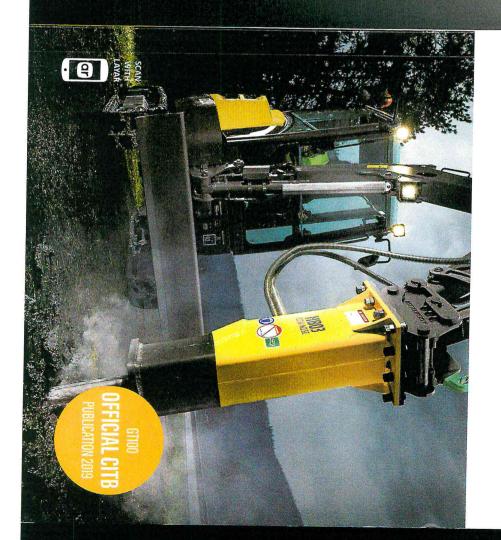


HS&E TES

Health, safety and environment test For operatives and specialists



NORKING ENVIRONMENT

General responsibilities

The Health and Safety at Work etc. Act 1974 contains legal duties for employers and employees

9

- Visitors and workers must be given a site induction and authorised to enter site.
- Employers must provide information to workers about site rules, welfare facilities and emergency procedures
- Workers should be provided with clean welfare facilities and information regarding hazards and risks at work
- Everyone on site is responsible for the consideration of neighbours and members of
- Employees should follow a safe system of work agreed with the employer
- A safe system of work would include information such as the sequence of work, and any hazards associated with the task
- Risk assessments consider the likelihood of a hazard occurring and the seriousness of harm that could occur. The purpose of a risk assessment is to identify hazards and control risk.
- A method statement will inform a worker of the safe way to carry out a task
- If a task feels dangerous or unsafe, stop work and report it immediately,

The whole site has been issued with



Continue with site work

a prohibition notice. What does this



does this mean? issues an improvement notice. What and Safety Executive (HSE) inspector After watching you work, a Health

(0)

You are not working fast enough

0 Your work has improved since the last visit

0

Do not use any power tools

EXT

Finish the job and go home

O

Stop work because the site is unsafe

You are not working in a safe way

You need to improve the standard of your work

U

they are there

Make sure that the site team knows

0

Get their tools out of the store and start work

w

Enter the site by the easiest route and start work

1.03

on your site and are to be interviewed by a Health and Safety Executive You have witnessed a serious accident



Ask other workers what you should (HSE) inspector. What should you do?



tell the inspector



tell the inspector Ask your supervisor what you should



ask them to talk to your supervisor Not tell the inspector anything, and



1.04

If you notice that a design detail can't be built in the way it has been drawn in the plans, what two things should you do?

You will be asked to 'drag and drop' your answers

[00] Leave that detail out altogether

Build it as you think it should be done

Keep quiet as it will mean more work

Only make the changes when they are approved in writing

Raise the issue with your supervisor before you start work

8 8

When workers arrive on site what is the first thing they should do?



A

Walk around the site to inspect the work from the day before





If a worker fails to report a near miss what could happen?



The company could go out of business through neglect

D



W

The employee could get a large fine



ി

immediately The site manager will be sacked

WORKING ENVIRONMENT

What are two possible consequences for you if your employer does not prevent accidents and ill health at work?

You will be asked to 'drag and drop' your answers

- You will have to work longer hours to earn more money
- You may suffer an injury, affecting your health and wellbeing
- You won't get the training required to continue working on site

0

- You may not be able to work, which would affect your income and family life
- You will have worse welfare facilities on site while improvements are made

1.08

What are two possible consequences for employers of not taking measures to prevent accidents and ill health at work?

You will be asked to 'drag and drop' your answers

- They could be fined or imprisoned
- [00] They will damage the environment
- (೧) They will need to employ more people
- They will have to change the site layout for emergency vehicles

0

- They will lose time and money due to the cost of any accident or ill health
- 1.09 What does the word hazard mean?
- D Anything that could cause harm
- (W The construction site accident rate
- 0 The likelihood of something
- A type of removable barrier or machine guard

understanding the fire and What is the main reason for

emergency procedures on site?

1.10

- assembly points are in an emergency To know where the fire exits and
- can be used during an emergency To know what tools and equipment
- 0 an emergency To help you to get time off work in
- O an emergency To stop anyone leaving site in

B = Who is responsible for managing health and safety on site?

- Site manager
- (m) Building inspector
- Contracts manager
- Health and Safety Executive (HSE)
- health and safety with employees? responsibility to discuss matters of Why is it the employer's legal

∰ Ä

So that employees will never have to responsibilities for health and safety So that employees do not have any

- things that will protect their health attend any other health and safety So that employees are informed of
- So that your employer will not employees' health and safety have any legal responsibility for
- 1.13 of the following? General site rules would **not** normally include information about which one
- P Personal protective equipment (PPE)
- (n) 00 Near miss and accident reporting Names and addresses of workers
- U Site induction procedures

- **#**

If someone is injured on site, where **should** this be recorded?

- In an accident book or record
- On the safe system of work plan

w

On the site plan

0

In the method of work

What should all risk assessments identify?

1.15

The site working hours

D2

How to report accidents

- െ Where the first-aid kit is kept
- The hazards in the work environment
- 1.16 When creating a risk assessment
- 8 the severity of harm is multiplied by what?
- The number of workers on site
- w The likelihood of harm occurring
- The area of the construction site

(0)

The cost of injury or harm

WORKING ENVIRONMENT

Which two topics should be covered in a site induction?

 \subseteq

1.17

You will be asked to 'drag and drop' your answers

A

Site rules

[ttt

Local amenities

(1)

Local transportation links Holiday entitlement

Site emergency procedures

118 about health and safety rules when you first arrive on site? How would you expect to find out

During the induction

(D) In a letter sent to your home

(1)

By reading the health and safety

By asking other workers to show

you around

What is a toolbox talk?

1.19

D A sales talk given by a tool supplier

(III) A talk that tells you where to buy tools

റ arrive on site Your first training session when you

A short training session on a particular safety topic

1.20

What is the main reason for attending a site induction?

To get to know other new employees

(W Site rules and hazards will be explained

ဂြ To create the method statements for the site

Permits to work will be written and handed out

1.21 seem out of date as work progresses? rules given in your site induction What should you do if the safety

Speak to your supervisor about your concerns

w manager's responsibility Nothing, as safety is the site

റ Speak to your workmates to see if they have any new rules

the changing conditions Make up your own safety rules to suit

> 122 During the site induction you do not understand something the presenter says. What should you do?

Attend another site induction

Ask the presenter to explain it again

Guess what the presenter was saying

else to explain Wait until the end, then ask someone

requirement? Employers must provide workers with instructions that meet which

1.23

Downloadable from the internet

Written in large print

[UJ

Contact the Health and Safety Executive (HSE)

0 Available in audio

D In a format each worker understands

1.24 they have been given. What should is quicker than the method statement A worker finds a way of working that

D work this way Inform work colleagues so they can

ြ TO Get more work done so they can earn they can leave early Get their work done more quickly so

work for the task Continue to follow the safe system of

1.25 Who should you speak to if the work of another contractor is affecting your safety?

Your supervisor

The contractor

ြ Your workmates

The contractor's supervisor

1.26 method statement? do a job in the way described in the What should you do if you cannot

A Make up a better way to do it and

0 Ask other workers how they think it should be done

U talked to your supervisor Do not start work until you have

127 What should a worker do if the helmet they are using is damaged?

Use it but keep checking it

(W Put a sticker over the damaged area

Report it at the end of the day

ဂြ

U Replace it immediately

WORKING ENVIRONMENT

WORKING ENVIRONMENT

Accident reporting and recording

- Reporting unsafe conditions is everyone's responsibility on site.
- Reporting near misses will help to prevent them happening again
- Plant and machinery should only be used by authorised and competent operatives.
- Any accident causing injury must be recorded in an accident book
- All relevant staff should be involved in investigating accidents and near misses.
- **8** 2.01 book. What must happen to this You suffer an injury at work and the details are recorded in the accident accident record?
- It must be kept in a place where anyone at work can read it
- Ü company at the end of the job It must be sent to the insurance
- [0] under data protection laws It must be treated as confidential
- job, due to confidentiality It must be destroyed at the end of the
- driving plant equipment faster than site speed limits? What must be done if an operator is
- Alert all other staff on site to be careful
- W Inform a supervisor or manager
- ြ slow down Shout at the driver, telling them to
- Wait until they stop and talk to them



In order to reduce the risk of should be avoided when driving accidents, which one of the following vehicles on site?

- A Use designated turning areas
- w Implement a one-way system around
- Drive-through loading and unloading
- Reverse without the use of a vehicle

2.04 Which two of the following would result in you being ordered off site?

- 8 Losing your road users' driving
- 0 Driving downhill with a heavy load Being under the influence of alcohol
- Driving without using the flashing
- Being under the influence of drugs

2.05

seven days. Which two of the following actions must be taken? You have been injured in an accident at work and, as a result, are absent for more than

You will be asked to 'drag and drop' your answers

- The accident must be recorded in the accident book
- The local hospital and the benefits office must be informed
- You must pay for any first-aid equipment used to treat your injury
- Your employer must inform the Health and Safety Executive (HSE)
- The emergency services must be called to find out how the accident happened

If you have a minor accident, who

should report it?

- 2.06
- You, if possible
- The sub-contractor
- Anyone who saw the accident
- The Health and Safety Executive
- You are injured in an accident at work. When should you report it?
- **8** 2.97
- The next day before you start work
- (III Immediately, or as soon as possible

(W

Your employer

- റ Only if you have to take time off work
- go home At the end of the day, before you

2.08

Why should you report an accident?



It is a legal requirement



- It helps the site find out who caused it
- So that everyone can find out
- So that your company will be held what happened
- 2.09 Who must you report a serious

responsible

- accident to?
- Site security
- The police service
- The ambulance service

U

witness a serious accident on site? What action should be taken if you

- Telephone the local doctor for advice
- (III) what happened Tell your supervisor that you saw
- (0) Say nothing in case you get someone into trouble
- you should do Ask your workmates what they think

Which of the following statements best describes a near miss?

- A injury or damage An incident that nearly resulted in
- [13] An incident where someone was An incident where you were just too late to see what happened

റ

injured and nearly had to go

off work injured and nearly had to take time An incident where someone was

2.12 While working on site you cut one of your fingers, What should you do?

- Report it and get first aid if necessary
- 03 Clean it and tell your supervisor about it later
- റ carry on working Wash it, and if it is not a problem
- end of the shift Report it at the end of the day or the

2.13 What is the main objective of carrying out an accident investigation?



To place blame

- W To identify the people involved
- 0 To find the cause and prevent recurrence
- insurance claims To help track the cost of

0

2.14 A scaffold has collapsed and you saw it happen. What should you say when you are asked about the accident?

- and punished Who you think should be blamed
- 00 detail as possible Exactly what you saw, giving as much
- 0 As little as possible because you are not a scaffold expert
- O As little as possible because you don't want to get people into trouble
- 2.15 main reasons for reporting accidents, Which two of the following are the incidents and near misses?
- To find out whom claims should be
- W went wrong To understand how and why things
- 0 Certain incidents or accidents have to be reported to the Health and Safety Executive (HSE)
- 0 find out about the accident To make sure none of the supervisors
- prosecuted or fined To help the company avoid being

m

0 2.16 Which two of the following items should be recorded in the accident book?

No. Injuries sustained

Date of the accident

Telephone number

m

book? If someone is injured at work, who should record it in the accident

2.17

- The first aider identified on site
- The company contract manager
- 0 acting for them The injured person or someone

0

sure they are prosecuted

- Someone from the Health and Safety Executive (HSE)
- 2.18 to be recorded in the accident book? Which of the following does not have
- Details of the injury sustained
- (III) The injured person's home address
- 0 injury happened The date and time that the
- insurance number The injured person's national

You will be asked to 'drag and drop' your answers

Location of the hospital

National insurance number

2.19 Which of the following is the least all accidents? important reason for recording

to It might stop them happening again

To find out who is to blame and make Details have to be entered in the accident book

to the Health and Safety Executive Some accidents have to be reported

WORKING ENVIRONMENT

First aid and emergency procedures

23

All first aiders should have a current, up-to-date first aid at work certificate.

3,04

What two things should you do if there is an emergency situation on site?

0

Finish what you are doing

You will be asked to 'drag and drop' your answers

Leave the area via the nearest exit

The place to go in the event of an emergency is called an assembly point.

The location of the emergency assembly point should be identified in a site induction.



assembly point Emergency

3.01 an emergency on site? What should be done in the event of



3.03 How **should** you be informed about what to do in an emergency? Give



two answers.

A

Follow the site emergency procedure

By asking at the local hospital

w By attending the site induction

(m)

Collect your personal items and leave the site

By looking in the health and By reading the site noticeboards

O

Leave the site by the nearest exit and

return home

By asking the Health and Safety Executive (HSE)

safety file

3.07 What should not be in a first-aid kit?



3.05

What information should be

Look for other people who may not know what to do Collect personal items from the site office Go to the designated assembly point

incident occurs? gathered after a near miss

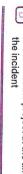














(
call for help	Call out to other workers so they can

0	[tij
Sit the injured person up and give them food and water	Check if it is safe to approach the injured person

(9
incident book	Record the date and time in the

0

Executive (HSE) website

Guidance from the Health and Safety Guidance from your local job centre 0

Looking in the telephone directory

Reading the site noticeboards

Attending the site induction emergency telephone numbers? site emergency procedures and help you to find out about the Which two of the following will

3.02

Executive (HSE) for advice Phone the Health and Safety











Plasters













I BETHERE AND A

A

Assess the situation – do not put yourself in danger

help arrives

Keep them still until medical

If you find an injured person and you are on your own, what should you do first? 3.15



Someone has fallen from height and has no feeling in their legs. What should you do?

3.18

If you cut your finger and it won't stop bleeding, what **should** you do?

WORKING ENVIRONMENT

b)	1
Wash it	
<u>+</u>	

orking

(F
Wash it
, then
carry
9
5

Wrap something around it and carry on working

0

Tell your colleagues because you may need to rest

Keep their legs straight and roll them onto their back

- 3.19 you are on site, what should you If there is an emergency while do first?
- Leave the site and go home
- 00 Phone home and then leave the site
- 0 Follow the site emergency procedure
- 0 Phone the Health and Safety Executive (HSE)

- 3.20 If someone is in contact with a live cable, what should you do first?
- Þ Phone the electricity company
- (0) Isolate the power and call for help
- 0 Dial 999 and ask for an ambulance

recovery position

Place them on their side in the

3.09



[20] Bring your own first-aid supplies into work

Ignore the problem as it is always the same

Inform the person who looks after the first-aid kit Find out who is taking all the first-aid supplies

0

Inform your supervisor that someone

has been injured

3.10 What is the one thing a first aider cannot do?

3.13

inspection chamber has collapsed. What should you do first?

3.16

Someone collapses with stomach

What should you do first? pain and there is no first aider on site. Someone working in a deep

happened, and then find your Ask the injured person what place, and then find your supervisor Move the injured person to a safe

0

Raise their legs to see if any feeling comes back

Roll them onto their side and bend their legs

W

Find a first aider or get other

medical help

Stop any bleeding

Treat you if you are unconscious

CO

and give first-aid treatment Climb into the inspection chamber

D

Ask them to sit down

0 Give mouth-to-mouth resuscitation

0

services

Ask someone to call the emergency

[03]

Get them to take some painkillers

authorisation Give you medicines without

0

while you try to rescue the worker Ask someone to find your supervisor inspection chamber, but do not enter Raise the alarm and stay by the inspection chamber on a rope Get someone to lower you into the

Evacuation routes should be:

3.14

Someone is knocked unconscious

and you are not trained in first aid

What should you do first?

Send for medical help

Place them on their back

W

Send for the first aider or get other help

(m)

Pull them away from the cable

8 3.17

If you think someone has broken

Help them to lie down in the

recovery position

their leg, what should you do?

CCI Slap their face to wake them up

0 Give them mouth-to-mouth resuscitation

0

used as assembly points

W

painted bright green

lit at all times of the day

3.11

Turn them over so that they are lying

0

Use your belt to strap their

on their back

clear and unobstructed

04 Personal protective equipment

 Employers should provide workers with personal protective equipment (PPE) and the means to maintain it correctly, free of charge.

