

Al-Mustaqbal University
Department of Artificial Intelligence
Techniques Engineering

Class one - first semester

Subject: English language

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Lecture 4 : Part 1 / Basic Electrical and Electronic Concepts.

Part 2/ Unit 5 – The Way I Live

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Part 1 / Basic Electrical and Electronic Concepts :

1. Voltage (V)

- Definition: Voltage, also called electric potential difference, is the electric force that pushes electrons to move through a conductor. It can be compared to the pressure that pushes water through pipes. Higher voltage produces a stronger flow of current if resistance remains constant. Voltage is measured in Volts (V).

2. Current (I)

- Definition: Electric current is the flow of electrons through a circuit. It is measured in Amperes (A). Current can be visualized as the amount of water flowing through a pipe per second; higher current means more electrons pass through the circuit.

3. Resistance (R)

- Definition: Resistance is a material's property that limits the flow of electric current. Higher resistance reduces current flow at the same voltage. It is measured in Ohms (Ω).

4. Power (P)

- Definition: Electrical power is the rate at which energy is consumed or produced in a circuit. It is measured in Watts. Power indicates how much energy a device uses to perform its functions.

5. Inductance (L)

- Definition: Inductance is a property of an electrical component to store energy in a magnetic field when current passes through it. It is used to regulate energy and smooth fluctuating signals.

6. Circuit

- Definition: A circuit is a closed loop that allows electric current to flow. Circuits can be simple, like a battery and LED, or complex, like microcontroller boards.

7. Sensor

- Definition: A sensor is a device that detects changes in physical or electrical conditions and converts them into an electrical signal.

8. Actuator

- Definition: An actuator is a device that converts electrical signals into mechanical motion or action.

9. Signal

- Definition: A signal is an electrical representation of information traveling through a circuit. Signals can be analog (continuous) or digital (discrete).

10. Power Supply

- Definition: A power supply provides the necessary energy to electrical circuits. It can be battery-based and must be stable and regulated.

Part 2/ Unit 5 – The Way I Live

In this unit, students will be able to:

- Talk about food and drinks
- Talk about their daily lifestyle
- Use the Present Simple tense.
- Use a / an correctly.
- Ask and answer questions about languages and nationalities
- Use numbers and prices correctly

1 Vocabulary: Things I Like

In this unit, students learn words to talk about their daily life and free-time activities.

◆ Sports

Examples: football. tennis. swimming. cycling

These words help students talk about the sports they enjoy or do not enjoy.

Example sentences: I like football. I don't like tennis. I like swimming. I don't like cycling

◆ Food

Examples: pizza. rice. fish. fruit. ice cream

Students use these words to talk about food preferences.

Example sentences: I like pizza. I love ice cream. I don't like fish.

◆ Drinks

Examples: tea. coffee. juice. water. milk

Example sentences: I like tea. I don't like coffee. I love juice.

2 Grammar: Like and Love

We use **like** and **love** to talk about things we enjoy.

✓ Positive sentences

Structure: [Subject + like / love + noun or verb-ing]

◆ After like / love, we can use:

- a noun → I like music. a verb + -ing → I like reading.
- a noun → I love pizza. a verb + ing → I love watching TV.

Negatives – Don't like

We use: **don't like** to talk about things we do not enjoy.

✗ Negative sentences. Structure: [Subject + don't like + noun or verb-ing]

Examples: I don't like coffee. I don't like football. I don't like studying at night.

Note: We don't use **to** after like: ✗ I like to football. ✓ I like football

Present Simple Tense

◆ **Definition |**

The Present Simple tense is used to talk about **daily routines, habits, facts, and Likes and Dislikes**

① **Daily routines |**

I wake up at 6 a.m. I go to university every day.
They sleep early on weekdays. We have lunch at 2 o'clock.

② **Habits |** I drink coffee every morning. I watch TV in the evening.

They play football on Friday.

③ **Facts |** The sun rises in the east. Baghdad is the capital of Iraq.

④ **Likes and Dislikes |** I don't like coffee. We love music.

They hate noise. I like tea.

◆ **Structure 1) Affirmative Sentences**

A) Form: [Subject (She - He -It) + verb with s/es + Sentence Complement].

Examples: She plays football. He goes to University.
It rains a lot in winter.

