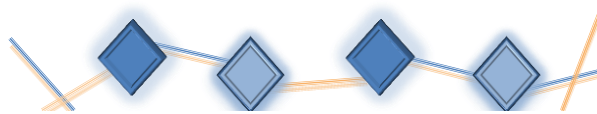


# ENGLISH FOR CONSTRUCTION



## Unit 1: Teamwork

- Talk about roles and responsibilities
- Explain how an organization works



## Roles and responsibilities



## Roles and responsibilities

Match these descriptions with the people in the illustration

1. I'm \_\_\_\_\_. I work for a concrete supplier. We deliver concrete to construction sites all over the country.
2. I'm \_\_\_\_\_. This is my apprentice.
3. I'm \_\_\_\_\_. Today I'm painting a steel staircase.
4. I'm \_\_\_\_\_. I control access to the site. I'm responsible to the site manager.
5. I'm \_\_\_\_\_. My company is responsible for the whole project.
6. We're \_\_\_\_\_. We're visiting the site to ask some questions.

Site manager  
Security guard

Driver  
Reporters

Electrician  
Painter

# Roles and responsibilities



**Site manager**



**Painter**



**Security Guard**



**Electrician**



**Plumber**



**Welder**

# Roles and responsibilities



**Glazier**



**Architect**



**Carpenter**



**Bricklayer**



**Surveyor**



**Equipment operator**

## Roles and responsibilities

Complete this table and find out the key word:

1					1								
2					2								
3					3								
4					4								
5					5								
6					6								
7					7								
8					8								
9					9								
10					10								
11					11								
12					12								

10. We control access to the site with bricks  
 4. We control access to the site with bricks

## Roles and responsibilities

1. We build walls, buildings, etc with bricks
2. We visit the site to ask some questions
3. We make and repair wooden objects
4. We control access to the site
5. We paint houses or other buildings
6. We weld metal in a factory
7. We repair pipes, baths, toilets etc
8. We connect or repair electrical wires or equipment
9. We design buildings
10. We fit glass into window frames
11. a carefully planned work to build or improve something
12. I'm responsible for managing all works on the site

## SPEAKING

Work in pairs. Explain what your jobs is and what you do. Example like this:

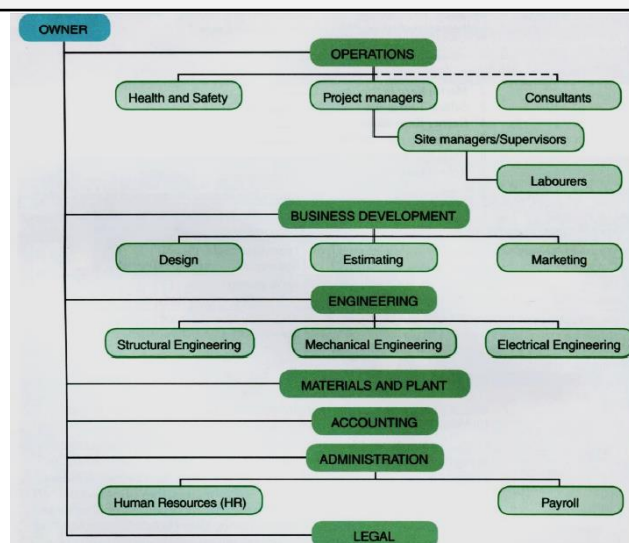
*I'm a ...*

*I work for ...*

*My company ...*

*I'm responsible for ...*

## Structure of an organization



## Structure of an organization

departments divided external has look part report section top

- 1 Our company has a simple structure. At the \_\_\_\_\_ is Kasper Karp, the owner.
- 2 There are seven \_\_\_\_\_. The department heads report to the owner.
- 3 Operations consists of a Health and Safety \_\_\_\_\_ and all the project managers.
- 4 The site managers and supervisors \_\_\_\_\_ directly to a project manager.
- 5 Business Development is \_\_\_\_\_ into three sections: Design, Estimating and Marketing.
- 6 Engineering also \_\_\_\_\_ three sections: Structural, Mechanical and Electrical.
- 7 There are different departments which \_\_\_\_\_ after materials and plant, accounting, administration and legal.
- 8 Sometimes we have \_\_\_\_\_ consultants to help with special jobs. They are not \_\_\_\_\_ of the company.

## Structure of an organization

Listen a the heads of the seven departments talking about their roles. Write the names of their departments. Use the organization above to help you.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_

## Structure of an organization

### 1. Support (n) help

Fleet (n) a group of vehicles that are controlled by one company

Liaise (v) exchange information with another organization

### 2. Claim (n) official request for money

### 3. Phase (n) one of the stages of a process

### 4. Income >< outgoings

### 7. Recruit (v) find new people to do a job

Expense (n) money that spend on something

Wage (n) ≠ Salary (n) money you receive for your work

## LISTENING

- M: So ... how can I help you?
- S: Well, we'd like some \_\_\_\_\_(1) information about the project.
- M: OK, I can ask my \_\_\_\_\_(2) to send you some details. We sent out a press release a couple of weeks ago.
- S: Yes, we have a copy of that, thank you. We're interested in finding out more information about the people working here. How many \_\_\_\_\_(3) do you have on site? What do they do? Where are they from? Are they all local people?
- M: Oh, that depends on what's happening. As you can imagine, this is quite a \_\_\_\_\_(4) business, so we have different \_\_\_\_\_(5) and \_\_\_\_\_(6) coming in and out all the time.
- S: OK.

