

# WHEELED FRONT END LOADER

## Learner Workbook



# TRAINER'S MARKING GUIDE

RIIMPO321F –

Conduct civil construction wheeled front end loader operations



Learner Name: \_\_\_\_\_

Student Number: \_\_\_\_\_ Date: \_\_\_\_\_

This resource was developed by:



Version 1.1 – January 2023



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## Knowledge Assessment



The assessor must be satisfied the candidate has successfully demonstrated each element and performance criteria contained in the Unit of Competency.

## Knowledge Assessment Instructions



1. This assessment should be completed in writing (pen not pencil). However, where necessary it may be undertaken verbally. If verbal assessment is undertaken the candidates' responses must be clearly recorded by the assessor. The assessor must clearly note on the assessment that it was undertaken verbally.
2. Candidates should be allowed 10 minutes reading time before commencing the assessment and a further 180 minutes to complete the assessment.
3. The assessment should be completed in a quiet area free from distraction.
4. The assessment is to be completed without the assistance of learning resources. Students may ask the assessor for assistance to clarify questions they do not understand.
5. A pass mark of 90% (119/132) must be achieved for a satisfactory result. The assessor must provide feedback to the candidate to clarify any answers deemed to be incorrect.
6. Reasonable adjustment to the assessment is to be made by the assessor where deemed necessary.



## Knowledge Assessment



### Question 1

**What are the National Work Health (WHS) and Occupational Health and Safety (OHS) Acts about?**

Answer may include but is not limited to:

The Acts explain how to keep your workplace safe and healthy. They explain what you need to do to meet your duty of care.

For example:

You must make sure you do earthmoving work in a way that won't put yourself or others at risk. You must use earthmoving equipment according to instructions.



### Question 2

**Under WHS/OHS laws, what are your responsibilities while working?**

Answer may include but is not limited to:

You must work in a way that is safe. You must not risk the health and safety of yourself or others.



### Question 3

**What do codes of practice explain?**

Answer may include but is not limited to:

Codes of practice are practical guidelines on how to comply or follow the rules in legislation/laws.

For example:

A traffic management Code of Practice will tell you all the rules a traffic controller must follow. For example, a traffic controller must have a zero percent blood/ alcohol concentration/reading while performing traffic control duties.



### Question 4

#### What do Australian Standards explain?

Answer may include but is not limited to:

Australian standards are working guidelines that set the minimum accepted performance or quality for a specific hazard process or product.

For example:

AS2550.1 - Powerline distances: This standard tells you the distances you can safely work near powerlines on poles and towers.



### Question 5

#### What are some examples of documentation you should read before doing earthmoving work?

Answer may include but is not limited to:

- Health and Safety Acts and Regulations
- Codes of practice
- Standards, for example AS 2958 Earthmoving machinery
- Manufacturers specifications
- Operators manuals
- Site requirements and procedures
- Work or quality requirements
- Drawings and sketches of the work to be done
- Company policies and procedures for Employment and workplace relations, Equal opportunity and disability.



### Question 6

#### Why should you check the operator's manual before using earthmoving equipment?

Answer may include but is not limited to:

The operator's manual tells you how to operate your machine. The manual also tells you about maintenance (how to keep your machine working well).



### Question 7

#### Why should you check the operator's manual before using earthmoving equipment?

Answer may include but is not limited to:

- Plans – Drawings and sketches outlining what you need to do
- Specifications – rules and details about the job
- Operational details – how you will do the job
- Quality requirements of the job – the standards you are expected to meet.



**Question 8****Why do you need to know what other people are doing on site?**

Answer may include but is not limited to:

- To make sure you will not get in the way of other jobs being done
- To make sure you know what others are doing near where you must work.

**Question 9****What are quality requirements?**

Answer may include but is not limited to:

The quality requirements tell you the standards you must meet when doing earthmoving work. They tell you what you need to do and how to do it to satisfy the customer. You may need to follow codes of practice, regulations, national standards etc.

