.



Remember, following the rules is about protecting your body, your family, and your life.

Regular communication in the workplace is also important, just in case something goes wrong.



All right! Gotta watch out for industrial accidents and do my best every day!



Fresh Concrete Manufacturing Industry

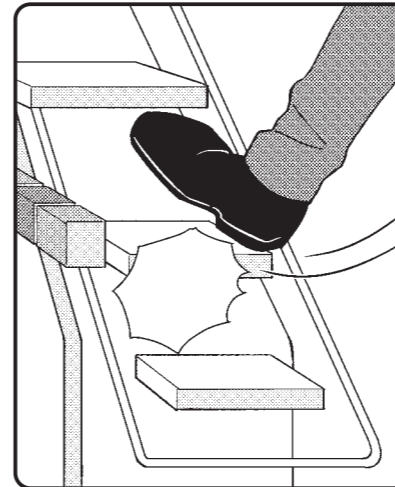
Watch out for these, too!

Tips for Safety and Health!



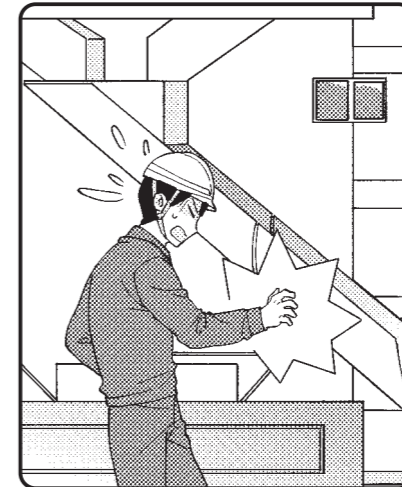
1 | Caution for concrete mixer trucks

1 Small steps



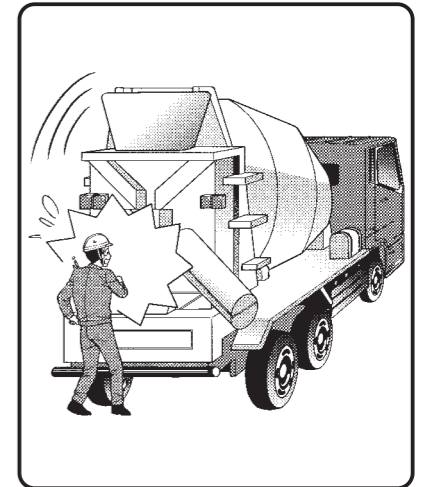
The steps are small, so be careful not to slip, especially when wet.

2 Caught in a chute



When returning a chute, be very careful not to get your hand caught.

3 Sudden movement



When working at the rear-end of a concrete mixer truck, call out to the driver to prevent accidents.

2 | Caution when walking



Comply with wearing a helmet while in the factory, and walk with your full attention on uneven surfaces and the ground underfoot.

3 | Caution in test rooms

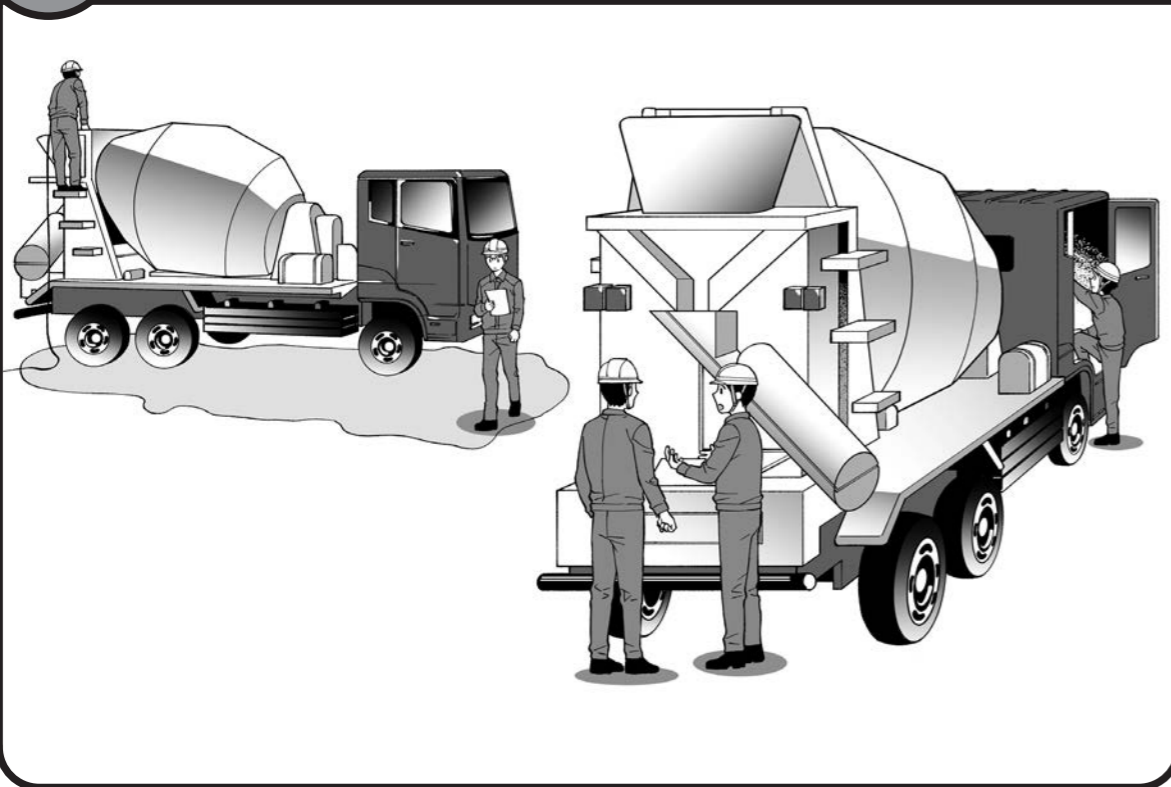


Be sure to wear safety shoes as samples or heavy equipment may fall on your feet.

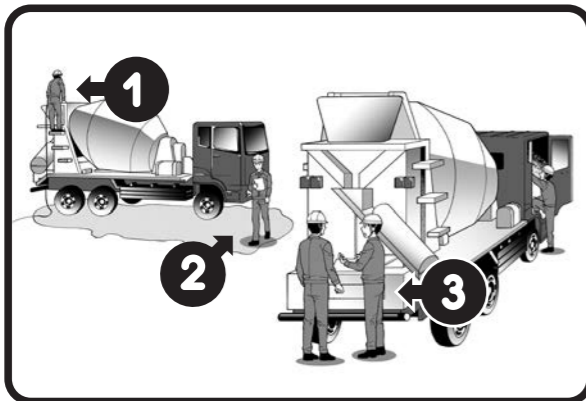
Know the dangers lurking in your workplace!

Hazard Prediction Training

Q Consider where hazards may lie!



A Key points
on hazards!



1

Always ascend and descend with 3 points of contact and use the safety belt hook.



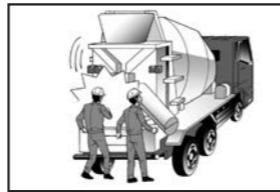
2

To avoid falling, pay close attention to the ground underfoot and any uneven surfaces.



3

Do not go behind concrete mixer trucks in case they start to back up.



Consider if there are any other points of hazard as well.

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Safety and Health Education in the Fresh Concrete Manufacturing Industry

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