## LISTENING

- M: But, to answer your question, I'd say we usually have about 100 people on site. And they're mostly from this area.
- A: And you're in charge of the site?
- M: Well, yes, my company - actually, my father's company - is the \_\_\_\_\_(7) for the project. We co-ordinate all the subcontractors and make sure things stay on schedule and stay within budget. I report to the \_\_\_\_\_(8), Sabina Tom.
- A: I see. And your father is Kasper Karp?
- M: Yes, that's right. Sometimes, on bigger projects, we work in a consortium with other \_\_\_\_\_(9) and \_\_\_\_\_(10).

## LISTENING

- S: Could you tell us something about...?
- M: Excuse me, I've just seen Mr Lang. He's walking through the gate. He represents the \_\_\_\_\_(11), and I have a meeting with him and Anna Black in a few minutes' time ...
- S: Anna Black?
- M: Anna works for the \_\_\_\_\_(12), DKI Cement. They're supplying all the cement for the project. Just a moment, please. My assistant, Robert Lane, will answer any further questions you have.
- S and A: Thank you.



## Unit 2: Design

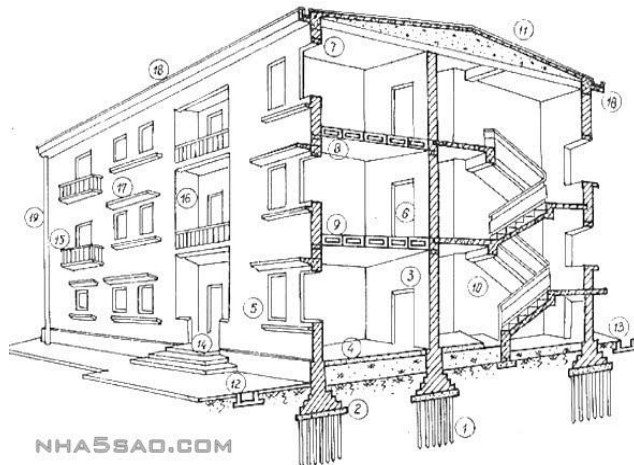
- Describe technical drawings
- Estimate



17

### TECHNICAL DRAWING

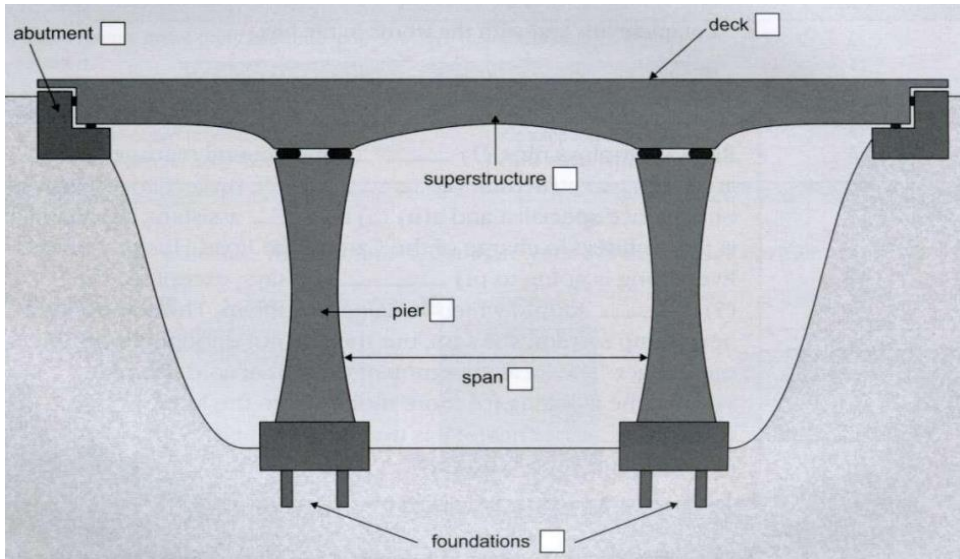
Look at the picture and name the elements numbered:



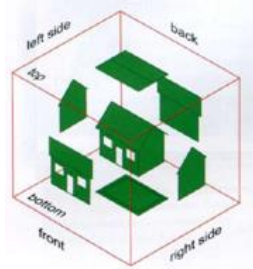
NHA5SAO.COM

- Pile
- Foundation
- Pavement
- Floor
- Wall
- Door
- Window
- Stairs
- Steps
- Lintel
- Loggia
- Balcony
- Gutter
- Down pipe
- Drainage ditch
- Drip mould
- Roof