**Question 10****What do the job's work instructions explain?**

Answer may include but is not limited to:

Work instructions explain:

- What to do in unexpected situations like bad weather
- What the job is
- Where the job is
- How to do the job from start to finish
- How to do the job safely
- How long the job will take
- What tools and equipment you need

EASY GUIDES Australia Pty Ltd	
WORK ORDER / Work Plan	
Super Mobile	0400 911 911
ORDER NUMBER	WO-019
CUSTOMER ID	C123
ORDER RECEIVED BY	1/1/2022
DATE	6/1/2022
EXPECTED END DATE	31/1/2022

**Question 11****If a fire starts what are four (4) steps that should be taken?**

Answer may include but is not limited to:

- Remove any person from immediate danger
- Alert others nearby (and your supervisor if possible) to call the fire services
- Control and extinguish the fire if possible
- Evacuate the area if the fire cannot be controlled.



**Question 15**

**How can you find out the maximum safe working load (SWL) of the front end loader?**

Answer may include but is not limited to:

- Check the load chart
- Check the data plate
- Read the markings on the loader itself
- Read the operator's manual.

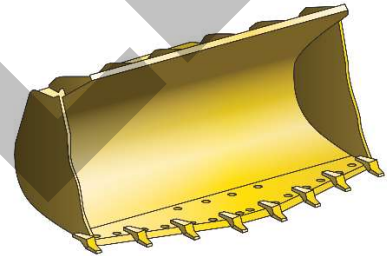
**Question 16**

**How do you find out the cubic capacity of the bucket?**

Answer may include but is not limited to:

Cubic capacity of bucket =  $L \times W \times H \div 2$

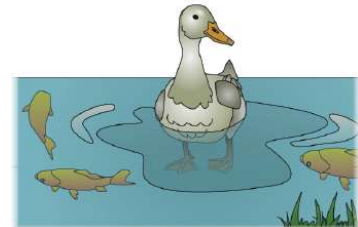
Cubic capacity is  $\div 2$  because of the shape of the bucket (a triangular prism, or half of a rectangle)

**Question 17**

**What does the Environmental Management Plan (EMP) tell you?**

Answer may include but is not limited to:

- Possible risks to the environment on the worksite
- How to work in a way that reduces damage to the environment
- How the worksite meets all environmental protection laws
- Who is responsible for what?

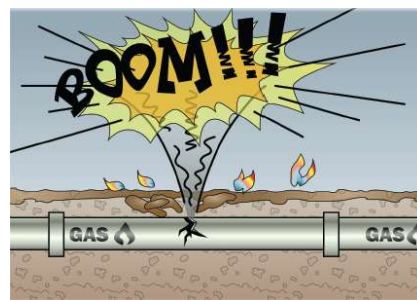


**Question 19**

**What could happen if you damage an underground gas line?**

Answer may include but is not limited to:

You could cause a gas leak, and maybe an explosion.

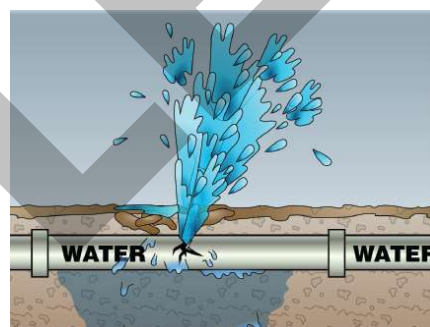


**Question 20**

**What could happen if you damage an underground water pipe?**

Answer may include but is not limited to:

You could cause a water leak, and the water could be polluted.

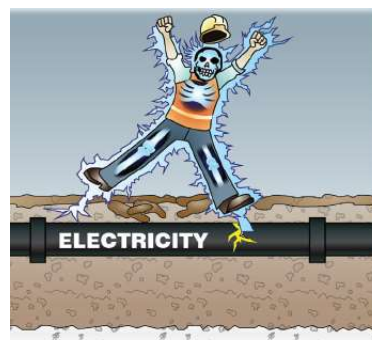


**Question 21**

**What is the danger if you damage an underground electrical cable?**

Answer may include but is not limited to:

There is a risk of an electric shock.





**Question 22**

**Who do you talk to if you damage an underground cable, gas line or other service?**

Answer may include but is not limited to:

You must tell your supervisor. Your supervisor will tell the relevant authority.