2

- Wearing PPE will help to protect workers from physical injury or ill health
- Size and fit should be considered in the selection of suitable PPE,
- Stop work immediately and replace PPE if it gets damaged.
- # 4.01 you with personal protective When must your employer provide equipment (PPE);

4.03

> about personal protective equipment Which of the following statements

> > 4.06

be worn?

(PPE) is not true?

- Twice a year

You must use it as instructed

A

W If you pay for it

(III)

You must pay for any damage or loss

(n)

If it is in the contract

റ

are not using it

You must store it correctly when you

- If you need to be protected

to your supervisor

You must report any damage or loss

- 4.02 supply you with waterproof clothing? weather, why should your employer If you have to work outdoors in bad
- A To keep you warm and dry, so you take fewer breaks
- 0 (CC) To keep you warm and dry, so you which will reduce trips and falls To protect you from the weather,
- as you are less likely to get muscle strains if you are warm and dry are less likely to catch Weil's disease To protect you from the weather, (leptospirosis)
- - 4.04 about wearing a safety helmet in hot Which of the following statements weather is true?

4.07

When should you wear safety

footwear on site?

You can modify it to keep your head cool

All the time

w the right way You must wear it at all times and in

(OI

Only when working inside

(0) You must take it off during the hottest part of the day

(0)

Until the site starts to look finished

U more comfortable that way You can wear it back-to-front if it is

U

Only when working at ground level

4.05



risk of materials flying into your eyes? What should you wear if there is a

8

on site?

not need to wear head protection When is the only time that you do



Tinted welding goggles

If you are self-employed





Laser safety glasses

W

If you are working alone





Chemical-rated goggles

[0]

If you are in a safe area, like the site office



Impact-rated goggles

If you are working in hot weather











4.09 When you start a new task, how will



Impact-rated goggles or full face shield

personal protective equipment (PPE)? you know if you need any extra



(D) By looking at the risk assessment

By looking at the company webpage

and safety policy By looking at your employer's health

Welding goggles

Reading glasses or

ി

sunglasses

Light eye protection (safety glasses)

6 th

What is the **main** risk to this worker, wearing only these items of personal protective equipment (PPE)?



Dermatitis to skin

[00] Damage to hearing



Breathing in harmful dust

0

8 4.13 protective mid-sole protect you from? What will safety footwear with a

£

When selecting appropriate personal protective equipment (PPE), what is

the most important factor to be taken

into account?

The type of hazard

W

Can it be recycled

Spillages, which may burn the sole of your foot

W Blisters, which could occur in warm, wet conditions

C Twisting your ankle, as they have better grip than regular shoes

O puncture the sole of your foot Nails or sharp objects, which could

if the correct gloves are worn while What condition could be prevented

4.12

What additional measures can

be worn under a hard hat in

cold weather?

U

How long it will las

0

The cost of the equipment

handling a hazardous substance?

Arthritis

w Skin disease

(0) Vibration white finger

Raynaud's syndrome

attachment A manufacturer's (0)

A woolly hat

[00]

A jumper with a detachable hood

A baseball cap

4.15

Yes, all gloves are made to the same standard

Only if you cover the gloves with barrier cream

U

Only if you put barrier cream on your hands first

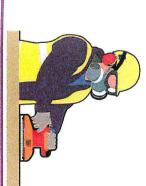
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No, different gloves protect against different types of hazard

0

4.16

Which item of personal protective equipment (PPE) is helping to protect the worker from dermatitis?



4.17 **B** which letter or letters? equipment (PPE) will be marked with Good quality personal protective







Will all types of glove protect your hands against chemicals?

4.18

W

worn to get maximum protection from it? How should a safety helmet be



Pushed back on your head



(1)

Square on your head



O

Pulled forward

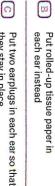


4.19

What should you do if your disposable, foam earplugs keep falling out?

A

Throw them away and work without them



they stay in place

Stop work until you are shown how to fit them properly

If you need to wear a full body

4.20 before, what should you do? harness and you have not used one

Try to work it out for yourself

[10] Ask for expert advice and training

ဂ Read the manufacturer's instruction book

show you what to do Ask someone wearing a harness to

WUKKING ENVIRONMENT

4.21

Which of the following figures is wearing the **correct** personal protective equipment (PPE)?

0

Environmental awareness and waste control **WORKING ENVIRONMENT**

0

Everyone is responsible for minimising the amount of waste generated on site.

0

Following the site environmental risk assessment will help to prevent pollution on a construction site.

Segregating waste materials supports recycling and helps to avoid pollution.





Waste skips

Re-using leftover materials helps to save energy and conserves raw materials.

Recycling construction materials avoids waste going to landfill.

Everyone on site should take responsibility for saving energy and water by turning off plant, equipment and taps when not in use,

0 A good way of reducing energy if heating or cooling systems are being used in site accommodation is to keep windows and doors closed

9 Spill kits should be available to clean up spilt chemicals and oils

Bats and badgers are classed as protected species, and are protected by law.

•

Many historic buildings are listed and protected by law; permission is required before making any changes to them.

equipment (RPE)?

worker wear respiratory protective Where on the body would a

5.01 concrete and washout water? What should be done with waste



00 Pour it down a drain with plenty of water

Bury it in a disposable bin liner

Place it in a lined skip for recycling

5.02



This label is shown on the

worker is using on site, What does it mean? container of a liquid that a

It can be used to feed plants and fish

It is harmful to the environment

(III)

It could cause a drought

0

It will only cause death to fish

5.03

Which two of the following are common causes of water pollution on sites?

5.07

in what?

Over ordering materials can result

You will be asked to 'drag and drop' your answers

Fuels being stored incorrectly and too close to drains

Exhaust gases from mobile plant getting into drainage systems Rain water washing material out of skips into surface water drains

[22] (0)

Smoking and e-smoking near drainage systems

0

drainage systems Walkways freezing in winter near

m

5.04 a spill on site, involving just one litre of oil? Which one of the following is true of

Switch off plant and equipment, not in use

w including generators, when they are

െ hand tools so that they can be repaired or replaced

റ

It will contaminate the ground

is expensive

The main problem is that oil

It is too small to cause a problem

It could cause serious air pollution

O items of equipment

Which three statements are reasons why saving energy is important?

5.05

It helps to reduce fuel and energy bills on site You will be asked to 'drag and drop' your answers

A

(m) It helps to increase energy use on other sites

0 It helps to save natural resources used to generate energy

It helps energy companies to charge more for their services

It helps to reduce the impact of climate change caused by burning fossil fuels

5.06 helping to save energy on site and What are two of the best ways of

reduce harmful emissions?

offices and welfare facilities when the heating is on Keep windows and doors closed in

Report any defective, non-powered

electricity for the offices and small Use a generator rather than mains

510 Which items are hazardous waste and which are non-hazardous waste?

Fluorescent light tubes



Untreated timber off-cuts

0

Oil-based paint

D

5.08 You are on site and need to throw O

Lower costs

0

Dange

83

Waste

Accidents

away some waste liquid that has oil in it. What should you do? Pour it down a drain or sink in the

welfare facilities

Pour it slowly onto the ground and let it soak away

put it into a general waste skip Pour it into a sealed container and

disposal process is for contaminated Ask your supervisor what the

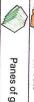
> **5.09** Which two items are classed as nazardous waste?







Broken bricks



n

Panes of glass

多 Used spill kits light tubes Fluorescent

Non-hazardous

Hazardous

What is the correct way to clean up oil that has leaked from machinery onto the ground?



Put the oily soil into the general waste skip



Wash the oil away with water



0 container for collection as Put the oily soil into a separate the oil cannot be seen Mix the soil up with other soil so that

hazardous waste



or diesel spill on site? What should be done if there is an oil



(1) 5.16

Which two actions could help minimise waste?



A Use a spill kit to clean it up before the end of the day



have serious, long-term effects Ignore it. Oil or diesel spills do not

(II)



Always take much more than required, just in case you need it

Use new materials at the beginning of each day

You will be asked to 'drag and drop' your answers

Leave bags of cement and plaster out in the rain, unprotected

supervisor and then clean up the spill Stop work, contain the spill, notify the

റ



0

How should hazardous waste be dealt with on site? Give two answers,

5.12

You will be asked to 'drag and drop' your answers

Put it in a mixed waste skip

[00] Segregate it from other waste

The waste will take up less room in a skip

You will be asked to 'drag and drop' your answers

5.17

Reuse off-cuts (such as half bricks) rather than discarding them Only take or open what you need and return or reseal anything left over

What are the two most important reasons why waste should be segregated on site?

െ Place it in the correctly labelled It can be put in any skip on site





the following statements is true? Under environmental law, which of



Which of the following is most likely



to cause air pollution?



Fuel spillage



00 Using diesel engines

(III)

Mixing all waste in one skip

Storing materials safely



0

they do not follow the law

Only employees can be prosecuted if

W

they do not follow the law

Only companies can be prosecuted if

Only directors can be prosecuted if they do not follow the law

Surface run-off



prosecuted if they do not follow

Companies and employees can be

the law

To make sure that the labourer has enough work to do

So that the client can check what is being thrown away

So that the wastes can be used or It is generally more cost effective to dispose of segregated waste

recycled more easily



practice?



5,18 Which of the following is bad





5.19

in what? On site, waste **should** be collected













Segregated skips





Refuelling carefully to avoid spills



when it is not in use

Switching off plant and equipment

5.20 You discover a bird on a nest where you need to work. What should you do?

Scare it away by making loud noises, then carry on with your work

(17) moved out of the way before Cover it with a sheet so it can be starting work

[0]

0 0 make others aware and inform Protect it from further disturbance, your work and then put it back Move it to a place of safety, carry out

0

them should keep them

D During excavation work, some interesting old coins are found in the loosened soil. What is the most appropriate action?

the supervisor Stop excavating the site and contact

Dust and fumes from the site

Keep quiet. The person who found Keep excavating and see how many more there are to find

[13]

Carefully directed site lighting

0 on site will delay the works Hide them. Archaeologists working

breaking the law if they do which two things to the plant or animal? Certain species of plants and animals in England are protected by law. A worker is

5,26

5.21

your supervisor

Report it		
	i ou will	Volumille
	be asked to 'dr	
3	to 'drag and drop'	
	rop' your answers	

Destroy its habitat Feed it **Hemove** it Photograph it

hearing protection before you Ensure you are wearing appropriate

resume work

Visit the neighbours of the site to tell

them what you will be doing the job as soon as possible Carry on so that you can finish doing

[13]

thing you should do?

hours of your site. What is the first finished within the normal working activity and realise that it cannot be You are carrying out a noisy work

m 0 0 A

5.22 protected species? way to avoid causing harm to Which of the following is an effective

5.24

Preserving old buildings is important

for contributing to an area's what?

5.27

materials underneath a tree? Why is it bad practice to store heavy management so they can look at the impact of the activity

Stop work and inform site

A Historical record

Only working at night

w Cost of living

w

damaged

The tree branches could get

Materials are not protected from the

tree sap

Avoiding breeding seasor

ဂ Infrastucture

U House prices

0

Using manually operated machinery

C

Take them to the site office

5.25

Which of the following does not building site? cause a nuisance to neighbours of a

5.28

Which of the following would help to protect the environment?

(A) Keeping accurate time sheets

[10] Arriving on time for work every day

റ Keeping to the health and safety

Saving water and energy wherever

Noise and vibration from the work

Lorries and heavy plant

5.29 dust on site? What is the best way to minimise

P Covering the whole site

w Using powered tools only

O O Reducing use of the wheel-wash

Dampening using fine water sprays

5.30 What type of pollution would you associate with hand-held

power tools?

w Noise Smoke

O Light

Compaction of the soil could damage

Mould could grow on the stored

(0)

Water

materials

the tree roots

Noise and vibration Health and welfare Manual handling

06 07 08

9



06

- Harmful dust is often invisible to the naked eye.

6.02

If someone is using a petrol cut-off saw (disc cutter) to cut concrete blocks near to

pedestrians, what two immediate hazards will affect the pedestrians?

You will be asked to 'drag and drop' your answers

06

- Breathing in harmful dust can cause life shortening illnesses.
- asthma and silicosis. Breathing in construction dust can result in occupational lung diseases, such as
- Respiratory protective equipment (RPE) will only be effective if it fits the wearer's

- Face-fit testing should be carried out as part of the initial selection of RPE.
- A face-fit test will ensure that your RPE fits and functions properly.
- An on-tool extraction system is a method of dust control. Wearing your RPE will help to prevent you from breathing in harmful dust and fumes.
- Fumes will build up very quickly in a confined space.
- Carbon monoxide is a colourless, odourless, poisonous gas.
- Sparks or naked flames can easily ignite flammable vapours.

0

reduce the dust and wear the correct personal protective equipment (PPE)

and fumes

(D)

Use the tool during wet weather

Use equipment to eliminate or

amount of dust you breathe in Regular breaks will reduce the Work for short periods at a time, needed as dust cannot cause serious

Start the work. No controls are

harm or injury

dust is highly dangerous

You should not do the work because

6 60

work that will create dust. What You have been asked to do some

should you do?

	Harmful dust		
(1)	An electric shock		
0	Flying fragments		
	Contact dermatitis		
m	Vibration white finger		
6.03	Which two materials are most likely to release silica dust when being cut with a rotating blade?	6.05	Where are you likely to be exposed to the highest quantities of dust when drilling, cutting, sanding or grinding?
	Paving slabs		Inside a small room
[3]	Concrete blocks		
0	Timber		mand a laige space
(Loft insulation		Outside on a still day
m	Plastic pipes	O	Outside on a windy day
6.04	What is the main cause of long-term health issues in the construction industry?	6.06	What is the best way to limit exposure to dust when using a power tool?
	Slipping and tripping	A	Do the work quickly
(3)	Exposure to loud noise	(m)	Stop dust getting into the air
0	Being struck by a vehicle	0	Stand downwind of any dust
	Breathing in hazardous dust	9	To the total



Sawing timber or plywood

A

to

Breaking up concrete floors and screeds





After asbestos, which of the following causes the most ill health to



a 21

construction workers?







Silica dust



W Diesel fumes

Chasing out walls and mortar joints Cutting kerbs, stone, paving slabs, bricks and blocks

or sweeping up rubble



Wood and MDF dust

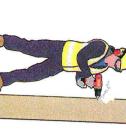


Resin, solvent and paint vapours



6,09

What is the main risk to this worker, wearing only these items of personal protective



A Breathing in harmful dust





Back injury, from poor posture



Goggles misting up, limiting vision



Not being able to hear colleagues



What is the main risk to this worker, wearing only these items of personal protective equipment (PPE)?



Breathing in harmful dust





Back injury, from poor posture



Goggles misting up, limiting vision



Constantly until you are half way



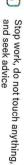
Not being able to hear colleagues more will be required



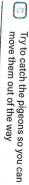
6,12 Pigeon droppings and nests are found 2 4 U



work. What should you do? in an area where you are required to



Carry on with your work carefully, so you don't disturb them

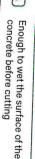




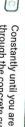




reduce the level of dust when cutting How should water be used to concrete using a cut-off saw?



concrete is being cut Constantly the whole time the



Enough to make the first cut, then no

What is the most serious risk to this worker, wearing only these items of personal protective equipment (PPE)?



Breathing in harmful dust

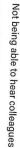


(1)

Goggles misting up, limiting vision Back injury, from poor posture

06







to spray water on it?

Before clearing up some rubble inside a building, why is it advisable



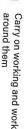


(m)









liner immediately Sweep them up and put them in a bin

(11)



Check there are no live birds present, then carry on working

w D 6.16 Assume dust is not safe wherever they are working working outdoors What best describes how workers should treat dust? Assume dust is safe if they are

0 Assume dust is safe if they don't feel any ill effects Assume dust is safe unless told

U

and authorised

Anyone who is trained, competent

0

Only site managers and supervisors of the company

[00]

Anyone who has completed an

apprenticeship

have the correct licence

Only competent machine drivers who

have high levels of solvents? exposed to paints and resins which immediate health effect of being Which of the following is not an

6.20

equipment (PPE) can protect your Which kind of personal protective

lungs from harmful vapours?

