# TECHNICAL DRAWING



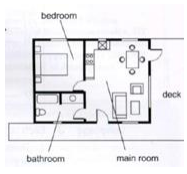
# TECHNICAL DRAWING



**Orthographic projection**



**Perspective projection**



**Plan view**



**Elevation**



**Cross section**



**Exploded view**

## TECHNICAL DRAWING

### Complete this text with the words above:

There are many ways of putting a 3D object into 2D. \_\_\_\_\_ can be found on all construction projects. These drawings show different views of the object, and can include \_\_\_\_\_ (a view from one side) and \_\_\_\_\_ (the view when you cut through an object). Another type of drawing shows \_\_\_\_\_, which are very useful for understanding the assembly of an object, in other words how it all fits together. A third type of drawing is \_\_\_\_\_, which allows us to see an object from above. A typical example of this is a floor plan. These are very useful when we want to look at the fittings in detail, in other words where objects like cookers and baths go.

## TECHNICAL DRAWING

Words	Meanings
1. Elevation	a. A 2D representation of a 3D object
2. Beam	b. The view from one side
3. Roof	c. The view when you cut through an object
4. Projection	d. The view from above at one level of a structure
5. Girder	e. A long heavy piece of material used in houses, bridges, etc
6. Column	f. Strong beam
7. Frame	g. A frame supporting a roof
8. Plan view	h. Structural element that transmits, through compression, the weight of the structure above to other structural elements below
9. Truss	i. An upright flat structure made of stone or brick, that divides or surrounds an area
10. Section	j. The main supporting parts of houses, bridges, etc
11. Wall	k. The structure that covers the top of a building

## ESTIMATE

WRITING	SAYING
2.000 m	
0,03 cm	
1,34 m	
3m x 4 m	
25 m <sup>2</sup>	
600 m <sup>3</sup>	
$200 \pm 1$ mm	
1:100	
$20 \times 30 = 600$	
$12/5$	
$\pi r^2$	
$2\pi r$	
$\sqrt{64} = 8$	








## ESTIMATE

**Say these dimensions and calculations:**

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>➤ 3,065 mm</li> <li>➤ 4,632 m<sup>2</sup></li> <li>➤ 2.500 sq ft</li> <li>➤ 34m x 28m</li> <li>➤ 26' ± ½"</li> </ul> | <ul style="list-style-type: none"> <li>➤ 5 x 6 = 30</li> <li>➤ 100 / 5 = 20</li> <li>➤ <math>\sqrt{36} = 6</math></li> <li>➤ 5 + 3 - 1 = 7</li> <li>➤ <math>7^2 = 7 \times 7 = 49</math></li> </ul> |
|---|---|

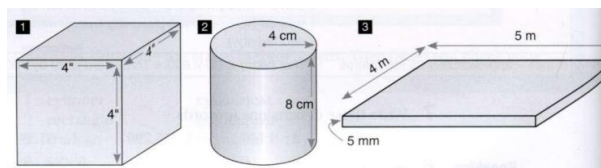
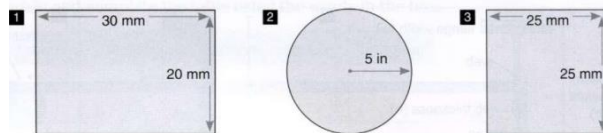
## ESTIMATE

Complete this table about some shapes:

1 _____		a triangle	a(n) <sup>2</sup> _____ truss
3 _____		an I-shape	a(n) <sup>4</sup> _____ girder
5 _____		a circle	a circular rod
6 _____		a square	a(n) <sup>7</sup> _____ beam
8 _____		a cylinder	a cylindrical can
9 _____		a(n) <sup>10</sup> _____	a spherical damper
11 <u>A</u> _____		a rectangle	a(n) <sup>12</sup> _____ room

## ESTIMATE

Calculate the areas and volumns



## READING

*Read text and answer some questions*

1. What are the structural elements of building?
2. What may columns and beams are constructed of?
3. Where may pre-cast units be prefabricated?
4. Which units may be precast?
5. What does a bearing wall and curtain wall do?

## LISTENING

Listen to an architect describing the house. Write the dimensions you hear.

1. total area \_\_\_\_\_.
2. main room, with the kitchen \_\_\_\_\_.
3. bedroom \_\_\_\_\_.
4. bathroom \_\_\_\_\_.
5. height of rooms \_\_\_\_\_.
6. doors, not including frames \_\_\_\_\_.

## LISTENING

### Listen and complete a conversation

- |                  |                              |
|------------------|------------------------------|
| 1. Modifications | 9. Partition                 |
| 2. Client        | 10. Insulation               |
| 3. Changes       | 11. Environmentally          |
| 4. Aquarium      | 12. Recommend                |
| 5. Calculations  | 13. Expensive - cheap        |
| 6. Natural       | 14. Efficient                |
| 7. Dividing      | HVAC = Heating- Ventilation- |
| 8. Space         | Air Conditioning             |

## Unit 3: Equipment

- Talk about usages of equipments



30

## EQUIPMENT

Name some equipments and tools in construction site below:



## Talking about equipment

Listen and complete the descriptions of construction site equipment. Put one word in each gap and name those machines.