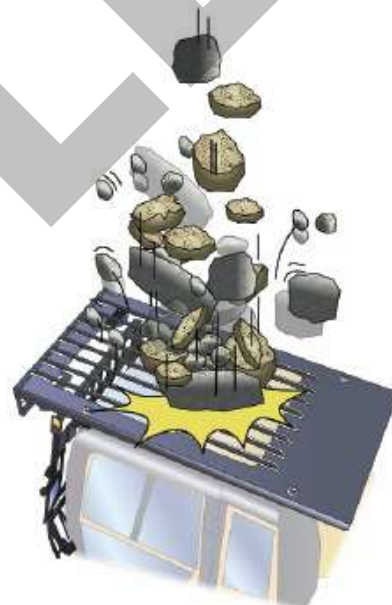


**Question 23**

**You are using the front end loader for demolition work. What extra protection do you need?**

Answer may include but is not limited to:

A falling object protective structure (FOPS)



**Question 24**

**Why should you check the noise laws for your state/territory before starting work?**

Answer may include but is not limited to:

Because there are rules about how early or late you can work.



**Question 25**

**What does the safety plan tell you?**

Answer may include but is not limited to:

The safety plan tells you how the worksite intends to meet all the safety rules. It tells you:

- What personal protective equipment (PPE) to wear
- How to use tools, plant and equipment safely
- Emergency procedures and exits
- How to park safely and where to park
- How to control hazards and risks



**Question 26**

**Why is it dangerous to operate in an enclosed space?**

Answer may include but is not limited to:

The exhaust fumes cannot escape the space, so the gasses might suffocate you or people in the enclosed space.

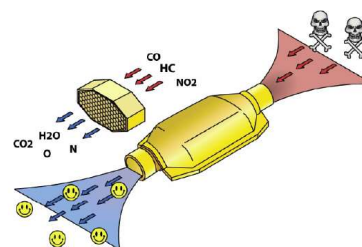


**Question 27**

**If you must work in a tunnel or enclosed space, what must the loader have?**

Answer may include but is not limited to:

The front end loader must have a catalytic converter or exhaust scrubber. Try to get as much fresh air as you can.



**Question 28**

**There is a trench near a pedestrian footpath. How can you stop people falling into the trench?**

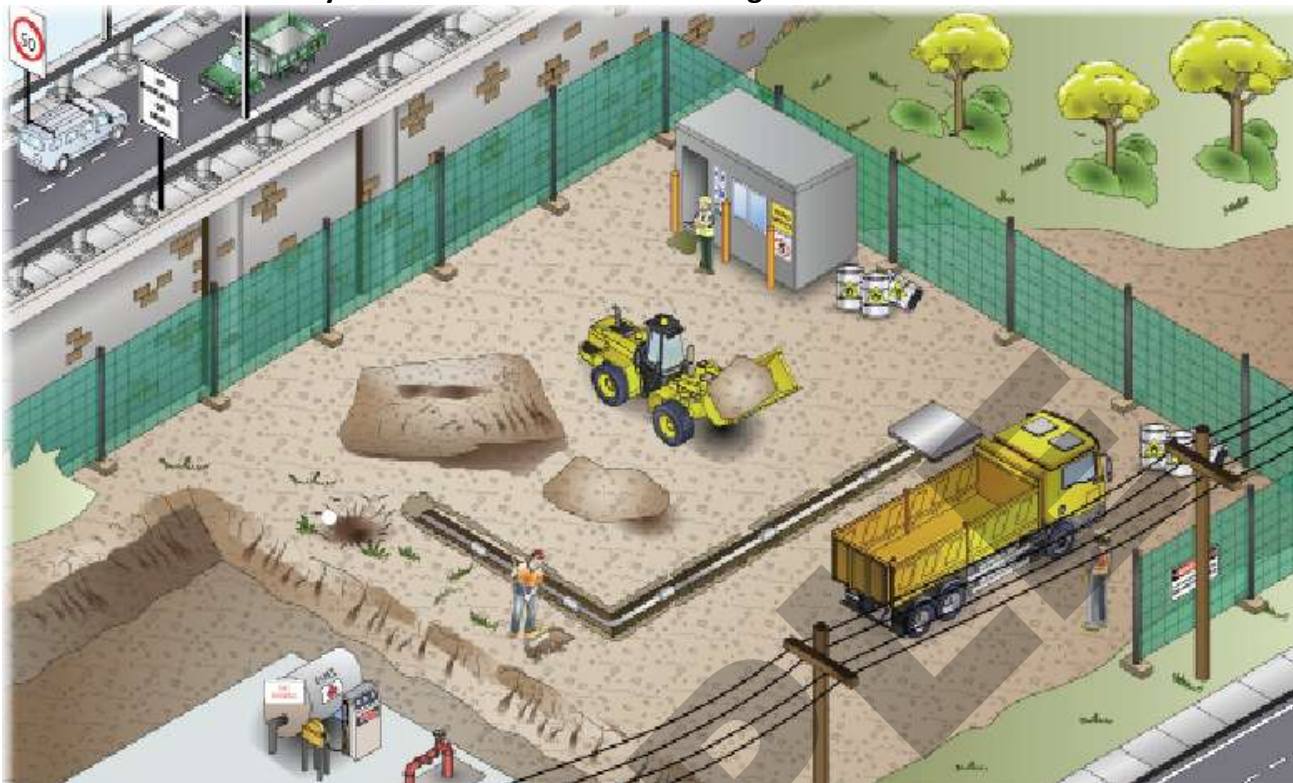
Answer may include but is not limited to:

Put up barricades, guard rails or fencing. Use signs to warn people of the danger.



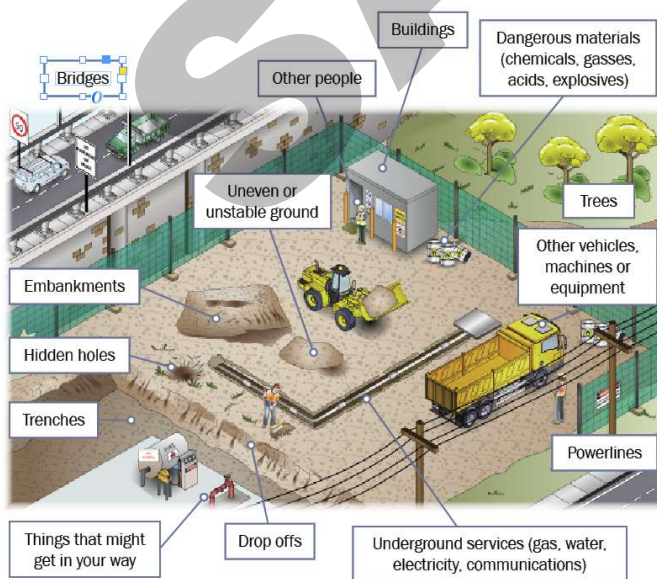
**Question 40**

**What are some hazards you must look for before starting work?**



Answer may include but is not limited to:

- Bridges, Trenches, Hidden holes, Embankments, Buildings
- Powerlines, Trees
- Dangerous materials (chemicals, gasses, acids, explosives)
- Underground services (gas, water, electricity, and communications), Things that might get in your way
- Drop offs, Other people
- Other vehicles, machines or equipment
- Uneven or unstable ground

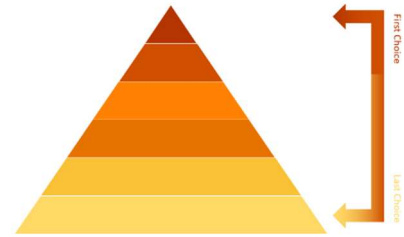


**Question 41**

**The Hierarchy of Hazard Control is a list of controls that you can use to eliminate or lower the danger from a hazard in the workplace. What are the six (6) levels in the hierarchy from the first choice to the last choice?**

Answer may include but is not limited to:

1. Elimination: If possible, remove (take away) the hazard.
2. Substitution: Use a safer method if you can't remove the hazard.
3. Isolation: Stop access to the hazardous (dangerous) area.
4. Engineering Control Measures: Change the tools, equipment or environment to make it safer.
5. Administrative Practices: Reduce the time the worker is exposed to the hazards by using training, job rotation, the timing of jobs, etc.
6. Personal Protective Equipment (PPE): Use PPE as your last line of defence

**Question 42**

**How can you prevent a trench or excavation from caving in on you?**

Answer may include but is not limited to:

- Shoring or trench shields, you must use shoring if the excavation is more than 1.5 metres deep. Use shoring in any unstable ground.
- Set up benching
- Set up battering.