0

Muscular and skeletal disorders

[13]

Dermatitis or skin problems

Headaches and sickness

Hard hat





Drowsiness or poor co-ordination

Respirator



Ear defenders



the following should be in place? Engine driven equipment is being used in a deep excavation. Which of

likely to give off hazardous vapour? Which material or substance is most



W



ി

A vehicle marshal

Ü

Additional excavation covers

Gas monitoring alarms

D

Wet concrete

Additional stop blocks

Who can enter a confined space?

6.19



Exposure to rat urine whilst working



C Skin contact with any hazardous



Breathing in hazardous dust, fumes



unlikely to result in lung disease? Exposure to which of the following

6.26



Asbestos



Silica dust



Strong smells



6.24 protect the worker from nasal Which item of personal protective equipment (PPE) is helping to cancer?



What can cause occupational



6.25

the body does this disease affect? exposure to asbestos. Which part of Asbestosis is associated with









(DJ



Feet

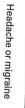








A construction worker has been exposed to concrete dust for a long period of time. What are they most likely to suffer from?







W

Blurred vision

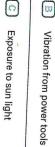




cancer are increased by what? The chances of suffering from lung



Breathing in dust



Exposure to steam

OCCUPATIONAL HEALTH

(II)

is collected Most dust can be harmful if breathed in The tool will go faster if the dust

W

It is unavoidable and harmless

[13]

work as quickly as you can Do the job wearing the mask but regular breaks outside

D

It can help to build up immunity

(1) To save time and avoid having to clear up the mess

Ó

Any effects will be immediately apparent

dust is collected A machine guard is not needed if the

The effects will build up over time

6.29

What potential disease is this worker unprotected from?

6.31 repeated exposure to **small** doses of dust? Which one of the following is true of

6.33

If you have been given a dust mask to protect you against hazardous fumes, what should you do?

6.36

Start work without a mask but take

basic filter types used in respiratory Which two of the following are protective equipment (RPE)?

OCCUPATIONAL HEALTH

Moisture filters

00 Smell or aroma filters

(n) Sound filters

0 Dust or particle filters

Gas or vapour filters

m

the protection

the first one, in order to increase Wear a second dust mask on top of equipment (RPE)

the correct respiratory protective

Do not start work until you have

The seal between an item of respiratory protective equipment (RPE) and a

worker's face is most likely to be affected by which two of the following?

You will be asked to 'drag and drop' your answers

6.34

Beard growth

Wearing safety goggles

Sunlight

The wearer's age

Skin cancer

0

Dermatitis

67

Nasal cancer

Tetanus

Dust levels

6,35 protective equipment (RPE) to be used for a job? appropriate type of respiratory Which two factors determine the

or plastic Whether the RPE is made of rubber

hazardous spil The amount of time since a

RPE or not Whether the worker wants to wear

0 0

It is a harmless natural gas

It is dangerous because it can disable

the sense of smell

00

breaks to reduce exposure Start the work, but take regular

It is dark brown at room temperature

0

correct RPE and training Do not start work until you have the

It can safely be detected by using a

0

quickly to reduce exposure Get on with the job, but try to work

naked flame

A

few breaths

It can cause unconsciousness in a

D

you feel unwel

Sniff the substance to see if it makes

but no RPE has been provided? equipment (RPE) to handle a chemical special respiratory protective 6.30

Hydrogen sulphide is a gas given off

two statements are true about by rotting organic substances. Which

6,32

What should you do if you need

hydrogen sulphide?

The amount of hazardous substances

The type of hazardous substance

6.37

protective equipment (RPE) is true? statements about respiratory Which one of the following

Employers must supply it at cost when it is needed

w Employers must supply it free of

0 Workers should provide their own

charge when it is needed

O the employer Workers should share the cost with

Facial scarring Make-up		(A) Facial hair	0.0000000000000000000000000000000000000	6.42 The seal of your two things?	D Presence of vapours	When dust and fibres	An oxygen-deficient atmosphere	A Presence of gases	6.39 A particle filter is suitable for use which one of the following situations	As hazardous waste	OG As compostable wastes	As normal waste products	As recyclable materials	6.38 How should contaminated respiratory protective equipment (RPE) be considered when disposed of?
			You will be asked to 'drag and drop' your answers	piratory protective equipme	S.	es are in the air	nt atmosphere		A particle filter is suitable for use in 6.41 which one of the following situations?	te D	rastes C	products	erials	How should contaminated respiratory protective equipment (RPE) be considered when being disposed of? 6.40
			d drop' your answers	seal of your respiratory protective equipment (RPE) can be broken by which things?	Check the user has passed a face-fit test while wearing the mask	Check the mask under water to make sure the seals are tight	Check the mask is the correct type needed	Check the mask is being worn correctly	Which of the following do you not need to do to ensure that someone's mask works?	You will be able to use the same mas for longer	Facial hair can affect the seal around your face	You may suffer an allergic reaction t the mask	Facial hair can block the filter more quickly	o Why is it important to be clean shaven when using a half-mask respirator?

								6			S	l is	4	6		
m	0	ା	[23]			6.47		<u></u>	(to)	(A)	6.44	0	0	(D)		6.43
Fit a dust extractor or collector to the machine	Keep the area clean and tidy	Work slowly and carefully	Wear a dust mask	Wet cutting	You will be asked to 'drag and drop' your answers	Planned work requires the use of a power tool to cut or grind materials. Select the two best ways to control the dust.	It will get damaged	It will filter more air	It will break easily	It will not protect you	If your respiratory protective equipment (RPE) is a bad fit, which one of the following is most likely to happen?	It is the correct colour	Being able to smell	It has a good seal	The weight is correct	What is the most important consideration when wearing respiratory protective equipment (RPE)?
					drag and	er tool t	0	0	(tt)		6.46	0	(n)	[77]		6.45
		Ä			d drop' your answers	o cut or grind materials. Select the two	A competent person in compliance with the law	The manager overseeing the work	A supervisor, in compliance with the law	The worker who will carry out the work	Respiratory protective equipment (RPE) fit tests should be carried out by whom?	When starting work on a different site	When starting a new shift pattern	On an ad-hoc basis	On a regular basis	How often is it good practice to carry out repeat face-fit tests for respiratory protective equipment (RPE)?





as possible Ensure that there is as much water



Make sure that the water flow is correctly adjusted



Use dust extraction, or wet cut and When drilling, cutting, sanding or harmful dust?



0 Wear any disposable respiratory Wear FFP3-rated respiratory protective equipment (RPE)



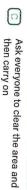
protective equipment (RPE)











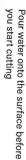




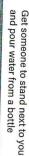
6.51



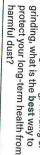




06

























one of the following?







Pneumatic chiselling of concrete

Which of the following two options are likely to cause the most dust







ĺΩ



െ







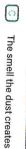


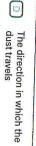


(

times for hand-held vibrating tools

[22]	
The o	
olour	
r of dust cre	
created	







Using water suppression to reduce dust will be most effective for which









exposure?

 Always wear the correct protection in a hearing protection zone. If you have to raise your voice to be understood as a result of noise on site, stop work

and raise the problem with your supervisor.

9

Noise and vibration



must be worn Hearing protection

Exposure to vibration is a serious issue as it can result in disabling health conditions that cannot be cured.

Hand-arm vibration syndrome (HAVS) includes a range of conditions that can lead to permanent damage in the hands and forearms

Regular use of hand-held tools and equipment that vibrates is the main cause of hand-arm vibration syndrome

Your employer should explain safe methods of use, and give you advice on exposure

7.01

How can excessive noise levels affect your hearing? Give two answers.





	0
	Permanent hearing loss
Ш	



7.04

be reversed?



A Ear infections and regular headaches



07

Nausea and a skin rash around



especially against background noise Difficulty following a conversation,



equipment, what does this mean? your ears after working with noisy If you hear a ringing sound in







There are no signs or symptoms associated with hearing damage U 6 to

Yes, if you have an operation

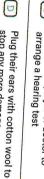
Yes, if you change jobs



7.05 damaged their hearing? if they think noise at work may have What should an employee do











D Dermatitis to skin







noise over a long period of time Can the damage by exposure to 1.07



(HAVS), possibly caused through Your doctor tells you that you have work. What should you do? hand-arm vibration syndrome

B 25

What health problem can be caused by using hand-held

vibrating tools?



Tell no one, as it's not contagious

()

Blisters on your fingers and hands











No, unless medication is used

No, the damage is permanent



Only inform your friends at work



Inform your supervisor or employer







P



W

Skin cancer on your hands and arms







Damage to the blood vessels in your fingers and hands

























What are three early signs of hand-arm vibration syndrome (HAVS)?







Fingertips turn white



















7.09 likely to cause hand-arm vibration Which one of these tools is most



















Hammer drill





screwdriver Battery-powered



hand-arm vibration syndrome (HAVS) if you feel which one of the following? You are less likely to suffer from













tool and the ends of your fingers are starting to tingle. What does You have been using a vibrating





You can carry on using the tool but you must hold it more tightly



(13) you must loosen your grip You can carry on using the tool but

W

Repairs your hearing if it is damaged

6

before they cause a problem

You need to report your symptoms

െ

0





What does wearing hearing protection do?



Helps you to hear better









they are

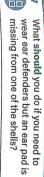


17.20

vibrating tool?

How can you help reduce the risk of hand-arm vibration when using a





Put them on and work with them as

D

Hold the tool more tightly











Do not work in noisy areas until they

00

Use more force on the tool



are replaced



Take an ear pad from another set of



Leave them off and work without any ear defenders

0

Hold the tool at arm's length

hearing protection

Do not grip the tool too tightly





Reduces damaging noise to an



other vibrating tool, ever again You must not use this tool, or any acceptable leve



7.13

What are two recommended ways to protect your hearing?

7.18

in which of the following?

Using a grinder whilst wearing this personal protective equipment (PPE), could result









Noise levels may be a problem if you 7.16

7.14

m 0 0 (III) A

Cotton wool pads over your ears

Soft cloth pads over your ears Rolled tissue paper in your ears

Ear defenders over your ears

Earplugs in your ears



them so they protect your hearing earplugs, how should you insert If you need to wear disposable foam



from damage?



by someone standing how far away? have to raise your voice to be heard



them half way into your ear canal Do not roll or fold them, and insert





and wedge them half way into your ear Fold them in half, pull on your earlobe



0

out and then insert them into your Soak them in water, squeeze them



3





0

Eye injuries

0

Hearing damage

EU

Weil's disease

Lung disease

7.19 you is using noisy equipment and you What should you do if someone near



have **no** hearing protection? 7.21



How can the effects of hand-arm







vibration be reduced if you are using vibrating tools?



Complete the job in one long burst





Carry on with your work, as you are not the person using the

doing, as it is disrupting other

Ask them to stop what they are

workers on site

supervisor to stop them making

Speak to the other person's





the correct personal protective

Leave the area until you have

equipment (PPE)







Dermatitis from repetitive use

00 Weil's disease caused by the dust

Hand-arm vibration from prolonged use

0 Back injury caused by using heavy



7.23 1 What do the initials HAVS stand for?

Hand-arm vibration syndrome

Heavy arm vibration system Hand and ventilation system

Heat and ventilation syndrome

17.24 Which two potential health issues are more likely when using a hammer drill for long periods of time?

Carpal tunnel syndrome

[20] Vibration white finger

Hepatitis

Head injuries

Speech impairment

00 Health and welfare

OCCUPATIONAL HEALTH

If you are under the influence of alcohol, drugs or prescribed medication, it can make the risk of an accident at work. you feel drowsy, slow your reaction times and affect your judgement. This will increase

Long working hours or poorly designed shift work schedules can result in fatigue. If you are suffering from fatigue, you are more likely to have an accident at work.

Fatigue can result in an increase in errors in the workplace.

Stress is defined as the adverse reaction people have to excessive pressures or demands placed on them.

Stress can affect anyone. A lack of concentration, anger and sleep problems are all warning signs.

Stress at work can have a negative effect on your mental wellbeing.

If you are concerned about a colleague's mental health, speak to them about it.

Talking and listening to people, without judgement, can help to overcome negative attitudes to mental health in the workplace.

If you feel that you are having mental health issues, you should ask for help as early

Talking about mental health issues is a good way of helping to manage them.



Talking about how you feel is not a sign of weakness

in the construction industry. Exposure to ultraviolet radiation from the sun is one of the main causes of skin cancer

You are less likely to have an accident if your work area is clean and tidy.

Adequate lighting and good housekeeping will reduce the risk of slips and trips.

If the welfare facilities on site are not adequate or are dirty, report the issue to

It is good practice to have access to a telephone and a means of raising the alarm if you are working alone.

8.01 could affect their health and safety in the workplace, and that of others. A worker is taking medication which



What should they do?



Tell their manager



Work harder on site

80

Go

and see their doctor



8.02 Take regular breaks

The details of the illness to make sure should they speak about with their after an absence due to illness, what employer? When an employee returns to work

taking which could affect safety no one else can catch it The effects of medication they are

Will I fail a drugs test if my employer

asks for one?

Any treatment costs they have to pay visited their doctor before returning The number of times they have

to help them get back to work

8.03 time-dependent medication, such What action should shift workers take at work if they are taking

A remember when to take their Ask colleagues to help them

[00] their manager to help plan how to Consult their doctor and inform

0 their required medication Only work shifts after they have taken accommodate this

they need to take their medication during their shift Not tell their colleagues each time

8.04

information relating to an employee containing specific medical How should absence records

8.07

A cold water standpipe and paper towels

data protection laws

Confidentially, in accordance with

A water container, bowl and paper towels

(tr

Go to the local public toilets and use

their washbasin

washing facilities

workforce as long as they do not The records can be shared with the with freedom of information As public information, in accordance

to dry your hands

to prevent others taking time off Provided to the rest of the workforce

is the most important to ask? medication, which of these questions If your doctor has given you some

8.05

00 late for work? Will it cause me to oversleep and be

(0) Will it make me unsafe to work or operate machinery?

earn less money? Will it make me work more slowly and

8,06 If you suspect someone at work has been drinking alcohol, what **should** you do?

Ask them to stay away for an hour and then go back to work

000 coffee before they go back to work Get them to drink plenty of strong

0 supervisor, as they may be unsafe Report the situation to your

0 wait 30 minutes and then go back Get them to eat and drink something

What are the minimum facilities that your hands? must be provided on site for washing

There is no need to provide

Hot and cold water, soap and a way

8.08 the risk of transferring hazardous substances from your hands to What are two ways of reducing your mouth?

Using barrier cream for working Washing your hands before eating

Washing protective gloves before

w

They will remove several layers of skin

you are working Wearing protective gloves while

m before eating Putting barrier cream on your hands

dirty hands?

8 8 What should you use to clean very

Thinners

Paraffin

White spirit

Soap and water

8.10

What should you do if there is nowhere on site to wash your hands?

Wait until you get home, then wash them

(7) Nothing, as the site does not have to provide washing facilities

Speak to your supervisor or the site manager about the problem

8.11 spirit or other solvents to clean Why should you not use white your hands?

They could block the pores of the skin

from the skin They could strip the protective oils

U that attack the skin They could carry harmful bacteria

8.12 What is the main issue with using barrier cream to protect your skin?

It is difficult to wash off

ΩΩ. It costs too much to use every day

O It can be broken down by some substances

It can irritate your skin and give you dermatitis

8.13 When **should** you apply barrier cream to your skin?



Before you start work



When you finish work

to

High factor sunscreen and long-sleeved clothing

A

Low factor tanning oil and short-sleeved shirts

80

്

As part of first-aid treatment

0

Extra moisturiser on the face and short-sleeved shirts



8.17

cause what?

Prolonged exposure to sunlight could

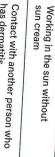
8.14 0 What can cause occupational dermatitis? When you can't find your gloves

A small amount of deodorant and





Hair loss



w

Burns

ി

has dermatitis

<u></u>

Abrasions



0

Dental issues



8.15

direct sunlight on bare skin?

8.18 8 When referring to protection, what is a high UV rate cream designed to protect you from?