1. This machine is \_\_\_\_\_ driving piles into the soil.
2. This machine has a bucket which is used \_\_\_\_\_ scoop soil out of the ground.
3. This machine \_\_\_\_\_ lift heavy loads high in the air.
4. You \_\_\_\_\_ this machine to move large amounts of earth/
5. This machine \_\_\_\_\_ electricity from petrol.
6. This machine \_\_\_\_\_ used for transporting concrete to high parts of a construction site.
7. This machine is \_\_\_\_\_ transport people to high parts of a construction site.



## Talking about equipment

Listen and complete the descriptions of construction site equipment. Put one word in each gap and name those machines.

1. This machine is for driving piles into the soil.
2. This machine has a bucket which is used to scoop soil out of the ground.
3. This machine can lift heavy loads high in the air.
4. You use this machine to move large amounts of earth/
5. This machine makes electricity from petrol.
6. This machine is used for transporting concrete to high parts of a construction site.
7. This machine is used to transport people to high parts of a construction site.

## Talking about equipment

Work in pairs to talk about description, usage of some equipments like that:

1) *What does a bulldozer do?*

*It can \_\_\_\_\_.*

*It's for \_\_\_\_\_.*

*It's used for \_\_\_\_\_.*

2) *What do you use jackhammer for?*

*I use it for \_\_\_\_\_.*

## Mixing concrete

Some equipments and tools in mixing concrete



## Mixing concrete

Read this text about mixing concrete and choose True (T) or False (F):

1. Concrete mixers mix and pour concrete.
2. For small quantities of concrete, transport trucks are ideal.
3. Portable mixers use electricity.
4. Cranes lift hoppers full of chute men to the job site.
5. In- transit mixers rotate during transport.

Concrete mixers mix and pour concrete. For small quantities of concrete, hand mixers are ideal. The portable mixer has wheels and uses electricity. It has a small drum which rotates. Concrete transport trucks – or in-transit mixers – transport large quantities of concrete to the site. The drum rotates during transport. The chute man pours the concrete down the chute, or uses a pump to get the concrete to difficult locations. Sometimes a crane lifts a hopper full of concrete to the job site.

## Unit 4: Materials

- Describe properties of materials
- Order materials



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### Properties and Usages



## Reading

Read the text in page 22 and answer these questions

1. What kinds of raw materials can be used to make concrete?
2. What are advantages of concrete?
3. In what case can concrete crack and how to solve that?
4. How to make concrete more effective?
5. How many ways are applied for making concrete? What are they?

## Order materials

**Work in pairs. Practice a telephone conversation between a supplier and a buyer. Using some phrases in the box**

*Example:*

- 1)        *A: I'd like to place an order. We need thirty bags of cement.*  
           *B: Certainly. What's your customer number? Do you have transport?*  
           *A: No, I'm sorry. I don't.*  
           *B: No problem. We organize delivery. Where is the site?*
- 2)        *A: I want to order some timber.*  
           *B: I'm sorry. We're out of stock.*

1	In stock/ out of stock
2	Customer number/ order number
3	Delivery/ pick up
4	Place an order/ change an order
5	Type of goods/ quantity

## Order materials

Work in pairs. Practice a conversation about ordering materials

1. Type of goods
2. Quantity
3. Delivery
4. Cost
5. Payment

## Order materials

Listen a conversation and correct 4 mistakes

Caller: Abdulla

Company: Kawasoki Construction

Order number: G2356-J

Goods dispatched 10:05

Goods arrived: 9:00

Goods signed for by: Malik Zahid

Delivery address: 12 Bridge Road

## Order materials

### Listen a conversation and complete

A: Hello?

B: Just one moment, please. Sorry about that. OK, \_\_\_\_\_(1).

A: Ah good. Thank you. My name 's Lopez. Who am I speaking to, please?

B: Christina Dudek. How can I help you?

A: I'm calling about a problem with an \_\_\_\_\_(2). We ordered some \_\_\_\_\_(3).

B: Hasn't it \_\_\_\_\_(4)?

A: Yes, yes, it's here. That's not the \_\_\_\_\_(5).

B: Is it the \_\_\_\_\_(6) sand?

A: No, it's the right sand. But it's the wrong \_\_\_\_\_(7).

B: What do you mean?

## Order materials

### Listen a conversation and complete

A: Well, we ordered three 10 kg bags. And we received three \_\_\_\_\_(8).

B: So are you saying that we sent you three truckloads?

A: Yes, that's right. No, wait.. Now we have six truckloads! Three more have just arrived...

B: Where is the sand now?

A: In our car park. Our security guard didn't check the \_\_\_\_\_(9) - he just signed for it.

B: Oh, no.

A: Oh yes. They unloaded six trucks before we could stop them.

B: Did you say unloaded? Oh, no...