**Question 43**

**You will work in a hazardous area, for example, a confined space. What type of permit might you need to get?**

Answer may include but is not limited to:

You may need to get a hazardous work permit.



**Question 44**

**What is the minimum safe distance from powerlines?**

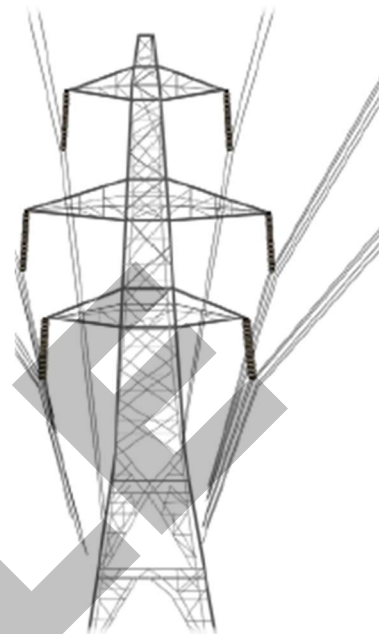
Answer may include but is not limited to:

Check the Australian Standards or distances in your state/territory.

For example:

Line type	No go zone	With a spotter	Safe zone
On pole (low voltage)	0 - 3 metres*	3 - 6.4 metres*	6.4 metres and beyond*
Tower (high voltage)	0 - 8 metres*	8 - 10 metres*	10 metres and beyond*

\*National standard but may be different in specific states and territories.

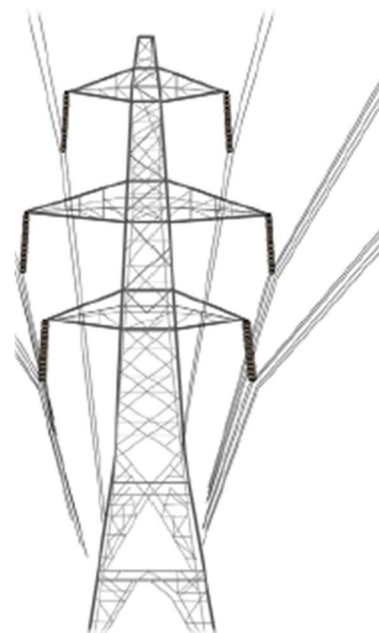


**Question 45**

**You are operating a front end loader and it touches live powerlines. What do you do?**

Answer may include but is not limited to:

- Try to stay calm. Stay in your seat if possible. Tell other people to keep away.
- Try to lower the bucket away from the powerlines. Ask someone to get the power turned off.
- In an emergency if you are alone or you think the machine might catch fire, jump well clear of the machine.
- Never touch the ground and the machine at the same time – you may be electrocuted and killed.
- Do not make contact with different ground areas at the same time
- Shuffle away keeping your feet closely together.

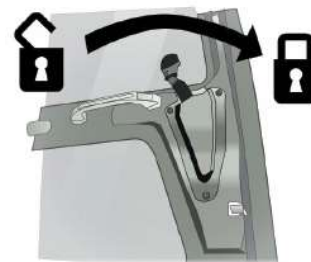


**Question 63**

**What do you do before leaving the loader unattended?**

Answer may include but is not limited to:

Remove the keys and lock the doors.

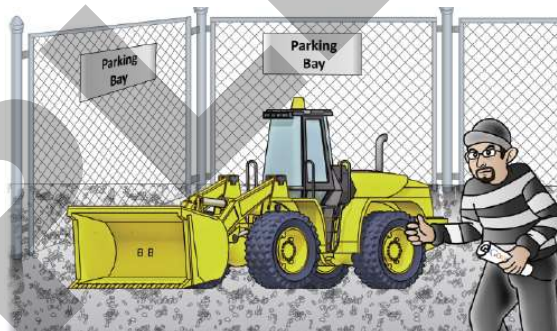


**Question 64**

**Why should you remove the keys from the loader when leaving it parked?**

Answer may include but is not limited to:

To stop unauthorised people using the machine



**Question 65**

**Why do the front tyres on a front end loader need to be equal pressure?**

Answer may include but is not limited to:

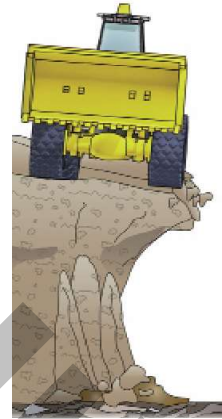
If the front tyres are not equal pressure, the front end loader could tip over sideways and injure you or someone else.