8.21

What is the main risk to this worker, wearing only these items of personal protective



w Legionella

·



Abrasions

U

Skin cancer

n

Dermatitis

8

Rickets

Acne

To help protect outdoor workers from the risk of skin cancer from sun exposure, what should be worn? 8.19 What is the most likely source of hepatitis in this image?

8.22





w

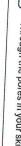
Blood

for what part of the body? abrasions would require protection Reducing the risk of cuts and

8.20 How does tetanus (an infection that















you can catch from contaminated land or water) normally enter your body? 8.23

A
Tetanus

D	
Tetanus	
	- 1



- 1	-
	puncture wounds?
	(

Which disease is most likely to be caught through cuts, grazes or puncture wounds?	- 1		
		caught through cuts, grazes or puncture wounds?	Which disease is most likely to be

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Cancer

D

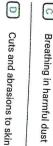


Damage to hearing

1		
ī	_	







Hair

possible cuts or abrasions. Select the two images in which the worker is correctly protecting themselves from

Carrying with no gloves You will be asked to 'drag and drop' your answers

A





Washing with no gloves











8.25

(leptospirosis) on construction sites? likely carrier of Weil's disease Which animal is the most

8.27

(leptospirosis)?

likely to catch Weil's disease In what situation are you most







[03]





(m)

If you work fixing showers or baths







ि

If you work near air-conditioning

0

waterways or sewers If you work near wet ground,



8.26 (leptospirosis) on site, why do you contracted Weil's disease If your doctor says that you

need to tell your employer?





colleagues not to go near you Your employer has to warn your



Hay fever

Influenza (flu)

control to remove rats on site

Your employer will need to call pest

will have to be closed down The site on which you contracted it It must be reported to the Health and Safety Executive (HSE)

8.29

Fatigue could affect work rates of a worker. What does this mean?

They will be able to work faster as they will have lots of energy

They will work consistently as there are no issues

will need monitoring They will work at the same rate but

They will work more slowly, as they will feel tired

8.30 What type of work is **most** likely to result in fatigue?

New and challenging

If you drink water from a standpipe

[77] Repetitive and monotonous

Exciting and enjoyable

Quiet and interesting

8.31 Being satisfied with your job can lead to what?

Feeling less stressed at work

Feeling unpopular at work

Feeling more stressed at work

Feeling less happy at work

8.32

Which **one** of the following is **most** likely to cause stress at work?

of redundancy Job satisfaction but fear

of redundancy A lack of job security and fear

Job security and a permanent

permanent contract A lack of job security but a

How can physical stress of a job be reduced?

8.33



Repetitive actions when working

W Job rotation and task variation

Making equipment challenging to use

0 An increase in pay for the same job

8.34 showing signs of stress at work, what should they do? If a worker is feeling symptoms or

friend or someone independent Speak to someone they trust, like a

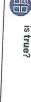
Arrive and start work at a later time

833

their problems Tell the rest of the team about

(0)

O Eat or drink more during the day



Which statement about mental health



It always has an obvious cause

Mental health issues or stress



(C) It can have no obvious cause



It is never caused by stress



[27]



W

our intelligence Mental health is all about







'The Samaritans'?



A charity that provides emotional support for people who are struggling



looking after vulnerable people A political party which supports





n financial and legal support





U

8

0

It is always caused by stress

(n)

Repetitive strain injury and back pain

w

Hand arm vibration syndrome

individual from stress at work? Who has a duty to protect an

8.39

is true?

statements about mental health Which one of the following O

Skin problems such as dermatitis



The government



0

general knowledge

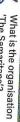
Mental health has to do with our





0

think and remember things Mental health is all about how we







People experiencing mental health problems tend to be violent

or dangerous

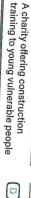
8.40

> statements is true? Which one of the following





(n)



Mental health problems are rare among construction workers

health problems are the same Learning difficulties and mental and can happen to anyone Mental health problems are common

8.38 Loss of appetite, fatigue and tearfulness are common symptoms of what?



8.41 Which one of the following is good advice for helping to cope with stress?

8.44

MIND is a charity that does what?

























Get enough rest





empower anyone experiencing a

Provides advice and support to



0 Work longer hours



Keep it to yourself

U

safety in the work place Controls and monitors health and ി

intelligent and want to improve Represents people who are very (M)

Provides housing for retired mental health problem

construction workers



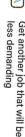
by their line manager. What **should** they do?

8.45

> What sort of rest area should your employer provide on site?



Mental and physical health are directly linked



A canteen serving food, drinks and cold sandwiches

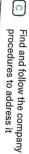


(00

boil water and heat food

A covered area, chairs, and a way to





(7)

A covered area with some

comfortable chairs and running water





U

rest areas, as long as rest breaks

Employers don't have to provide

are provided





8.43 Which one of the following is true of the symptoms of stress?

















They can be different for each individual





8.46 Which one of the following must be provided on site?

























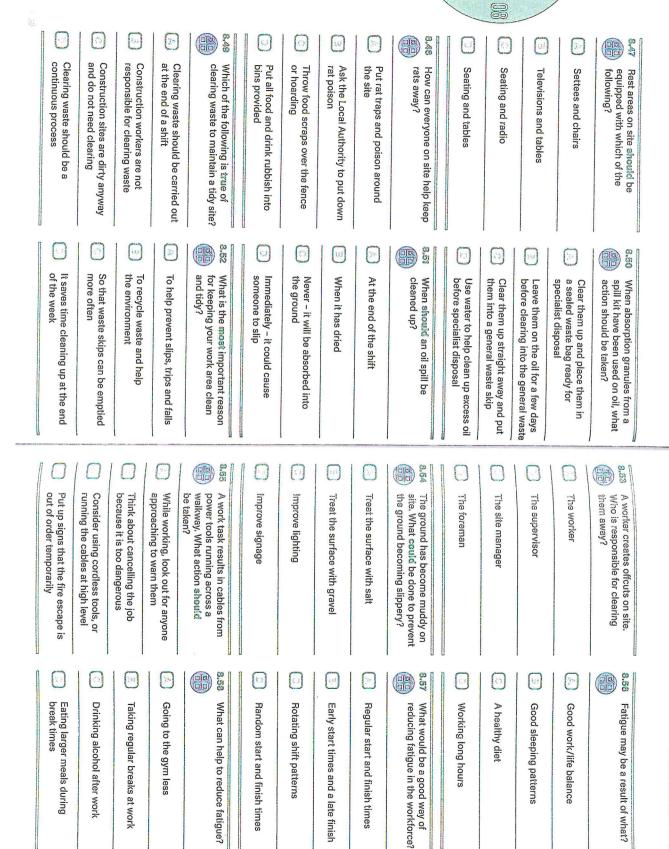
They always develop very quickly





They always take a while to develop

OCCUPATIONAL HEALTH



OCCUPATIONAL KEALTH

OCCUPATIONAL MEALTH

8.59 As soon as they realise they have When they have finished work and they are away from the workplace If a worker is feeling stressed, when is the best time for them to address causing them stress it causes an accident Only after the stress level gets so bad symptoms of stress the issue?

6.60 avoid becoming stressed because of What is the best way for a worker to In about six months, if the issue is still

6.63

Which of the following are common

mental health issues?

Ç.

Feelings of confidence at work

Feeling valued at work

increased productivity

their manager or employer Speak openly and regularly with an overload of work? about workloads

n of the

Paralysis and halitosis

someone else will pick up the extra Only do what is manageable because sure overtime is paid Put up with the extra work but make

0

Depression and anxiety

w

Hand arm vibration syndrome

before going to work Make sure they take medication

Dermatitis, skin irritation

What is one sign that employees are teeling stressed at work? 8.64 colleague do? mental health issue, what should the If a worker confides in a colleague that they have suffered from a

6

500 work colleague can avoid working with them Let other colleagues know, so they Treat them as they would any other

[0]Inform the site supervisor and

0

Long-term staff retention rates

(M

Fewer accidents on site

Increased productivity on site

Do their work for them because they might not be able to cope

High staff turnover rates

60 Which of the following can be an indicator of stress?



90 When might people suffering with mental health issues need help at work?

manager says so When their site supervisor or

Inability to deal with usual workload

them having a panic attack They will regularly need help to avoid

Up to once a week to take some of the strain off them

which help is needed As and when a situation arises in

6.60 from what? Lone workers are most a risk

Violence

Paranoie

Sleeplessness

Humiliation

6.67 Who should drive company vehicles?

Any employee who is competent and authorised

Anyone with a learner driver permit

or supervisor Any construction site manager

Any junior apprentice workers

00 a machine they have never been A worker with a full UK driving licence has been asked to move trained on. What should the worker do?

Move the machine as long as there is They can move the machine as they have a full UK driver's licence

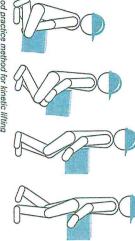
Explain that they are not trained and competent to move it no one else near it

Move the machine as long as there is a vehicle marshaller

OCCUPATIONAL HEALTH

09 Manual handling

- Using a wheelbarrow or other lifting aids to move heavy loads is classed as manual handling but they help to reduce the risk of personal injury.
- Workers should be trained in safe lifting techniques before manual handling or lifting
- Adopting safe manual handling techniques will help to protect your back and reduce the risk of injury in the workplace.
- 0 The manual handling acronym T.I.L.E. stands for Task, Individual, Load, Environment



9



9.01

you do?

you have a weak back. What should handling but an old injury means that Your new job involves some manual

9.02

divide it into smaller parts and there

be too heavy for you. You cannot You have to move a load that might



- be a problem Tell your supervisor that lifting might
- 0 Try some lifting then tell your supervisor about your back
- Tell your supervisor about your back if it gets injured again

Try to lift it using the correct lifting methods is no-one to help you. What should

Lift and move the load quickly to

avoid injury

Do not move the load until you have a safe way of doing it

have not been trained to use it Get a forklift truck, even though you

> 9.03

front of you. What should you do? You need to lift a load that is not heavy, but it is so big that you cannot see in

give directions Get someone to walk next to you and

so that you can both see ahead Ask someone to help carry the load

(0) and tell others to get out of the way Get someone to walk in front of you

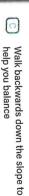
large that anyone in your way is sure Move the load on your own. It is so

to see it

9.04 carry a load down a steep slope? What should you do if you need to

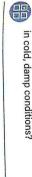






Put the load down and let gravity move it down the slope

9.05 What are two risks of carrying a load in cold, damp conditions?



P The load will be easier to carry

07 The route you take could be slippery

You will need to work more quickly to warm up

The load will feel lighter due to the cold conditions

will be reduced Your ability to carry the load safely

8.06

What should you do if you have been think there is a better way to do it? told how to lift a heavy load but you

OCCUPATIONAL HEALTH

B COA

supervisor before lifting Ignore what you have been told and do it your way

Discuss your idea with your

n you have been told Forget your idea and do it the way

way you should do it Ask your workmates to decide which

9.07 # What does it mean if you have to twist or turn your body when you lift and place a load?

You must wear a back brace in this situation

weight as usual You will be able to lift the same

(1) U The weight you can lift safely will be less than usual The weight you can lift safely will be

more than usua

9,08 If you need to reach above your head

to place a load or lower a load to the floor, which of these is not true?

A The load will be more difficult to control

[23] You can safely handle more weight than usual

It will be more difficult to keep your back straight

and your back You will put extra stress on your arms

9.09

9.14 What two things are important for the use of manual handling lifting aids?

				,								1		09		7	
]						8310						9.09
Whether the contents are insured	How to grip or hold it firmly	What the value of it is	Its size and shape	Its weight	You will be asked to 'drag and drop' your answers	Which three of the following factors must you think about to lift a load safely?	0_ 0_ 6_				Which part of the body is most likely to be injured when lifting heavy loads?		Three times the usual amount	Less than the usual amount	Twice the usual amount	The usual amount	If you have to move a load while you are sitting down, how much can you lift safely?
					rag and c	st you thir	0	0	(w)		9.12				,	•	
					rop' your answers	nk about to lift a load safel	You will crush your backbone and damage it	You can lift any load without being injured	You could face the same risk of in	You can safely lift more than usua	What is the outcome of wearing back support belt when lifting?	0 0		0 0		(1.0)	Which part of the body is most likely to be injured when lifting heavy loads?
						y?	one and	ŭŧ	isk of in	nan usua	vearing a	6					is most n lifting

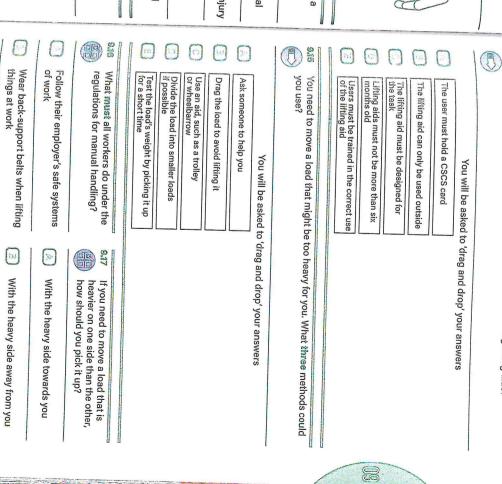
Lift any size of load once the risk assessment has been done

With the heavy side on your

With the heavy side on your weak arm

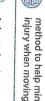
strong arm

Make a list of all the heavy things they have to carry



OCCUPATIONAL REALTH









If you are required to lift a heavy load, what must your employer do?





Watch you while you lift the load









Complete a risk assessment of the task

















Nothing. Lifting loads is a part of your job



60

Make the area flatter before performing the task

on site

Use lifting aids wherever possible

to advise while you lift Make sure that a supervisor is there



using to move a heavy load a long distance. What should you do?

A wheel comes off a trolley you are

loads from the site Remove all awkward shaped

63.6

9.22 Which one of the following could



problems for a worker? cause back and musculoskeletal



Positioning materials away from the work area





Reducing the maximum lifting weight

Find another way to move the load and complete the journey

Drag the trolley on your own for the rest of the journey

the journey

Carry the load for the rest of



trolley for the rest of the journey Ask someone to help you pull the

9.20

Who should be involved in planning the safe system of work for your

manual handling?

The Health and Safety Executive (HSE)

You and your supervisor or employer

Your supervisor or employer

You and your colleagues

whenever possible Using machines for lifting operations



10 Safety signs

Fire prevention and control

Electrical safety, tools and equipment

N 11



86

SAFETY





























Safe condition signs - green and white











Mandatory signs - must do - blue and white



Fire-fighting signs

Emergency escape route

Emergency eye wash

First aid

-1 ©







Globally harmonised pictograms are used to help identify hazardous substances



Warning signs – yellow and black



















Heating may cause an























ార్హింది. Which ిద్దాలు of the following should be labelled with this sign?

Raw asbestos You will be asked to 'drag and drop' your answers

Asbestos waste

Refuelling should only be carried out by authorised people, when the equipment is turned off and cooled down for safety.

If a cylinder of LPG is leaking, turn the supply off immediately, if it is safe to do so.

Fuel should always be dispensed using the correct nozzle and stored in the designated

fuel store when not being used.

A leaking LPG cylinder can catch fire at some distance from the original leak and flash

back to the source.

flammable

Liquefied petroleum gas (LPG) is colourless, has a distinctive smell and is highly

Hot-work permits allow workers to carry out work that could start a fire, such as cutting

steel with an angle grinder or soldering pipework in a central heating system.

 ${\mathbb A}$ fire assembly point is where people must go when the fire alarm sounds.

Emergency escape routes should be kept clear and unobstructed at all times

Everyone on site should be aware of the emergency procedures, as these help to

control dangerous situations.

Emergency procedures should be in place before any work begins, explained in the site

induction and not changed without notice,

Hot-work permits authorise tasks to be carried out safely, under strictly controlled

Any product containing asbestos Plasterboard waste Recyclable waste

How should a container, or any residue, be disposed of if it has this sign on the label or packaging?

Put it in any type of skip or bin

Leave it somewhere for other people to deal with

you can pour it down a drain If it is a liquid and less than one litre

Follow specific instructions on the label and in the work instructions

What are two common fire risks on construction sites?

You will be asked to 'drag and drop' your answers

Timber racks	
230 volt power tools	
Uncontrolled hot works	
110 volt extension reels	

Poor housekeeping and build up of waste

11.02

Which emergency procedures should be explained in the site induction?