# MIDTERM EXAM

45

## Unit 5: Processes

- Concrete process
- Recruiting process
- Write a CV



46

## Processes

Match the words with their meanings

1. This is a <b>routine</b> job, we do it everyday	a) Outcome
2. What is the <b>procedure</b> for setting out?	b) Steps
3. There are 3 <b>stages</b> in the process	c) Normal
4. The <b>result</b> is a straight line	d) Standard way of operating
5. It's important to be <b>systematic</b>	e) Organised

## Processes

Complete this text with the words in the box.

Finally | First | result | routine | stages | Third

We do this every day: it's ( 1 ) \_\_\_\_\_. The procedure is simple. There are only seven (2)\_\_\_\_\_ and the (3) \_\_\_\_\_ is always the same. (4)\_\_\_\_\_, you smile at the guard and say 'Good morning'. Second, the guard smiles back and says 'Good morning'. (5) \_\_\_\_\_, the guard asks you for your ID. After showing him your ID, the guard smiles and says 'Thank you'. Then you also smile and say 'Thank you'. (6)\_\_\_\_\_, you enter the site.



## Processes

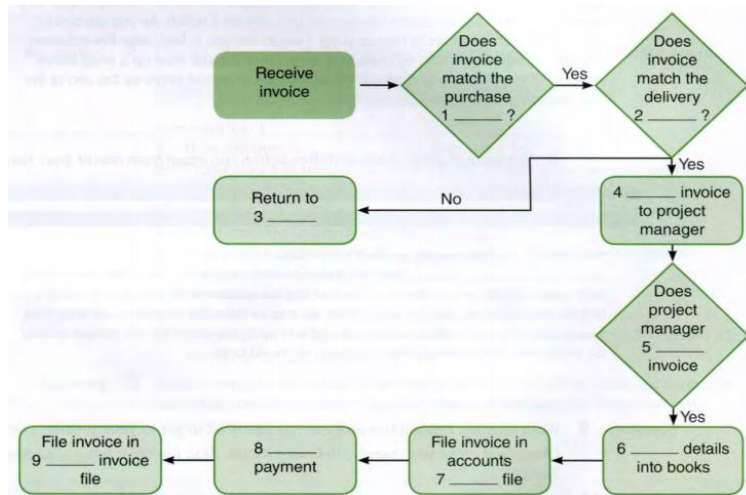
*First, ... Second, ... Third, ...*  
*First of all, ... (Note that we do **not** say **Second of all, ...**)*  
*Next*  
*After that, ... /After + -ing ...*  
*Then*  
*Finally, ...*

---

*That's all I want to say about ...*  
*Moving on to the next step ...*  
*Before that, ... /Before + -ing ...*

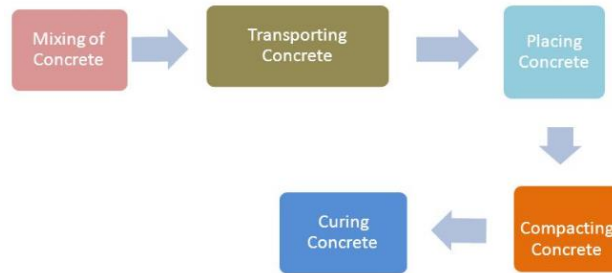
## Reading

Read the text and complete the flowchart



## Speaking

Work in groups, use sequencing markers to explain the process of concreting



## Listening

recruit (v)	to find new people to work in a company
advertise (v)	to make an announcement, e.g. in a newspaper, that a job is available
interview (n)	a formal meeting at which someone is asked questions in order to find out whether they are suitable for a job
reference (n)	a person who provides information about your character and abilities
identify (v)	to recognize and correctly name someone or something
skill (n)	an ability to do something well
applicant (n)	someone who has formally asked for a job
prepare (v)	to make plans or arrangements for something that will happen in the future
update (n)	the most recent information about something
shortlist (n)	the final few applicants for a job, normally invited for a second interview