**Question 70****What is the danger of driving along a trench or excavation?**

Answer may include but is not limited to:

The loader might tip over and fall into the trench, or the edge of the trench might cave in.

**Question 71****While operating the front end loader you get a warning signal from one of the machines monitoring systems or alarms. What action do you take?**

Answer may include but is not limited to:

- Stop operation immediately and fix the problem if possible
- If the problem cannot be fixed the machine should be removed from service. It should be tagged 'Do not operate'.
- Report the problem to your supervisor.

**Question 72****How do you safely fill out a stockpile?**

Answer may include but is not limited to:

1. Start by filling the area closest to the back of the stockpile area.
2. Try not to fill too close to the edge. The edge of the stockpile could give way.
3. Keep filling out the stockpile one row at a time.

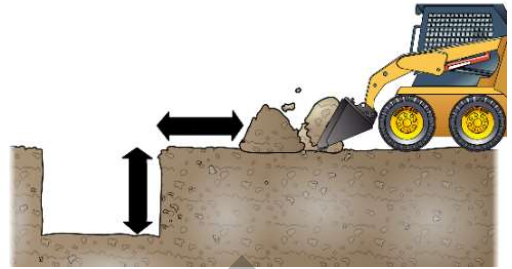


**Question 73**

**When dumping materials near an excavation, how far away from the excavation must you dump the load?**

Answer may include but is not limited to:

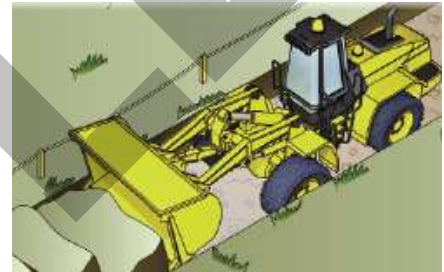
As a general rule of thumb, you should dump the load the same distance away as the depth of the hole. For example: if the hole is 1 metre deep you should dump the load at least 1 metre away from the hole.

**Question 74**

**How do you strip topsoil? Explain the steps.**

Answer may include but is not limited to:

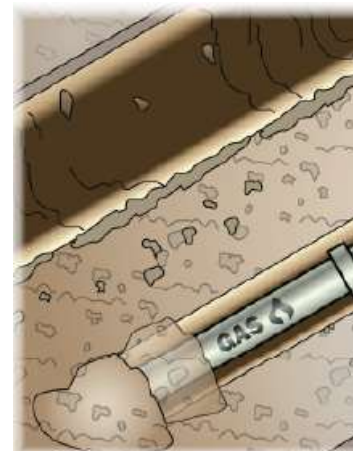
1. Tilt the bucket forward so the front of the cutting edge is in contact with the ground.
2. Drive forward to dig.
3. Roll the bucket back to level at the correct depth.
4. Move forward until the bucket is full.
5. Crowd the bucket when it is full.
6. Raise the bucket and move to the stockpile or truck.
7. Empty the bucket.
8. Return to the dig area.
9. Use about half to three quarters of the bucket on the previously dug area to maintain a level base.

**Question 75**

**How do you safely excavate around a water or gas pipe?**

Answer may include but is not limited to:

Excavate around the pipe and keep 300 mm of clearance around it. Hand dig to expose the service. Use a spotter to guide digging.



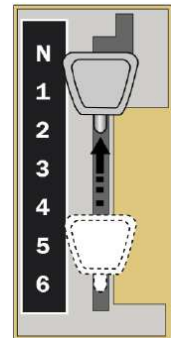


**Question 76**

**When travelling down a steep slope, which gear do you use?**

Answer may include but is not limited to:

Use the lowest gear you can. Change into low gear before you drive on the slope.



**Question 77**

**Which is harder to excavate, top soil or clay? Why is this?**

Answer may include but is not limited to:

Clay as it is denser and does not break up as easily as top soil.