You will be asked to 'drag and drop' your answers

Give three answers

B What must be checked before escape route?

working in a corridor that is a fire

If the doors into the corridor

are locked

If the tools being used are spark-proof

That any tools and equipment do not block the route

That fire escape signs are removed before the work starts

B 1.04

If you discover a fire, what is the first

thing that you should do?

8 extinguishers. What should you do? have not been trained to use fire A large fire has been reported. You

Leave work for the day

Report to the site office and then go home Go straight to the assembly point

Put all of your tools away and then go to the assembly point

How to raise the alarm in case of an emergency

Where to go to leave valuables in Where to go if the fire alarm is activated

What to do if someone is injured on site

How to avoid leaving site in case it's a false alarm

If a fire occurs, how should you interact with the designated

B 3

What additional rules might a person

working alone be asked to follow?

fire warden?

11.07

fire warden Follow the instructions given by the

Ignore the fire warden and follow your colleagues

Follow the site manager as they will know their way around the site

Ignore the fire warden and the site manager

Complete an additional time sheet

Make regular radio or mobile phone contact Never speak to the general public

If your job needs a hot-work permit, what two things would you expect to have to do?

You will be asked to 'drag and drop' your answers

Know how to refill fire extinguishers Write a site evacuation plan

Check for signs of fire when you Have a fire extinguisher close to the work stop work

Know where all the fire extinguishers are kept on site

Finish what you are doing

Put your tools away

Raise the alarm

Try to put out the fire

I

Carry two sets of personal protective equipment (PPE)

B

The Health and Safety Executive (HSE) will give them out

Permits to work are only required by managers on large sites

Information will be given during the site induction before any work starts

Other workers on site will pass them on after they have finished with them

⊕ ≡ petroleum gas (LPG) cylinder? around the valve on a liquefied

What does it mean if there is frost

¹/₂

Which two extinguishers should not be used on electrical fires?



(blue colour band) Dry powder



The valve is leaking

The cylinder is full

-oam

(cream colour band)

Water (red colour band)

You must lay the cylinder on its side

The cylinder is nearly empty

Carbon dioxide (black colour band)

Match the fire extinguisher with the described contents

11.13

You will be asked to 'drag and drop' your answers

material fires Water - for use on wood, paper, textile and solid



Powder – for use on liquid and electrical fires

Foam - for use on liquid fires



Carbon Dioxide (CO₂) - for use on liquid and electrical fires

11.14 What is the primary purpose of fire extinguishers?

becoming larger To tackle small fires to prevent them

To be available and ready for when the fire services arrive

To make sure the premises pass a safety inspection

construction site To add decoration to the walls of the

11.15 liquid. How much should be taken A worker needs to use a flammable from the store?

activity Enough to carry out the immediate

No more than the manual handling rules allow

Enough to last a month, but inform

the site manager

going to the store Enough to last a week to save time

spilling onto the ground. What is the You see a driver refuelling an excavator but most of the diesel is first thing that you should do?

Tell the driver immediately and locate the spill kit

you see them Tell your supervisor the next time that

Look around for a spill kit and then tell your supervisor

seep into the ground Do nothing. The diesel will eventually

8

A worker spills a large quantity refuelling a piece of equipment. What should they do? of petrol on their clothes when

Put some other clothes on top

Nothing - it will evaporate quickly

Change their clothes immediately

Wipe it off with a cloth

A worker spills a large quantity of petrol when refuelling a dumper.

Stop - Notify - Contain

What should they do?

Stop - Contain - Notify

Contain - Stop - Notify

Notify - Contain - Stop

Electrical safety, tools and equipment

Workers must be trained and competent before operating power tools

0 N

- Cartridge-operated tools operate like a gun and can be dangerous in inexperienced
- flying into the air and to prevent the operator coming into contact with the blade The main function of guards on cutting and grinding machines is to stop fragments
- The recommended maximum voltage for construction sites is 110 volt with a yellow
- and the supply socket Residual current devices (RCDs) should be fitted between the plug of a 230 volt tool
- RCDs work by cutting the power quickly if there is a fault, and they should be mechanical (trip) tested before each use



What should you do? cable but the cable has bare wires You need to work near an electric

- Quickly touch the cable to see if it is live
- Tell your supervisor and keep well away from the cable
- you can start work Push the cable out of the way so that
- Check there are no sparks coming from the cable and then start work

12.03 What are the two main visual inspections you should carry out before using a power

You will be asked to 'drag and drop' your answers

tool?

You have a spare lamp. What she You are using a generator to power some lighting when a lamp blows.

Carry on working in the dark

you do?

- Replace the lamp without disconnecting the generator
- Wait for a fully qualified electrician with a NICEIC card
- Disconnect the lighting from the
- generator before replacing the lamp

- - What should be done before adjusting an electric hand tool?

8 12.08

When is it safe to work close to an

overhead power line?

- Switch it off but leave the plug in the socket
- before adjusting Put tape over the power switch
- Switch it off and remove the plug from the socket
- hand tool yourself You should never adjust an electric
- What else must you check? that it is the right tool for the job. tool or power tool on site. You know You have been asked to use a hand
- That it was made in the UK
- That it is inspected before you use it
- each week That it is inspected at the start of
- builders' merchant That it was bought from a

Check switches, triggers and make sure the guards are adjusted and work correctly Check the power lead, plug and casing are in good condition come of

Make sure the manufacturer's label hasn't Check it is marked with a security stamp Make sure the carry case isn't broken

12.04 What is best practice when using a power tool with a rotating blade?

- Adjust the guard to expose the maximum amount of blade
- Remove the guard so that you can
- gloves to protect your hands clearly see the blade Remove the guard but wear leather
- enough blade to let you do the job Adjust the guard to expose just
- If the power is switched off
- If you use a wooden ladder for access
- If it is not raining whilst you are working
- than 30 seconds If you do not touch the line for more
- 12.09 What should you do if the guard is missing from a power tool?
- Try to make another guard
- Use the tool but try to work quickly
- Use the tool but work carefully and slowly
- Do not use the tool until a proper guard has been fitted



B 12,07 Why is it considered poor practice to store batteries loose in a tool bag?



- If the terminals short out, they could cause a fire
- They give off a poisonous gas in a confined space
- The tool bag will be heavy and could damage your back

6									2							
440		0	(T)		12.12			[50]		12.11			(31)		12.10	
	Run the tool at top speed to see if it cuts out	Use a hand-held RCD test meter	Press the test button on the RCD	Switch the tool on and off	Which method is used to check if a residual current device (RCD) connected to a power tool is working?	it quickly cuts off the power if there is a fault	It makes the tool run at a safe speed	It lowers the voltage automatically	It saves energy and lowers costs	Why should a residual current device (RCD) be used with 230 volt tools?	Switch off the power and look for signs of damage	Switch the power off and on a few times	Pull the electric cable to see if it is loose	Shake it to see if it will start again	What should you do if the electrical equipment you are using cuts out?	
	0	0	(a)		12.15	0		[17]		12.14			[53]		12.13	
	They will not give you a serious electric shock	They do not need to be tested or serviced	They will not give you hand-arm vibration	They are cheaper to run	What is the main advantage of using battery-powered tools rather than electrical ones?	They are safer	They are more powerful	They are quieter	They are cheaper to run	Why are battery-powered tools preferred over 110 volt tools in a construction environment?	Use a portable residual current device (RCD)	Use a generator which has been serviced	Put up safety screens around you	Wear rubber boots and gloves	You need to use a 230 volt item of equipment. How should you protect yourself from an electric shock?	٠
					gn	A CONTRACTOR						The charge of th	_		ect	ugass.
		70		2	12.18		_ම ල	60 (A limit of the property of	12.17	0	0			ect 12.16	
	Wrap the cable in yellow tape so that drivers can see it		Cover the cable with a protective ramp				Make sure your cables have not been used before Tie any excess cables and leads up into the smallest coil possible.	Keep trailing cables and leads c	You will be asked to 'drag and drop' your answers Only use the thinner 230 volt extension cables	12.17 What two things should you do to reduce trips and injuries caused by untidy leads and extension cables?	It moves faster along the cables	lt is safer for the environment		A It is cheaper		

12 22 12.20 0 12.19 showing in the cut and then use the Check the copper wires aren't no one else uses the cable Report the fault and make sure that Put electrical tape around the Put a bigger fuse in the cable plug What should you do if an extension damaged part cable has a cut in its outer cover? Cover the cable with pieces of wood Run the cable by the shortest route Run the cable above head height Cover the cable with yellow tape What is the best way to protect an extension cable and also reduce trip hazards? What two things should you do if you need to use an extension cable? Only check the part of the cable you need for damage for damage Check the whole cable and connectors Only uncoil the length of cable you need Clean the cable with a damp cloth Uncoil the whole cable You will be asked to 'drag and drop' your answers 12.22 head could come off at any time Keep using it but be aware that the out of the way Tell the other people near you to keep instead of the hammer Find another heavy tool to use Stop work and get the hammer repaired or replaced What should you do if the head on your hammer comes loose? significant hazard in this image Apart from dust, vibration, noise and flying fragments, identify another



8



Do simple hand tools like trowels,

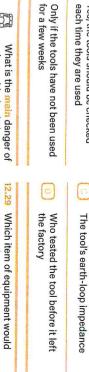
If a power tool has a portable

screwdrivers, saws and hammers

need to be inspected?

such tools

No, it is not necessary to check



for a few weeks

Yes, the tools should be checked

each time they are used



8

using a chisel or bolster with a mushroomed head?



Plug in portable halogen light

110 volt extension lead

putting a strain on your wrist The shaft of the chisel will bend, The hammer could slip off the head of

the bolster or chisel

You are more likely to hit your hand with the chisel head

It will shatter and send fragments flying into the air

SAFE



ONTENTS

w	
Site transport and its:	h risk activities

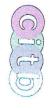
Site transport and lifting operations Working at height

Hazardous substances

Excavations and confined spaces

14

96 103 115 119



Site transport and lifting operations

- People being struck by moving plant is one of the most common causes of injury and death on construction sites
- Well organised sites will have segregated vehicle and pedestrian routes
- Vehicle marshals should be used to control, and ensure, safe vehicle movements
- 0 You must be trained, competent and authorised to operate or signal plant on any site,
- 0 Loading and storage areas on site should be located away from main pedestrian routes
- Poor ground conditions, excessive speed and poorly distributed loads will increase the risk of a vehicle overturning.
- One of the most common accidents involving dumpers is overturning
- You should be provided with information about site traffic rules in your site induction.

mobile crane reverses across your You are walking on site and a large path. What should you do?



13.03 injure pedestrians?



When is a site vehicle most likely to





13.06 drive along a pedestrian route?



When is site transport allowed to

vehicles appear to be moving Straight through the compound if no



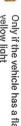




During meal breaks



If it is the shortest route available



Only if the vehicle has a flashing yellow light

n



13.02

What should you do if you need

13.04

Why should you not walk behind a

lorry when it is reversing?

Start to run so that you can pass behind the reversing crane

0

As it is lifting materials onto scaffolds

5-1

Only if necessary and if all pedestrians are excluded

to walk past someone operating a

mobile crane?

െ

Wait or find another way around the crane

(ñ)

While tipping into an excavation

Pass close to the front of the crane

While digging out footings

Help the driver to reverse

[34]

When it is reversing

is the best way to avoid an accident When you walk across the site, what with mobile plant?



Ride on the plant



Keep to the designated pedestrian



is through a contractor's vehicle compound. Which way should The quickest way to your work area you go?

13.05



13.08 You need to walk past a 360° mobile crane. The crane is operating near a wall. What is the main danger?





You could get whole-body vibration

from the crane



Straight through the compound if

no-one is looking

Around the compound if vehicles are moving

Around the compound every time





13.09 A forklift truck is blocking the route you need to take on site. It is lifting materials onto a scaffold. What



Wait or take another route, but never walk under a raised load



walk under the raised load Catch the driver's attention and then









Ö Have a word with the operator at the end of the day



Take another route so that you stay clear of the crane

റ

(iii

crane operator

Try to catch the attention of the

are there

The driver is unlikely to know you

Run to get past the crane quickly

Most lorries are not fitted with

Guess what the crane operator will do next and squeeze past

251

0

െ

at reversing

past it in time

Most lorry drivers aren't very good

13.11

Workers are on foot close to moving plant. Which one of the following is true?





The operator will see the workers, because they have mirrors and CCTV



Hi-vis clothing will keep the workers safe if the plant is not reversing



13.14 What should you do if you see a clumper being driven too fast?



Report it to the police



Keep out of its way and report it

(1)









13.17

Driving with the hand-brake on













i, i





Driving with the lights on during the day









13.20

If there are blind spots while using plant but work needs to continue,

what actions should be taken?



Use the existing mirrors on the plant









one before, What should you do? dumper truck but you have not driven Your supervisor asks you to drive a



13,12

a group

The workers will be safe if they are in

designated pedestrian routes

The workers should stay within the

No pedestrian access?

Which of the following signs means

13.15

What is the main hazard associated

13.18

Where vehicles tip materials into

Only driving with limited fuel

excavations, what could be used as a

safety precaution?

Nothing, as dumpers are allowed to speed

Try to catch the dumper and speak to the driver

0

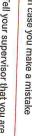
Speed signs and speed humps

machinery around site? with the movement of plant and





















13.13 In which one of the following situations is it safer for a worker

25

Members of the public being poisoned by the exhaust fumes

Existing building collapse from

moving machinery and being crushed Pedestrians walking too close to

Stop blocks

vibrations of the moving machinery

Extra speakers

the movement of the machine Drivers getting motion sickness from

A siren

Flashing lights

2

You will be asked to 'drag and drop' your answers

	0
Members of the public are likely to jump into	Leaving the engine running is a waste of fuel and is therefore a waste of construction budg

the vehicle and steal it	TO DO

į)	(
Drivers may accidentally operate lever	D .	workers a headache if left or feet le
2	10	- e

(
Climbing into or out of the vehicle

Construction machines are not designed to be constantly left running

Go slow

2

plant is moving slowly

The worker is wearing PPE and the

it is daytime

The operator can hear the worker and

n

direction

Traffic approaching from each

plant is moving slowly

The worker is wearing hi-vis and the

e

No pedestrian access

Pedestrian walkway only

is there and the plant has

The operator knows the worker

mobile plant?

to speak to someone operating

13.16

25

What is the meaning of this sign?

13.19

stopped operating

Which of the following is a recognised control measure when reversing a vehicle?

Turning the site radio of

Using a vehicle marshal

Turning on all the vehicle lights

9 Standing on the back to direct it

13.23 You think a load is about to fall from a moving forklift truck. What should

Run and tell your supervisor

įgj Sound the nearest fire alarm bell

n

Run alongside the machine and try to hold onto the load

keep clear but try to warn the driver and others in the area

13.24 When can a mobile plant operator let people ride in, or on, the machine?

Only if they have a long way to walk

Any time as long as the cab door

فيوا

Any time as long as the site speed limit is not exceeded

passengers and has a designated seat Only if it is designed to carry

> 13,25 You see a lorry parking and it has a flat tyre. Why should you tell the driver?

More fuel will be used by the lorry

It could be unsafe to drive the lorry

The lorry can only carry small loads

much slower speed The driver will need to travel at a

0

13.26 Liquid is dripping and forming a smal An excavator has just stopped work. pool under the back of the machine. What could this mean?

be unsafe The machine has a leak and could

(ti) machine stops It is normal for fluids to vent after the

O The machine is hot so the diesel has expanded and overflowed

Someone put too much diesel into the machine before it started work

13.27 load is about to hit something. What A mobile crane is lifting a load but the

should you do?

Go and tell your supervisor

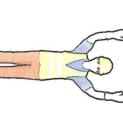
12/2

Go and tell the crane driver

0 Try and warn the person supervising or signalling the crane

Do nothing and assume that everything is under control

13.28



Which signal is being shown in this image?

Danger, emergency stop

Turn right or left

Move forwards

Move backwards

What is needed before supervising any lift using a crane?