## Homework

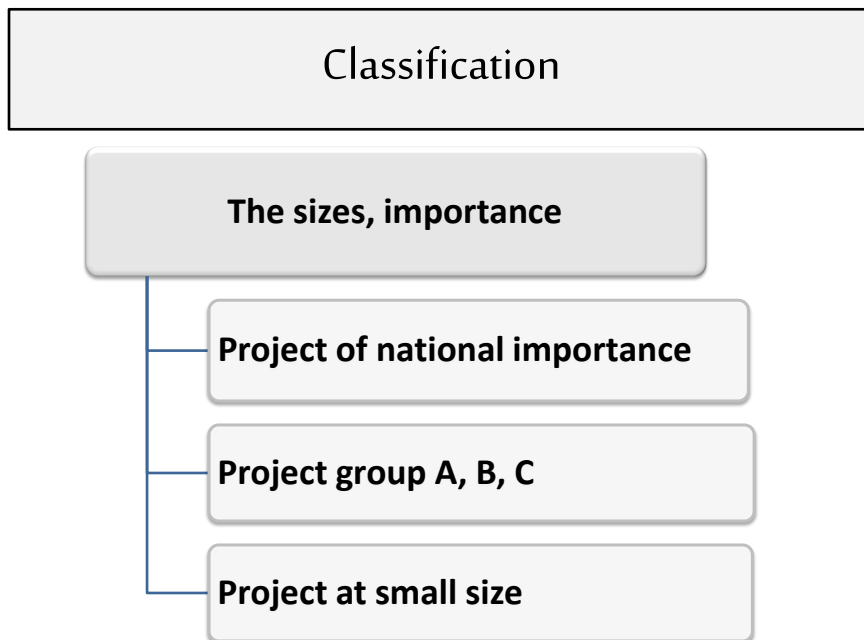
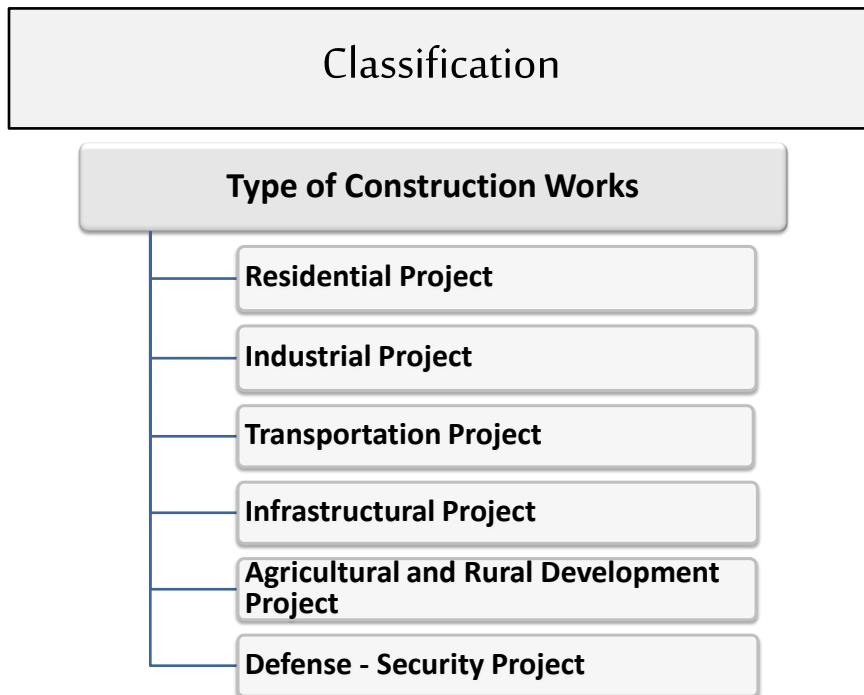
Write a CV for your job application.

## Unit 6: Projects

- Classification
- Gant chart
- Contracts
- Meetings



4



## Vocabulary

1	Have you seen the first draft of the <b>project plan</b> ?	a)	Land, building, equipment,...
2	The project manager clarified the <b>scope</b> of the project at the meeting.	b)	Document summarising all aspects of the project
3	The new <b>WBS</b> software is saving us a lot of time.	c)	Components
4	Rashid will be in charge of co-ordinating <b>resources</b> for the project.	d)	Without planning
5	The accountants are not happy with the <b>budget</b> .	e)	Official agreement
6	The room for the <b>kick-off meeting</b> has been changed. It's now in Room 2E.	f)	The work that needs to be done
7	The WBS splits the work into smaller <b>elements</b> .	g)	People, materials and other assets available for the project
8	Three firms <b>bid</b> for the contract on the new buildings.	h)	Work Breakdown Structure
9	Please check the <b>invoice</b> No10345 for me.	i)	Cost breakdown
10	The chairman has summoned an <b>impromptu</b> meeting.	j)	Offer to pay a particular price
11	There is a <b>strike</b> on this company	k)	List of goods have been supplied
12	The value of this company's <b>asset</b> is about \$16 billion.	l)	First meeting
13	The <b>contract</b> was fixed to a contractor from New York	m)	Not working

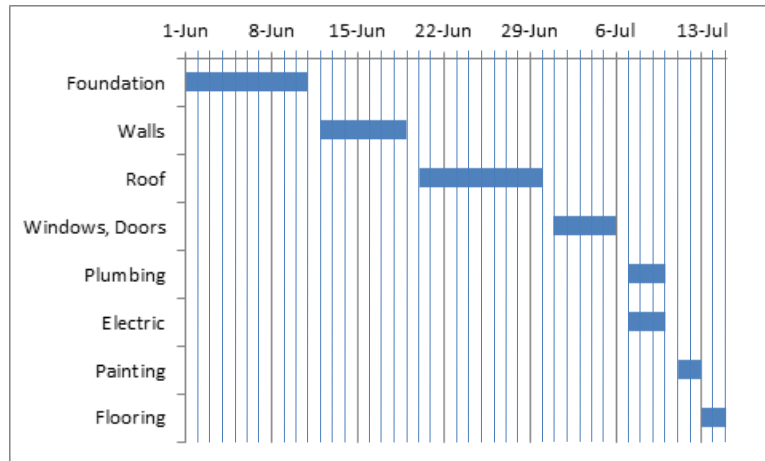
## Gant Chart

Read the text and complete this schedule

	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
Design																	
Site preparations																	
Foundations																	
Pier construction																	
Superstructure																	
Deck																	
Opening ceremony																	

## Gant Chart

Describe this Gant chart:



## Contracts

### Type of Contracts

Lump sum contract- Fixed price contract

Fixed unit-price contract

Adjustable unit-price contract

Time-based contract

Percentage contract

## Meetings

Read the text and answer these questions:

1. What types of meeting is it?
2. What is the problem?
3. What are the reasons she give for the problem?
4. Who has she spoken to about the problem?
5. How is she planning to solve the problem?