**Question 78**

**You are filling a trench with a front end loader. In which direction should you move towards the trench?**

Answer may include but is not limited to:

Move towards the trench at a 90 degree angle (straight). This helps keep the loader well-balanced.

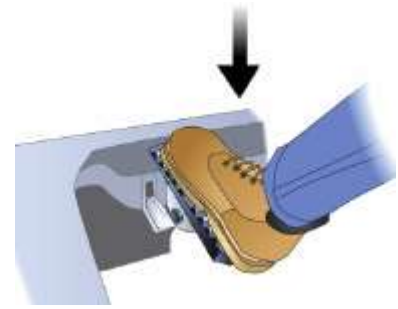


**Question 79**

**If your front end loader uses air brakes, how do you use air brakes safely?**

Answer may include but is not limited to:

1. Check that the right air pressure is there and stays there.
2. Don't pump air brakes.
3. Press the brake pedal firmly in one go.

**Question 80**

**What steps do you take to safely pick up, move, and dump materials?**

Answer may include but is not limited to:

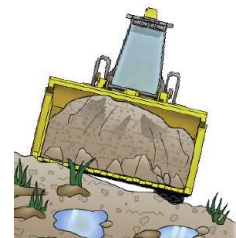
1. Build up engine RPM and correct speed.
2. Make sure the bucket is at the right level and angle.
3. Crowd the bucket upwards while moving forward.
4. Try not to spin the wheels.
5. Pick up the load.
6. Move the load at low speed and with the bucket low.
7. Approach the truck or trench from a 90 degree angle.
8. Raise the load slowly.
9. If dumping the load into a truck, make sure you are on a flat level surface away from trenches and excavations.
10. Tilt the bucket to dump.
11. Look behind you.
12. Reverse away from the truck.
13. Lower the bucket.
14. Turn.
15. Move back to the stockpile.

**Question 81**

**You are driving on uneven or soft ground. Does this reduce the load capacity?**

Answer may include but is not limited to:

Yes, the load capacity is less when you are driving on uneven ground. You can carry more on hard, even ground because the load is more stable.

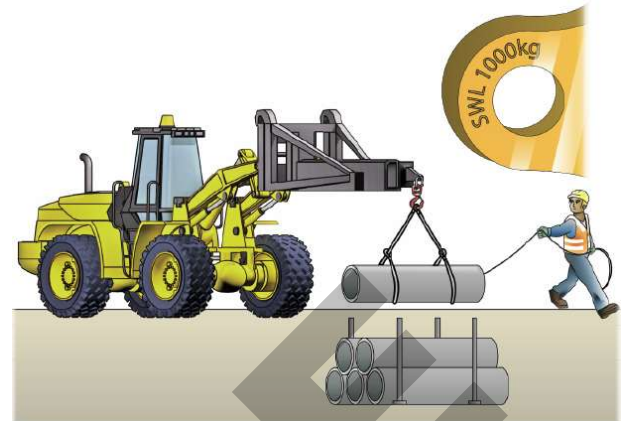


**Question 92**

**Not all front end loaders can be used to sling a load. You want to use the front end loader for slinging a load. What must the loader have?**

Answer may include but is not limited to:

The front end loader must have a lifting lug with a safe working load or be fitted with a jib attachment.

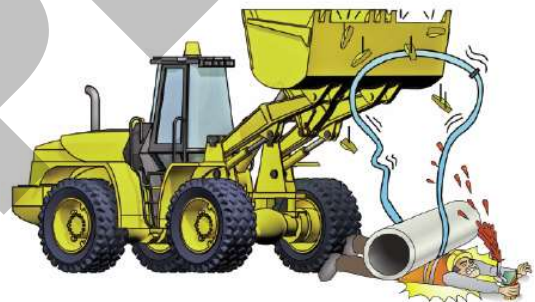
**Question 93**

**What could happen if you attach slings to the bucket's teeth?**

Answer may include but is not limited to:

This is very dangerous!

- The sling can slip off the teeth
- The teeth can come off
- The load can fall and injure or kill someone.

**Question 94**

**What could happen if you use the loader on uneven or sloping ground?**

Answer may include but is not limited to:

The loader might overturn and injure you or a workmate. You should use the loader on an even surface.