13,29

D A mobile phone to talk to the crane driver

21.5 Full training and being assessed as competent

(0) hire company Written instructions from the crane

what to do Nothing. The crane driver will tell you

13,30 Which of the following is a way of trained and competent? ensuring that a slinger or signaller is

By trusting them when they say they are

By asking for evidence to be

By having them swear an affidavit

By making a handshake agreement

13.31 Which action will help to keep signallers safe?

Provide yearly eye tests to confirm they have good vision

įų Provide body cameras to capture any incidents

a Provide gloves for hand signals

clearly visible Provide hi-vis clothing so they are

13,32 driver stop their vehicle immediately? Under what circumstance should a

If the vehicle is low on fuel

working If the flashing beacon has stopped

marshal If they lose sight of their vehicle

6

0 If they are operating in a one-way

HIGH RISK ACTIVITIES

When signallers are used, who should they be in contact with at all

13.36

Where risk of overturning is significant, what should vehicles be fitted with?



The machine operator



The site manager

6

Their supervisor

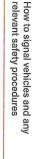


Pedestrians



should know before directing information a vehicle marshaller





The type of materials being delivered

to the site



121 On uneven or sloping ground



To reduce the risk of overturning

could be stolen

The value of the materials, as they

for security reasons

The name and address of the driver

and accidents when not in use

how should earth moving vehicles

be parked?

What is the most important

When on firm, level ground

rear tipping lorries not be used for To prevent over-turning, when should

0

0 0

tipping operations?

A winch and pulley system

Heavy duty graded tyres

Roll-over protective structures (ROPS)

0

Extra strength brakes

During redistribution of the load

HIGH RISK ACTIVITIES

Working at height

- Work at height is defined as work at any height where a person could fall and be injured.
- Every year falls from height kill more construction workers than any other type

0

0 B

- Work at height should be avoided where possible
- If you are involved in work at height, your employer should ensure that you have sufficient information, instruction and equipment so that you can work safely,
- All equipment for working at height should be inspected before use.
- There should always be a rescue plan if people are working at height
- If you feel that the task you are completing at height is unsafe, stop work and report it to your supervisor
- It would be classed as working at height if you were standing on the back of a lorry during loading or unloading activities
- All roofs should be treated as fragile until a competent person has confirmed they are not



Fragile roof

- 0 Safe access and a safe working platform should be provided for all work on tragile roofs.
- 0 One of the leading causes of injury on construction sites is as a result of workers being struck by falling objects.
- Do not attempt to erect, alter or dismantle a mobile access tower unless you have been trained and you are authorised to do so
- Make sure that there are no people, tools or equipment on a mobile access tower before you attempt to move it.
- The erection, alteration, inspection and dismantling of scaffolding should only be carried out by trained and authorised persons
- 0 Personal fall-arrest equipment is designed to minimise the consequences if a fall occurs, and will only protect an individual worker

opposite directions

With the buckets and blades facing

lowered to the ground With their buckets and blades the same way

With their buckets and blades facing

With their buckets and blades raised

14.01

On level ground

14.02

14.05

1.00

14.10 What is the best way to make sure that a ladder is secure and will not slip?





Secure it at the top



Secure it at the bottom



on the bottom rung Ask someone to stand with their foot

67

blocks of wood

Wedge the bottom of the ladder with

0

Podium step wheels must be locked

before you get on



3.22 a ladder? What is the correct way to climb

14.14





All broken rungs must be clearly marked

scaffold platform?

a safety harness Only using the ladder when wearing





It must be secured, and extend at least 1 m above the platform

Ħ

the ladder at all times

14.12

How many people are allowed on a ladder at the same time?



What should you do if you need to use a mobile access tower but the brakes don't work?



Only one person

Only use the tower if the floor is level



Ö

Three people, if it is long enough

A maximum of two people

and stop them moving Use some wood to wedge the wheels

One person on each section of an

extension ladder

(3)

14.13

Which of the following is not true when using podium steps?



14.16 access tower?



Climb up the ladder built into the





Podium steps should be inspected

topple over

Podium steps are safe and can't

Climb up the outside of the diagonal bracing



Lean a ladder against the tower and climb up that



Climb up the tower frame on the outside of the tower



used on what surface?

about using a ladder to access a Which of these statements is true Podium steps can easily topple if you overreach sideways 14.17 A mobile access tower must not be



A paved patio







Two people must be on the ladder at





Soft or uneven ground

A smooth concrete path



method of accessing a mobile access Which of the following is the safest



tower?











(B) 14.15

Which one of the following

the wheels on mobile access towers? statements is true when referring to

What is the correct way to reach the working platform of a mobile



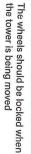


The wheels should be locked at all



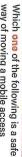


the tower is in use

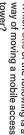


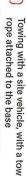
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14.20

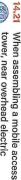
















	_
The cables do not present a dange because mobile access towers are	until it is confirmed they are dead

will keep workers safe until it is Personal protective equipment (PPE) confirmed that the cables are dead

0





















Ô

Soft or uneven ground



U

A concrete road





What should a harness's lanyard be elevating work platform (MEWP)? attached to when working in a mobile

14.26

14.23



A point on the structure or building The MEWP handrai

tu)

the hand rail of the basket A work-restraint lanyard clipped to attachment point in the basket A work-restraint lanyard clipped to

A designated anchor point within the

you are working on

platform or basket

A fall-restraint lanyard clipped to the

control box of the machine

structure being worked on

A fall-arrest lanyard clipped to the

(0)

14.24



a mobile elevating work platform

(MEWP), but has no training. What

should they do?



What does this symbol on mobile elevating work

14.32





for use in emergency The location of the lowering controls

1

It is safe to try to walk near underlying

You will be asked to 'drag and drop' your answers

Ø workers can lean over the platform The location of the points where

(III)

possible

Get the work done as quickly as

Ask a workmate how to operate the

- റ The guard-rail height
- The safe method of exiting the

Operate the MEWP at breaktime when no-one is around

no training

Tell their supervisor that they have

(111)

A mobile elevating work platform (MEWP) must **not** be used on what

14.25

surface?



Which one of the following should a worker do if a mobile elevating work platform (MEWP) does not allow safe access to the place of work?

- Stand on the guard rails
- Use a step ladder on the platform

A smooth concrete path

An asphalt roac

MEWP is needed Inform a supervisor that a larger

റ

- Put pallets on the working platform

following should the harness have? as a cherry picker). Which one of the platform (MEWP) (sometimes know boom type mobile elevating work A worker is wearing a harness in a 14.29 What should you do if you are required to use access equipment





- Get a ladder instead
- (DD Ask someone else to do it
- 0 Do the job if it won't take long
- Stop work and speak to your supervisor

- D
- 00
- O The supervisor
- The site manager

Which two of the following statements are true about working on a roof?



Wired glass roof panels are likely to be fragile roof supports



0

It is easy to see which roof surfaces are likely to be fragile

Workers should not work on a roof where there is no protection from falls

Asbestos and fibre cement roof sheets are unlikely to be fragile

If you are working on a flat roof, what is the best way to stop yourself falling over the edge?

Use red and white tape to mark the

Put a large warning sign at the edge of the roof

(III)

Protect the edge with a guard-rail and a toe-board

when you get too close to the edge Ask someone to watch you and shout

Who should complete pre-use checks on ladders or other

14.31

The employer equipment used for working at height?





What does the following sign mean?



Fragile roof

6

Deep wate

Safety boots must be worn

No running

14.34

A fragile roof needs to be repaired. Which of the following would be regarded as the safest method?

a mobile elevating working platform Workers work from underneath using Workers access the roof by walking (MEWP)

Workers working on the roof wearing as close as possible to the underlying roof supports

safety boots and helmets

ladders and ropes for anchoring Workers work from underneath using

6

They will need to be rescued quickly to remove a protective cover from a

The worker is wearing a safety has left the site

[1] is protected from falling whilst the cover is not in place The worker is authorised to do so and

told a few people on site that the cover will be removed The worker is wearing hi-vis and has

(i)

by the hole so people will avoid The worker has placed a safety cone

themselves

They should be left to rescue

over an hour

They will be safe in the harness for

ambulance

There will be no reason to call an

14.36 statements is true of painting Which one of the following wooden ladders used in construction?

make them more visible Ladders should be painted orange to

this could hide defects or damage Ladders should never be painted as

because this protects them It is a good idea to paint ladders

prevent them being stolen It is advisable to paint ladders to

14.37 toe-board height on a scaffold. How A worker is storing materials above

Shout a warning to anyone passing below should people below be protected?

Use string to secure the materials

0 approaching Halt the work when people are

mesh netting Use a brick guard or suitable

circumstances is it safe for a worker Under which one of the following

14,38

14.35

Which one of the following statements is true of a person who

fall-arrest harness?

has fallen, and is suspended in a

helmet and waits until everyone else deep service hole on site?

them and erect signs

ladder in one position?

What is the maximum length of time that a worker should work from a step

Less than 30 minutes

Less than one hour

Less than 90 minutes

Less than two hours

14,40 storing materials on a working Which one of the statements about

platform is correct?

Materials can be stored unsecured but they must be above guard-rail

if they are going to be there for less Materials do not need to be secured

even if they pose a trip hazard or block the walkway Materials can be stored anywhere,

able to take their weight can't fall and the platform must be Materials must be stored so they

14.41

What is the best way to stop materials when you are working above them? people being hit by falling tools and

Only allow authorised people Make sure they are wearing safety helmets

underneath the work area

Tell them you will be working above

area with fencing and signs Exclude people from below the work

14.42

If you need to stack materials on a way to stop them falling over the toe-board? working platform, what is the best

Cover the stack with polythene

Put a warning sign on the stack Have brick guards or netting fitted to

from the edge Build the stack so that it leans away

O

14.43 To ensure the public is not put at risk of work, what may be necessary? from falling materials for the duration

Pavement closure or diversion

Giving the public hard hats

Ö Making pedestrians use the road

D) Giving the public hi-vis clothing

14.44 If a person is struck by a falling

object, what could be the negative

consequence?

They get fired

They get injured

P

They get a promotion

They get compensation

HIGH RISK ACTIVITIES

14.45 What piece of personal protective equipment (PPE) should be worn on sites where there is a risk of falling objects?





0 Hi-vis clothing



A safety harnes



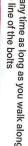


Only when you can see fragile roof signs



Only if you do not walk on any plastic

At any time as long as you walk along the line of the bolts



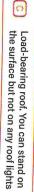


Fragile roof. Take care when walking on roof surface



A fibre cement sheet root

be slippery when wet



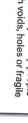
(1) measures and do not stand directly on the roof Fragile roof. Use fall protection

A glass panel roo

U

A slate tiled roof

14.48 What is the best way to stop people falling through voids, holes or fragile roof panels?





and white warning tape Mark the dangerous areas with red

safety netting and tell everyone to Cover the dangerous areas with

Place secure, load-bearing covers warning signage over the dangerous areas and add

14.49 A material that may hide fragile surfaces has been applied to a roof.



Nothing - the material applied should

The fragile areas should be clearly marked and protected

Nothing - workers should know to be careful

green The fragile areas should be painted

14.50 Which one of the following surfaces is not likely to be fragile?

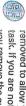


Report it to your supervisor at the end of the shift

Try to make the repairs yourself and

supervisor straight away Report your concerns to your

^lgnore it and wait for the scaffolders to identify any problems



leave the site Yes, if you put it back before you

Yes, if you put it back as soon as you have finished

ξú

No, only a scaffolder can remove the guard-rail and put it back

guard-rail but you can put it back No, only a scaffolder can remove the

14.52 scaffold platform be identified? How can the safe load rating for a

By asking the telehandler driver

By asking the principal contractor

Referring to the handover certificate or signage

ledgers start to deflect The safe load is breached when the

What should you do if you think that the scaffolding you are working from is not safe?

then report it to your supervisor

A scaffold guard-rail must be task. If you are not a scaffolder, can removed to allow you to carry out a you remove the guard-rail?

14.54 What should you do if you notice you harness or attachment is damaged?

HIGH RISK ACTIVITIES

Stop and tell your supervisor straight away

Use a colleague's harness instead

Use it and tell your supervisor at the end of the day

0

carry on using it until it is replaced Stop and tell your supervisor but

14.55 What is an inertia ree!?



A retractable fall arrester

(ti A horizontal fall arrester

റ A pulley-operated fall arrester

A rope-based fall arrester

Which of the following best describes the purpose of personal fall prevention equipment?

It is designed to prevent falls from

It is designed to minimise the consequences if a fall occurs

(t)

It is designed to protect more than one person if a fall occurs

0

It is designed to be used in confined spaces only

HIGH RISK ACTIVITIES

14.57 When are personal fall-arrest systems to be used?

Only as a last resort

Ö

In the morning

The majority of the time

(b)

During a night shift

Who should know how to carry out pre-use checks on fall-arrest

equipment?

The site managers

All workers who use it

All workers on site

The apprentice workers

Excavations and confined spaces

HIGH RISK ACTIVITIES

d

0 secured ladder. Excavations should always have a safe means of access and egress, such as a

0 Excavations should be inspected at the start of every shift, or after events that might affect stability.

The most accurate way to identify the location of buried services is through the use of

If you damage an underground service, stop work, do not touch anything and report it.

Permit systems are often used where people are working in confined spaces

If you are working in a confined space and the gas alarm sounds, get out immediately.

There should always be a rescue plan if you are working in a confined space.

15.03

What is the main hazard when working in an excavation?

is left running. What should you do? backs up to the trench and the engine You are in a deep trench. A lorry

Get out of the trench quickly

See if there is a toxic gas meter in the trench

0 engine noise Put on ear defenders to cut out the

Ignore the problem, as the lorry will

Crushing, if the sides are not supported

Trips and falls due to the space restriction

Cuts and abrasions from the trench sides

Breathing-in hazardous dust from the earth

soon drive away

side supports move when you are What should you do if you see the working in an excavation?

Work in another part of the excavation instead

they move again Keep working and watch to see if

Make sure that you and other workers get out quickly

Nothing. The sides are expected to move all the time

-12

When **should** an excavation be battered back or stepped?

If it is more than 5 m deep

If any buried services cross the excavation

If there is water in the bottom of the trench

If there is a risk of the sides falling in, regardless of depth

What do guard-rails around the top of an excavation prevent?







7 The sides of the trench collapsing



People falling into the trench and being injured







The excavation now requires side







There are buried human remains and



excavation must be carried out There is a buried service and further

n

15.06 What is the safest way to get into and out of a deep excavation?

15.09

Rainwater running off the ground at the top and into the trench

of the trench

Toxic gases collecting in the bottom





Water





Įij.

Gas

Use the buried services as steps

Ö



0 Electricity

Use the shoring or trench supports

15.07

What equipment should be used

when digging near to underground

electrical services?



Telecoms

15.08 What does it mean if a run of

15.10

What three things should you do before entering a confined space that has sludge at

You will be asked to 'drag and drop' your answers

coloured marker tape is found when

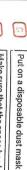


you must tell your supervisor

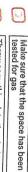


must wear respiratory protective equipment (RPE) The soil is contaminated and you





Have the correct training Identify what the sludge is



Throw something into the sludge to see how deep it is

5.11



does a yellow service pipe carry? According to the guidance on underground service pipes, what

What should you do if your permit to work in a confined space will run out before you finish the task you are carrying out?



Hand the permit over to the next shift

[2]



Leave the confined space before the permit runs out

date on the permit Ask your supervisor to change the

15.12 What should you do if you are in a deep trench and you start to feel dizzy?





Sit down in the trench and take a rest





feeling will go away Carry on working and hope that the

Ω

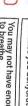


Make sure that you and any others

Why is methane gas dangerous in confined spaces? Give two answers







Щ

A pick and fork

A jack hammer

An excavator

An insulated spade

You may not have enough oxygen to breathe You will not be able to see because of the dense fumes

You will be asked to 'drag and drop' your answers



What is the most important reason why people should be trained and competent before they are allowed to enter a confined space?



Confined spaces never contain



flammable or explosive gases Confined spaces always contain

understand the potential hazards Confined space entrants need to

15.15 is taking place inside it? What is the main reason for having outside a confined space while work a person positioned immediately

rotten eggs?

To carry out a risk assessment for

method statement To check compliance with the

an emergency To start the rescue plan if there is

confined space To supervise the work inside the

5

15.16

What is the main cause of people dying while working in a confined

15.19

gives off a strange smell when digging?