## Listening

Listen and complete the text:

## Unit 7: Documentation

- Types of document
- Document control procedure



### Types of Document



**Contract**



**Drawing**



**Order**



**Invoice**



**Schedule**



**Procedure**



**Memo**



**Agenda**



**Manual**



**Presentation**



**Report**



**RFI**



## Types of Document

1	Procedure	a)	A list of the subjects to be discussed at a meeting
2	Contract	b)	A book that gives instructions about how to do something
3	Report	c)	An official agreement between two or more people, stating what each will do
4	Agenda	d)	A way of doing something, especially the correct or usual way
5	Memo	e)	A short official note to another person in the same company or organization
6	Manual	f)	A written or spoken description of a situation or event, giving people the information they need

## Types of Document

Practice a conversation about some documents

*Example:*

A: What is it?

B: It's a contract

A: What will we use it for?

B: It's an official agreement between client and contractor, stating what each will do

## Document control

Listen and complete this conversation about document control in a company:

## Document control

Complete this document control procedure with the words in the box:

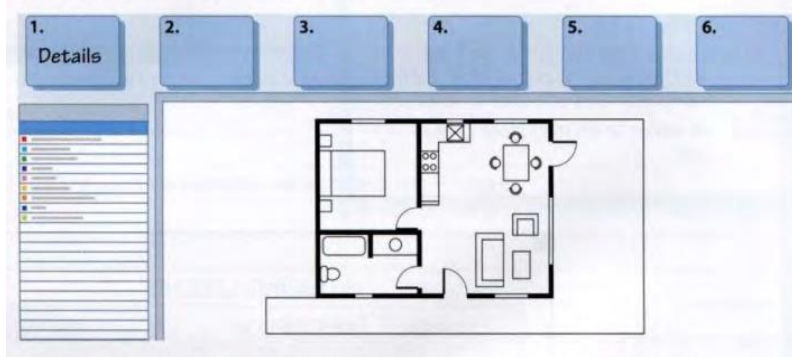
amended archived books out figures  
log number scan track version

When a document comes in, we first make a handwritten note in the (1) \_\_\_\_\_. If necessary, we give it a serial (2) \_\_\_\_\_. We then (3) \_\_\_\_\_ it in, so that we have a permanent electronic record. As you can see, the serial number ends with a slash and then another number, always three (4) \_\_\_\_\_. So, 001 is the first (5) \_\_\_\_\_ of the document. If the document is (6) \_\_\_\_\_

or updated in any way, it receives a new version number and so on. We also use the log to (7) \_\_\_\_\_ the movement of the document. If someone (8) \_\_\_\_\_ the document, the date and time are recorded here and when it comes back in, the date and time are recorded again. At the end of the project, the document is either destroyed or (9) \_\_\_\_\_, depending on its importance.

## Document control

Listen to a conversation about a document management system. Label the buttons on the screenshot.



**Confidentiality level - Document output - Originator  
Status - Document history**

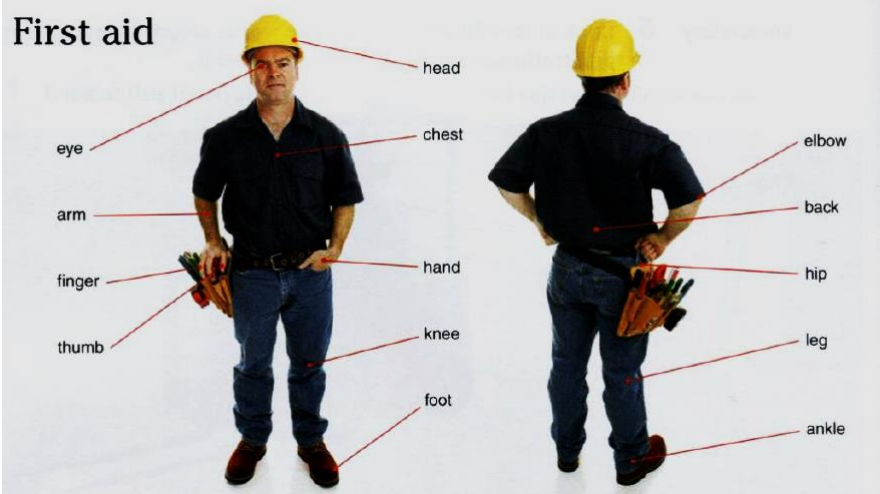
## Unit 8: Health and safety

- Injuries and accidents in construction site
- Protective equipments and warning signs