P

Lack of oxygen

The ground could be contaminated

(0)

0

Presence of methane

Too much oxygen

Cold conditions leading to

hypothermia

O The ground has been used to grow

15.17

What might happen if the level of oxygen drops below 8% in a confined space?

A You might get dehydrated

B

Your hearing could be affected

ြ You could become unconscious

There is a high risk of fire or explosion

15,18 what is it a sign of if there is a smell When working in a confined space,

Oxygen

Methane

Carbon dioxide

0 Hydrogen sulphide

What is it likely to mean if the soil

The soil contains a lot of clay

The soil has been excavated before

crops in the past

16 Hazardous substances

Asbestos containing materials (ACMs) can be difficult to identify. Asbestos is made up of hazardous, microscopic fibres which can easily be inhaled

If you think a material contains asbestos, always assume it does. Stop work, warn others, and report it to your supervisor,

Health and safety information for hazardous substances should be detailed in a your employer should ensure that exposure to hazardous substances is prevented or adequately controlled.

Control measures for working with hazardous substances should be monitored

COSHH assessment

Wet cement and concrete can cause skin burns and dermatitis if they are in direct

Lead is toxic. The most common route of entry into the body is via the mouth (ingestion). contact with your skin

16.01 Where are you most likely to come across asbestos?

In a house built between 1950

In any industrial building built after the year 2000

0 In any building built or refurbished before the year 2000

U from all houses and buildings Asbestos has now been removed

> Breathing in asbestos dust is most likely to cause which of the following?



D Lung diseases

Throat infections

Dizziness and headaches

ဂြ

Aching muscles and painful joints

HIGH RISK ACTIVITIES

16.03



Exposure to asbestos fibres may result in which illness?



in

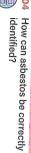
Skin cancer



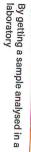
0 Heart disease



16.04



The distinct colour of the dust



It is clear from the strong smell of the dust



By putting a piece in water and seeing if it dissolves



16.05

Which one of the following statements about asbestos is true?

What does a COSHH assessment cover?

(F) 10

How is it possible to tell that a

product is hazardous?



Asbestos fibres are most likely to enter the body through the skin

w Lifting heavy loads and how to protect yourself

igi

problems for smokers

Asbestos fibres only cause health

O

Asbestos in buildings must always be

removed regardless of condition

Hazardous substances and how to

Cement-based roofing sheets are a common material which

16.06

can often contain what hazardous



Rust









(n)

Your supervisor or employer

The site security people

A Health and Safety Executive (HSE)

inspector



16.07 What is the main, immediate











Smell it to see what the chemical is

8 15.1

that you think might contain do if you find an unmarked container What is the first thing you should







0

safe

Move the container to somewhere

Put the container in a bin to get rid of it

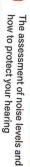












protect yourself when using them

enter the body through inhalation Asbestos fibres are most likely to

16.00 Whose responsibility is it to explain the health risks and safe method of assessment) before work starts with work you need to follow (the COSHH



The site first aider

a hazardous substance?

16.12

What does the word sensitiser mean

HIGH RISK ACTIVITIES

on the packaging of a substance?





It should not be used under any circumstances

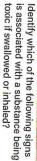


That it could cause allergic reactions when handled

O











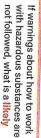






Ensure that it remains undisturbed

and report it



16.14





lt will always be in a black container

It will always be in a cardboard box



By the shape of the container or packaging



By warning symbols on the container or packaging

What should employers check regularly if you are working with hazardous substances?





Your mood

Your family

Your health



Your wages



should the worker do? when they start to feel ill. What A worker is using a new substance



Continue with the work but report it with certain substances Nothing - it is acceptable to feel ill

substance report and continue to work with the Enter the details into an incident

to the supervisor later



checklist, which of these hazardous substances should be identified?



asbestos, cement

When working through a construction health and safety

Lead, solvents, cement, asbestos

Asbestos, cement, paints, noise

Noise levels, solvents, dust, paint

Vibration levels, noise levels,



Which of the following tasks could place a worker at the greatest risk of lead poisoning, if control measures were not put in place?

















Building a wall out of old stone





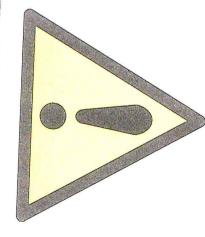


Cutting timber in a roof construction



Congratulations

You have now completed the core knowledge questions



For the Specialists test

You should now revise the appropriate specialist activity from Section E.



pecialist

If you are preparing for a specialist test you also need to revise the appropriate specialist activity, from those listed below.

27 60 5	2 2 3	Heating, v (HVACR)	22	2	20	18
Ductwork Refrigeration and air conditioning Services and facilities maintenance	Heating and plumbing services Pipefitting and welding	Heating, ventilation, air conditioning and refrigeration (HVACR)	Tunnelling	Lifts and escalators	Highway works Specialist work at heigh	Supervisory Demolition
199 207 215	182 190		165 174	156	147	126

8

Plumbing (JIB)

223

Specialist work at height

8 20.01 If you need to store materials on a you do? roof, what three things must

Check the load bearing capability of the roof to avoid damage to the structure

Stack materials no more than 1.2 m above the guard-rail height

Use a gin wheel and rope tied to a temporary tripod at the roof edge for raising and lowering the materials Ensure there is safe access and clear working areas around the materials for everyone working on the roof

Store the materials in a way that prevents them from falling off, or being blown off, the roof

20.02

What should you do if a safety

lanyard has damaged stitching?

stitching is less than 5 cm long Use the lanyard if the damaged

starting work Get a replacement lanyard before

stitching is less than 15 cm long Use the lanyard if the damaged

work without one

Not use the damaged lanyard and

20.03 What is the main danger of leaving in a harness for too long? someone who has fallen suspended

The anchorage point may fail

structure and fall again They may try to climb back up the

consciousness and further injury They may suffer loss of

20

It is a distraction for other workers

20.04 If using inflatable airbags as a mean of fall arrest, what must you ensure with regard to the inflation pump?

It must be electrically powered

It must be switched off from time to time to avoid over-inflation

It must run all the time while work is carried out at height

It must be switched off when the airbags are full

20.05 Why is it dangerous to use inflatable to be protected? airbags that are too big for the area

They will exert a sideways pressure

on anything that is containing them

The pressure in the bags will cause them to burst

The inflation pump will become overloaded

They will not fully inflate

20.06 When is it most appropriate to use lanyard for working at height? a safety harness and fall-arrest

20,10

Only when the roof has a steep pitch

Only when crossing a flat roof with clear roof lights

Only when all other options for fall prevention have been ruled out

at height Only when materials are stored

> 20.07 When trying to clip your lanyard to an anchor point you find the locking device does not work.

What should you do?

(P)

Carry on working and report it later

Tie the lanyard in a knot round the anchor

supervisor Stop work and report it to your

Carry on working without it

20.08 What is the main reason for using a safety net or other soft-landing

system rather than a personal

B

to do?

20.09 What is edge protection designed

fall-arrest system?

use and do not need inspecting Soft-landing systems are cheaper to

who fall into a soft-landing system It is always easier to rescue workers

Specialist training is not required to install soft-landing systems

fall arrest measures Soft-landing systems are collective

Make access to the roof easier

Secure tools and materials close to

Stop rainwater running off the roof onto workers below

Prevent people and materials from

What is the maximum permitted gap between the guard-rails on a working platform?

350 mm

410 mm

470 mm

520 mm

<u></u>	0	(a)	>	20,13		(3)	(E)		20.12					20.11
Hurricane winds that will uproot trees and cause structural damage	A gentle breeze that you can feel on your face	A near gale that will make it difficult to move about and handle materials	A moderate breeze that can raise light objects, such as dust and leaves	Before starting work at height, the weather forecast says the wind will increase to Force 7. What is the best description of the wind conditions?	The load-bearing capacity of a scaffold	Wind speed	The load-bearing capacity of a flat roof	Air temperature	The Beaufort Scale is important when working at height externally. What does it measure?	Only if materials are being stored on the working platform	If it is possible to fall 3 m	At any height if a fall could result in an injury	If it is possible to fall 2 m	When should guard-rails be fitted to a working platform?
	୍ର	(DA)		20.16	0		a		20.15			(1)	D	20.14
Half a metre	One metre	Two rungs	One rung	How far should a ladder extend above the stepping-off point if there is no alternative, firm handhold?	See if you can find a piece of wood to replace the rung	Turn the ladder over so that the missing rung is near the bottom and then use it	Use the ladder but take care when stepping over the position of the missing rung	Do not use the ladder, and immediately report the defect	Before climbing a ladder you notice that it has a rung missing near the top. What should you do?	Wear the helmet back to front whilst leaning over	Wear the helmet as usual but use the chinstrap	Take your helmet off while leaning over then put it on again afterwards	Tilted back on your head so that it doesn't fall off	If you have to lean over an exposed edge while working at height, how should you wear your safety helmet?
0	0			20.19		0 0			20.18					8 20.17



structure you are working on Tie the cherry picker basket to the

Decide whether the machine will

30 m

9 m

4 m

There is no maximum

vertical distance between landings? When using portable or pole ladders for access, what is the maximum

20,21 If you are on a cherry picker but it machine platform Use a stepladder balanced on the to work, what should you do? does not quite reach where you need

Extend the machine fully and stand

Abandon the machine and use a long

have an alternative means of access Do not carry out the job until you

20.22 If you are working at height and

What should someone working

from a cherry picker attach their

lanyard to?

Positioning the ladder at a shallow angle so that it rests below the gutter

Using a proprietary stand-off device that allows the ladder to rest against

the wall

roof

Finding another way to access the Resting the ladder against the gutter, climbing it and quickly tying it off support bracket

Resting the ladder on a gutter

What two things should you consider a roof but the only place to rest the ladder is on a run of plastic gutter. You need to use a ladder to access

work platform (MEWP), when is it ground-level controls? acceptable for someone to use the operating a mobile elevating

If the person on the ground is trained

In an emergency

If you need both hands free to carry

gain access to the work

If you need to jump off the MEWP to

A scaffold guard-rail

A secure point on the boom of the

A secure anchorage point inside the platform

they are working on

A strong part of the structure that

		0.7	9 <u>0</u>													
Car.	0				20.25		0			20.24	CONTRACTOR AND ADDRESS OF THE PERSON ADDRESS OF THE PERSON AND ADDRESS OF THE PERSON ADDRESS OF THE PERSON ADDRESS OF THE PERSON AND ADDRESS OF THE PERSON ADDRESS OF THE PERSON ADDRESS OF THE PERSON A			1,51		20.23
	Never	When ground load bearing capacity has been assessed as suitable	on scaffold planks laid over the soft ground	When the ground is dry	When is it safe to use a mobile elevating work platform (MEWP).on soft ground?	It will be stated on an information plate fixed to the machine	You will be told during site induction	It will be stated on the health and safety law poster	The weight limit is reached when the platform is full	4 How will you know the maximum weight or number of people that can be lifted safely on a mobile elevating work platform (MEWP)?	5 5	If the machine is being operated from	Not under any circumstances	If the machine operator stays in the basket	If the work platform is fitted with edge protection	a mobile elevating work platform (MEWP) on to a high level work platform?
			<u></u>		20.28					20.27						20.26
	See if you can get hold of a harness and lanyard	Tie the damaged edges together using the net test cords	Stop work and report it	Work somewhere away from the damaged area of net	If you are working above a safety net and you notice the net is damaged, what should you do?	Hang coloured bunting from them to remind you they are there	Make sure that you are using a wooden ladder	Stop work and confirm that it is safe for you to be on the roof	Keep away from them while you work but remember that they are there	If you notice some overhead cables within reach after gaining access to a roof, what should you do?	line of bolts	It does not matter if you walk along a	Look at the roof surface and make your own assessment	Stop and seek advice	Tread gently and listen for cracking	6 If you need to cross a fragile roof, how do you establish if it is fragile?
-					20.31					N I						
COLUMN STATEMENT	At any h	6 m	2 m) Imn are) Lea	ot [to C.	an L	20.30 W	# 0	0		=		20.29
MOTOR SERVICE	At any height below the working position	m below where you are working	2 m below where you are working	Immediately below where you are working	Ideally, where should a safety net be rigged?	Leave the cord alone and report the problem	Tell the net riggers that you are going to untie the cord	Untie the cord, but ask the net riggers to re-tie it when you have finished	Untie the cord, carry out your work and tie it up again	What should you do if you are working at height, but the securing cord for a safety net is in your way?	through the net		It could injure someone who falls into the net	It looks untidy from below	It will overload the net	What is the main reason for not allowing debris to gather in safety nets?

Someone who has had experience of working with them before

A trained, competent and authorised person

A steel or cladding erector

20.33 When can someone who is not
a scaffolder remove parts of
a scaffold?

Only if the scaffold is not more than
two lifts in height

As long as a scaffolder refits the parts
after the work has finished

Never, as only competent scaffolders
can remove the parts

Only if they think the parts won't
weaken the scaffold

20.34 What should you do if you find that a scaffold tie is in your way when you are working?

Ask a scaffolder to remove it

Remove it yourself and then replace it when you have finished

Remove it yourself but get a scaffolder to replace it when you have finished

Report the problem to your supervisor

20.45

works correctly

That the platform hatch still

competent person

That the scaffold is inspected by a

adjacent structure That the scaffold is tied to the 20.46

An outdoor tower scaffold has stood

Make arrangements with the forklift truck driver

overnight in high winds and heavy

rain. What should you ensure before

That the brakes still work

the scaffold is used?

There is no restriction

The height recommended by the manufacturer Three lifts

dimension Three times the longest base

Lifts and escalators

21.01 Who is allowed to safely release trapped passengers?

The site manager

Only a trained and authorised person

Anyone

Only the emergency services

21.02

How should you connect a car light supply to a 240 volt supply (240 volt tused spur)?

21.05

Connect it with the power on

Switch off the spur and then connect it

and then connect it Switch off the spur, remove the fuse

supply and then connect it Isolate and lock off the incoming

in the pit but the isolator is in the machine room 12 floors above, what should you do?

lsolate the power and then lock and tag the isolator

because it is control voltage change the switch with the power on Risk assess the situation and

Use insulated tools

Stand on a rubber mat

21.04 What is the main cause of injury and absence for workers in the lift and escalator industry?

SPECIALIST

Electrocution

Contact with moving parts

Manual handling

Wa counterweight screen is not fitted or has been removed, what should you do before starting work?

establish a safe system of work Carry out a further risk assessment to

Nothing – just get on with the job as normal

Give a toolbox talk on guarding

Issue and wear appropriate personal protective equipment (PPE)

Which of the following types of fire extinguisher should not be used if there is a fire in a lift or escalator

8 21.06

controller

Water Dry chemical

Carbon dioxide

2

Dry powder

	01
	General
SERVICE AND DESCRIPTION OF THE PROPERTY OF THE	responsibilities

0

First aid and emergency procedures

B, C

A, B

3.11

3.12

D 1.15 B 1.16 B 1.16 C 1.17 1.19 D 1.20 A 1.22 A 1.23 A 1.24 A 1.25 C 1.26 C 1.26	- U.S.		Α	1.14
1	D	1.27	D	1.13
1 D 1.15 2 B 1.16 3 C 1.17 4 D, E 1.18 5 D 1.19 6 C 1.20 7 B, D 1.21 3 A, E 1.22 A 1.23 A 1.24 A 1.25		1.26	C	1.12
D 1.15 B 1.16 C 1.17 L.18 D 1.19 C 1.20 A, E 1.22 A 1.23 A 1.24	A	1.25	A	131
D 1.15 B 1.16 C 1.17 D, E 1.18 D 1.19 C 1.20 A, E 1.22 A 1.23		1.24	A	1.10
D 1.15 B 1.16 C 1.17 D, E 1.18 D 1.20 A, E 1.22		1.23	A	1.09
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D 1.15 B 1.16 C 1.17 D, E 1.18 D 1.19		1.20	C	1.06
D 1.15 B 1.16 C 1.17 D, E 1.18		1.19	D	1.05
D 1.15 B 1.16 C 1.17	1	1.18	D, E	1.04
D 1.15 B 1.16	A, E	1.17	C	1.03
D		1.16	8	1.02
		1.15	D	1.01