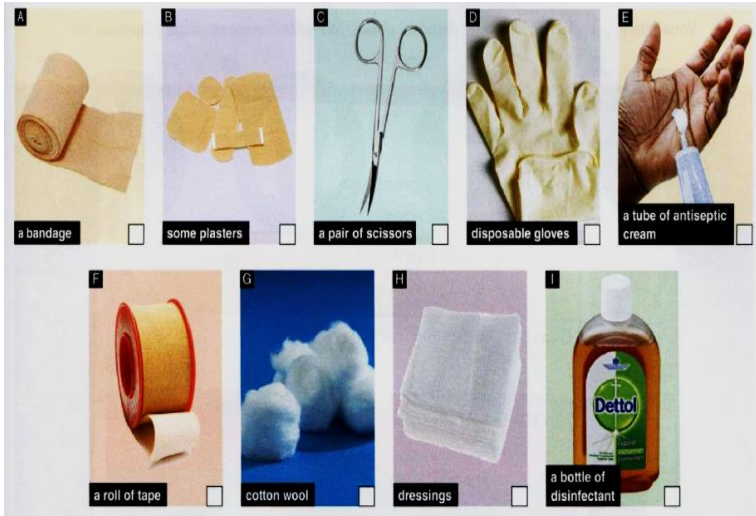
70

# Injuries



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# First aid kit



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## First aid kit

1	Bandage	a)	A long thin piece of plastic or cloth
2	Plaster	b)	A special piece of material used to cover and protect a wound
3	Tape	c)	A soft mass of cotton use for cleaning and protecting wounds
4	Antiseptic	d)	A piece of clothing that you wear on your hand
5	Cotton wool	e)	A narrow piece of cloth that you tie around a part of the body that has been injured
6	Dressing	f)	A piece of thin material that is stuck on to the skin to cover a small wound
7	Glove	g)	A medicine that you put onto a wound to stop it from becoming infected

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## First aid kit

Work in pairs. Tell your partner about injuries accidents in construction site and explain how it happened. Your partner explains what to do using the phrases in the box.

call an ambulance   get the first aid kit   go to hospital   see the doctor  
take an X-ray

Example:

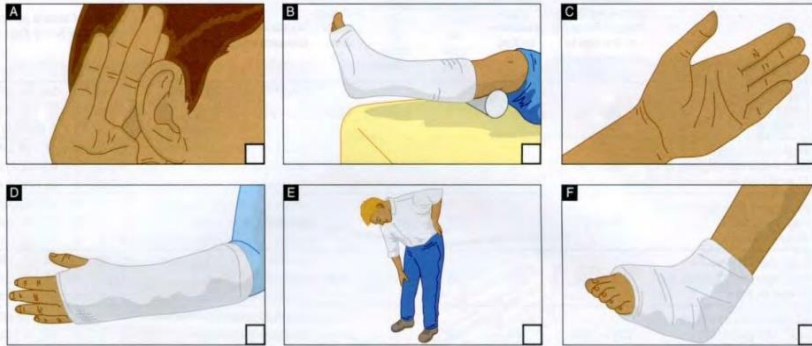
A: I cut my finger on some broken glass.

B: You need to get the first aid kit. First, clean the cut ...

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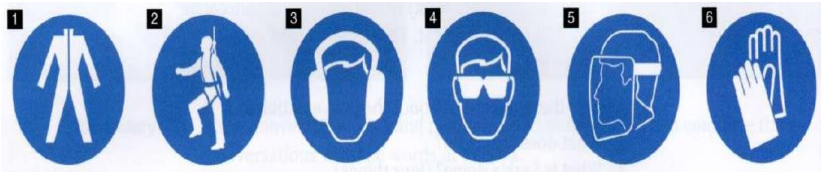
# Accidents

Listen to 6 conversations about accidents. Match these illustrations with the conversations and complete them.



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# Protective equipments



a harness   a mask   ear protection   gloves  
 protective clothing   safety glasses

- |                         |                         |
|-------------------------|-------------------------|
| 1 You must wear _____ . | 4 You must wear _____ . |
| 2 You must wear _____ . | 5 You must wear _____ . |
| 3 You must wear _____ . | 6 You must wear _____ . |

## Warning signs



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## Warning signs

- Use clues 1-9 to fill in the squares. What health and safety advice do you read in the column?

### Clues:

- overhead \_\_\_\_\_
- \_\_\_\_\_ surface
- falling \_\_\_\_\_
- suspended \_\_\_\_\_
- \_\_\_\_\_ hazard
- stand \_\_\_\_\_
- \_\_\_\_\_ lift truck
- \_\_\_\_\_ dog
- safety \_\_\_\_\_



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## Site safety

- Look at this illustration. Circle the health and safety problems you see.



Boots  
Children  
Fall  
Hard hat  
Ladder  
Mask  
Oil  
Trip  
Welding

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# THE END