3.01 3.02 3.03 3.04 3.06

3.16

3.14

3.07

02 Accident reporting and recording

2.01

2.03 2.04 2.05 2.06 2.06 2.07 2.07 2.08 2.09

\mathcal{I}		8	4.14
		D	4.13
16		D	4.12
Face	4.22	A	4.11
D	4.21	C	4.10
Œ	4.20	53	4.09
	4.19	C	4.08
C	4.18	Α	4.07
A	4.17	Α	4.06
a sale a minimum minim		D	4.05
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0	4.16	D	4.02
D	4.15	ם	4.01
	ment	Personal protective equipment	04
c	3.20	D	3.10
C	3.19	D	3.09
В	3.18	A	3.08

05 Environmental awareness and waste control

06

Dust and fumes (Respiratory hazards)

5.01 D 5.15 5.02 B 5.16 5.03 A, B 5.17 5.04 C 5.18 5.05 A, C, E 5.19 5.07 B 5.21 5.09 D, E 5.23 5.10 Broken bricks Non-hazardous 5.24 Untreated timber off-cuts Non-hazardous 5.25 Flourescent light tubes Hazardous 5.25 Flourescent light tubes Hazardous 5.26 5.11 B, D 5.28 5.12 B, D 5.28	-	0		5.14
Based paint Hazardous Oli-based paint Hazardous Based A, C, E Broken bricks Non-hazardous Oli-based paint Hazardous B, D B, D	5.30	D		5.13
B A, C, E A, B B B B B B B Broken bricks Non-hazardous reated timber off-cuts Non-hazardous reated timber off-cuts Non-hazardous lourescent light tubes Hazardous Off-based paint Hazardous	5.29	B, D		5.12
B A, C, E A, C, E A, B B B C A, B B D D D D D D D D D D D H B D D D D H B B D D D H B B D D D H B D D H B D D H B D D H B D D H B D D H B D D H B D D H B D D H B D D H B D D H B D D D H B D D D H B D D D D	5,28	D		5.11
B A, B, C, E A, B Broken bricks Non-hazardous eated timber off-cuts Non-hazardous Hazardous Broken bricks Non-hazardous	5.27	Hazardous	Oil-based paint	
B A, B C A, C, E A, B B D D D D D D D D D D D D D D D D D D	5.26	Hazardous	rescent light tubes	Flour
B A, B C A, C, E A, B B D D D D D D D D D D D D D D D D D D	5.25	Non-hazardous	ted timber off-cuts	Untreat
A, B A, C, E A, B D, E	5.24	Non-hazardous	Broken bricks	5.10
A, B A, B B B	5.23	D, E		5.09
A, B A, C, E A, C, E	5.22	D		5.08
A, B A, C, E A, C, E	5.21	CO		5.07
A, B A, C, E	5.20	A, B		5.06
A, B	5.19	A, C, E		5.05
D 8 A, B	5.18	0		5.04
B 0		A, B		5.03
D	5.16	20		5.02
	5.15	D		5.01

	6.24 A A 6.25
6.46 6.47 6.48 6.49 6.50 6.51	
6.46 6.47 6.48 6.49 6.50	
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6.46 6.47 6.48	6.23
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C 6,45	6.20
D 6.44	6.19
A 6.43	6.18
C 6.42 A,	6.17
B 6.41	6.16
C 6.40	6.15
B 6.39	6.14
B 6.38	6.13
A 6.37	6.12
A 6.36 D, E	6.11
A 6.35 D, E	6.10
A 6.34 A, B	6.09
A 6.33	6.08
A 6.32	6.07
B 6.31	6.06
A 6.30 A, B	6.05
D 6.29	6.04
A, B 6.28	6.03
A, C 6.27	6.02
D 6.26	6.01

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	Noise
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5	8.21	0	8.12
CG	8,20	C	8.11
		ם	8.10
		D	8.09
目		A, D	8.08
Sharps V	8.19	D	8.07
C	8.18	C	8.06
0	8.17	C	8.05
500	8.16	A	8.04
D	8.15	8	8.03
D	8.14	8	8.02
A	8,13	A	8.01
		Health and welfare	080
A, B	7.24		
A	7.23	Α, Β	7.13
C	7.22	C	7.12
C	7.21	C	7.11
ם	7.20	c	7.10
D	7.19	83	7.09
0	7.18	B, D, E	7.08
σ.	7.17	C	7.07
D	7.16	33	7.06
	7.15	C	7.05
		C	7.04
2 m 3 m		0	7.03
1		D	7.02
2 m 🔪	7.14	С, D	7.01
	-	***************************************	-

08 Health and welfare (continued) 8.22 D 8.46 8.23 A 8.47

		В	8,45
c	8.68	A	8.44
88	8.67	OJ.	8.43
А	8.66	C	8.42
ם	8,65	A	8.41
83	8.64	W	8,40
c	8,63	А	8.39
A	8,62	A	8.38
ם	8.61	A	8.37
A	8.60	D	8.36
В	8,59	В	8.35
В	8,58	Α	8,34
А	8.57	8	8.33
ם	8,56	В	8,32
c	8,55	А	8.31
В	8.54	В	8,30
А	8,53	D	8.29
А	8.52	D	8,28
a	8.51	D	8.27
А	8.50	8	8.26
D	8,49	В	8.25
ם	8,48	C, E	8.24
ם	8,47	A	8.23
В	8.46	D	8.22

09 Manual handling

A	3.2%		
В	9.2		
0	9.20		
C	9.19		
8	9.18		
A	9.17	A	9,10
A	9.16	09	9.09
A, C, D	9.15	08	9.08
C, E	9.14	07	9.07
A, B, D	9.13	06 A	9.06
CO	9.12	9.05	9.6
		9.04 B	9.0
J		9.03 B	9.0
		9.02 C	9.
Back /	9.11	9.01 B	9.
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3	Safety signs
10.01	
10.02	

10,03

83	11.18	0,0	11.09
83	11.17	D	11.08
A	11.16	A	11.07
A	11.15	A, B, D	11.06
A	71.14	50	11.05
1-C, 2-A, 3-B, 4-D	11.13	Α	11.04
3, 0	11.12	C	11.03
8		D, E	11.02
C	TI.30	C, E	10.01
	2	Fire prevention and control	âces âces
		A, B, E	10,02

73
Electrical
safety,
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		D	12.11
C	12.21	D	12.10
83	12.20	U	12.09
A, D	12.19	A	12.08
B, D	12.18	CO	12.07
8, E	71.51	50	12.06
8	12.16	c	12.05
ם	12.15	U	12.04
D	12.14	D, E	12.03
D	12.13	D	12.02
Đợ:	12.12	00	12.01

Electrical safety, tools and equipment (continued)

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Site transport and lifting operations

N

		27 D
ם	12.35	26 A
C, D	12.34	12.25
Α	12.33	.24 B
A, C, D	12.32	Α Α
8, D, E	12.31	333
C	12.30	0
B	12.29	
8	12.28	

A, C, D	8, D, E	C	89	œ	
13.05	13.04	13.03	13.02	13.01	

A	14.10		
	1440		
ם	14.09	8	14.06
C	14.08	8	14.05
1 80		D	14.04
		D	14.03
750 85		A	14.02
75°	14.07		14.01
		Working at height	14 V
		A, D	13.19
В	13.37	А	13.18
В	13.36	C	13.17
C	13.35	В	13.16
А	13.34	A	13.15
A	13.33	В	13.14
C	13.32	A	13.13
D	13.31	A	13.12
В	13.30	C	13.11
В	13.29	В	13.10
А	13.28	В	13.09
0	13.27	C	13.08
А	13.26	C	13.07
В	13.25	D	13.06
D	13.24	A	13.05
D	13.23	В	13.04
В	13.22	A	13.03
D	13.21	C	13.02
0	13.20	C	13.01

14 Working at height (continued)

14.58 B	14.34 A 14
14.57 A	14.33 A 14
14.56 A	14.32 B, D 1/
14.55 A	14.31 B 14
14.54 B	14.30 C 1
14.53 C	14.29 D 1
14.52 C	14.28 C 1
14.51 C	14.27 A 1
14.50 A	14.26 A 1
14.49 B	14.25 C 1
14.48 D	14.24 C 1
14.47 D	14.23 D 1
14.46 C	14.22 B 1
14.45 B	14.21 B 1
14.44 B	14.20 B 1
14.43 A	14.19 B 1
14.42 C	14.18 B 1
14.41 D	14.17 C 1
14.40 D	14.16 A
14.39 A	14.15 A
14.38 B	14.14 D
14.37 D	14.13 A
14.36 B	14.12 A
14.35 A	14.11 D

1	> 0	15.10
3 15.19		15.09
15.18		15.08
15.17		15.07
15.16		15.06
3 15.15		15.05
0 15.14		15.04
15.13		15.03
15.12		15.02
A 15.11		15.01

A, D 0

D	C 16.18	16.09
7 A	D 16.17	16.08
6 A	A 16.16	16.07
C	D 16.15	16.06
D	D 16.14	16.05
В	B 16.13	16.04
2	D 16.12	16.03
ם	A 16.11	16.02
D	C 16.10	16.01
	Hazardous substances	6
	A, B, D	15.10
9 B	B 15,19	15.09
8	C 15,18	15.08
7	D 15.17	15.07
6	A 15.16	15.06

17 Supervisory

		1		
			В	17.28
950 mm			D	17.27
			8	17.26
	50 950 mm	17.50	C	17.25
			C	17.24
470 mm			c	17.23
			А, В	17.22
	49 470 mm	17.49	5 5	17.21
D	48	17.48	A	17.20
D	47	17.47	В	17.19
D	46	17.46	В	17.18
D	45	17.45	A	17.17
0	44	17.44	0	17.16
C	43	17.43	0	17.15
A	42	17.42	В	17.14
D	41	17.41	23	17.13
D	40	17.40	D	17.12
D	.39	17.39	8	17.11
Α	17.38	17.	0	17.10
8	17.37	17.	8, 6	17.09
8	17.36	17.	C	17.08
В	17.35		A, E	17.07
8	17.34	17.	А	17.06
A	17.33	17.	В	17.05
A	17.32	17	В	17.04
æ	17.31	17	D	17.03
A	17.30		83	17.02
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C	18.21	D	18.09
В	18.20		18.08
A	18.19		
A	18,18	3 m	
D	18.17		
D	18,16	3 m	18.07
В	18.15	8	18.06
В	18.14	0	18.05
8	18.13	8	18.04
A	18.12	A	18.03
ם	18.11	C	18.02
C	18.10	В	18.01
C	17.72		
A	17.71		
C	17.70		
C	17.69	С	17.61
В	17.68	ם	17.60
D	17.67	A	17.59
A	17.66	ם	17.58
D	17.65	А	17.57
A, B, E	17.64	B	17.56
C	17.63	С	17.55
		D	17.54
9 E			17.53
		5	17.52
9 m	17.62	8	17.51
	CONTRACTOR		

18 Demolition (continued)

19

Highway works (continued)

19.43

19,35 19,34

18.22	D	18.32	0
18.23	8	18.33	
18.24	C	18.34	
18.25	0	18,35	0
18.26	A	18.36	0
18.27	В	18.37	A
18,28	В, С	18.38	ם
18.29	Α	18.39	В
8.30	88	18.40	0
18.31	C	18,41	C

19 Highway works

19.01 A 19.17 B, E 19.02 B, D 19.18 C 19.03 B, C 19.19 C 19.04 D 19.20 C 19.05 D 19.21 A 19.06 B 19.22 B 19.07 D 19.23 C 19.08 B 19.25 B 19.09 A 19.25 B 19.10 D 19.26 B 19.11 C 19.27 C 19.12 D 19.28 A 19.13 A 19.29 C 19.14 B 19.30 B 19.15 B 19.20 B	8, 6	19.32	w	19.16
I A 19.17 B, 2 B, D 19.18 19.19 3 B, C 19.49 19.20 5 D 19.21 19.21 6 D 19.22 19.23 7 D 19.23 A 8 19.24 A, 9 A 19.25 A D 19.26 A D 19.28 A D 19.29 A 19.30 19.30	8	19.31	C	19.15
A 19.17 B, D 2 B, D 19.18 3 B, C 19.19 4 D 19.20 5 D 19.21 6 B 19.22 7 D 19.23 8 B 19.24 A, 9 A 19.25 A, C 19.26 B 19.28 A 19.29 0	8	19.30	on on	19.14
A 19.17 B, D 2 B, D 19.18 3 B, C 19.49 4 D 19.20 5 D 19.21 6 B 19.22 7 D 19.23 8 19.23 A 9 A 19.25 D 19.26 A C 19.27 19.28	0	19.29	A	19.13
A 19.17 B, D 2 B, D 19.18 3 B, C 19.49 4 D 19.20 5 D 19.21 6 B 19.22 7 D 19.23 8 B 19.24 A, 9 A 19.25 19 19.26 19.27	Α	19.28	D	19,12
A 19.17 B, D 2 B, D 19.18 3 B, C 19.49 4 D 19.20 5 D 19.21 6 D 19.22 7 D 19.23 8 19.23 A 9 19.25 A 19.26 19.26	0	19.27	C	19.11
A 19.17 B, B, D 19.18 19.19 B, C 19.19 19.20 D 19.21 19.21 B 19.22 19.23 B 19.24 A, A 19.25	œ	19.26	D	19.10
A 19.17 B, D B, D 19.18 19.19 B, C 19.19 19.20 D 19.21 19.21 B 19.22 19.23 B 19.24 A,	ш	19.25	A	19.09
A 19.17 B, B, D 19.18 B, C 19.19 D 19.20 D 19.21 B 19.22 D 19.23	A, E	19.24	TO TO	19.08
A 19.17 B, B, D 19.18 B, C 19.19 D 19.20 D 19.21 B 19.22	0	19.23	D	19.07
A 19.17 B, B,D 19.18 B,C 19.19 D 19.20 D 19.21		19.22	œ	19,06
A 19.17 B, B, D 19.18 B, C 19.19 D 19.20	1	19.21	D	19.05
B, D 19.17 B, B, C 19.19	0	19.20	D	19.04
A 19.17 B, B, D 19.18	0	19.19	В, С	19.03
A 19.17 B,	0	19.18	B, D	19.02
	В, 1	19.17	A	19.01

0	500	A	B, C	77	70	0	0		
18,41	18.40	18.39			18.36	18.35	18.34	8 18.33	18.32
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19.41 19,40 19,39 19,38 19.37 19,36

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20.01 A, C, E	,E 20.14
20.02	B 20.15
20.03	C 20.16
20.04	C 20.17
20,05	A 20.18
20,06	C 20.19
20.07	C 20.20
20.08	D 20.21
20.09	D 20.22
20.10 470 m	20,23
III minimum minimum III	20.24
470 mm	20.25
	20.26
20.11	B 20.27
20.12	C 20,28
20.13	B 20,29

20 Specialist work at height (continued)

C	20.47	C, m	0.38
C	20,46	D	20.37
A	20,45	B, D, E	0.36
0	20,44	D	0.35
Œ	20.43	D	0.34
A	20.42	0	0.33
A	20.41	0	0.32
CC	20,40	>	0.31
D	20,39	D	0.30

1 Lifts and escalators

A CONTRACTOR OF THE CONTRACTOR	
21.01 E	21.18
21.02 D	21.19
21.03	21.20
21.04 D	21.21
21.05 A	21.22
21.06	21.23 A, C
21.07 C	21.24
21.08 D	21.25
21.09 B	21,26
21.10 A	21,27
21.11 B	21.28
21.12	21,29
21.13 C	21.30
21.14 C	21.31
21.15 A	21,32
21.16 B	21.33
21.17 B	21.34 A

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21.49	Α	1,41
21.48	53	1.40
21.47	C	21.39
21,46	A	38
21,45	COS .	1.37
21,44	C	1.36
21.43	A	1.35

22 Tunnelling

22,01 B	22.19
22.02 C	22,20
22.03 B	22.21
22.04 C, E	22.22
22.05 C	22,23
22.06 D	22.24
22.07 C	22.25
22.08 D	22,26
22.09 C	22.27
22.10 B	22.28
22.11 B, E	22.29
22.12 8	22.30
22.13 D	22.31
22.14 B	22.32
22.15 B	22.33
22.16 D	22,34
22.17 D	22,35
22.18 A	22,36