B) Form: [Subject (They- we-you- I)+ base Verb + Sentence Complement].

Examples: You study English at college . We watch TV in the evening. We play football every day.

Notes

1. We add **-s** or **-es** to the verb with he / she / it.
2. If the verb ends in -ch, -sh, -s, -x, -o, we add **-es**.
Example: watch → watches, go → goes, fix → fixes
3. If the verb ends in a consonant + y, change y → ies.
 - Example: study → studies, carry → carries. Party → parties.
4. If the verb ends with vowel (a e o i u) + y, we do not change y just add s. play → plays. enjoy → enjoys

2) Negative Sentences

Form: **Subject + do/does + not + base verb (without additions).**

She - He - It → **Does**. They - We - You - I → **Do**

Examples; You don't eat fast food. She doesn't like coffee.
It does not (doesn't) work well. We do not (don't) study on Friday.
I don't like chocolates.

3) Questions sentences

Form; **Do/Does + subject + base verb + ?**

Examples; Do you understand this lesson? Do they read books

every day? Do you remember his name? Does it work properly?

◆ **Adverbs of Frequency** Adverbs of Frequency are words that tell us how often something happens.

Adverb	Example
always	I always brush my teeth in the morning.
usually	She usually goes to school by bus.
often	We often watch TV in the evening.
sometimes	He sometimes plays football after school.
never	I never smoke.

Position in a Sentence

1. With simple present tense (affirmative)

- Before the main verb (except “to be”):

- I **always** eat breakfast.
- She **sometimes** visits her grandmother.

2. With “to be” verbs (am - is - are)

- After the verb “to be”:
 - He is **always** happy.
 - They are **never** late.

3. Negative sentences

- I do not **usually** drink coffee.
- She is not **often** tired.

4. Questions

- Do you **always** study in the morning?
- Is he **usually** busy on weekends?

Short answer: Yes, I do. / No, I do not.

The Use of a / an. What are a and an ?

A and an are indefinite articles. We use them with singular countable nouns when we talk about something for the first time or something not specific.

1. When do we use **a** ?

We use (a) before words that begin with a consonant sound.

Examples: a bank. a school. a hospital. a cafe. a restaurant
There is a bank near my house. I live in a small city.

2. When do we use **an** ?

We use (an) before words that begin with a vowel sound (a, e, i, o, u).

Examples: an office. an apartment. an airport. an umbrella
There is an office in this building. She lives in an apartment.

Important Note The choice between a and an depends on the sound, not the letter.

Examples: an hour (the “h” is silent)

Using **a / an** with **There is**

We often use a / an with There is.

Examples: There is a supermarket near here.

There is an ATM in the street.

Note

- Use **a** before consonant sounds. Use **an** before vowel sounds
- Use them with **singular countable nouns.**
- Often used with **There is**

Q/ Practice and Choose the correct answer:

1. There is ___ café near my house. (a / an)
2. There is ___ office in the building. (a / an)
3. I live in ___ small town. (a / an)

3 Languages and Nationalities

We will learn about countries and their nationalities.

Countries → Nationalities

- England → English. Italy → Italian
- Germany → German. France → French
- Japan → Japanese. China → Chinese
- Mexico → Mexican. Syria → Syrian
- Portugal → Portuguese. The United States → American
- Saudi Arabia → Saudi Arabian

Examples: She is English. (She is from England). He is Italian.
They are American.

Countries & Languages

- Italy
 - Nationality: Italian. Language: Italian

- Germany
 - Nationality: German. Language: German
- France
 - Nationality: French. Language: French
- Japan
 - Nationality: Japanese. Language: Japanese
- Mexico
 - Nationality: Mexican. Language: Spanish
- Portugal
 - Nationality: Portuguese. Language: Portuguese
- Canada
 - Nationality: American. Language: English and French
- Libya. Nationality: Libyan. Language: Arabic
- Turkey
 - Nationality: Turkish Language: Turkish
- Russia

Nationality: Russian. Language: Russian

Important Note.

1) Adjectives come before the noun

An adjective describes a noun, and it always comes before the noun. So we say: **adjective + noun**

✓ Correct: a Japanese camera. blue jeans

✗ Incorrect: a camera Japanese.

2) We don't add -s to adjectives

Adjectives never change. They do not become plural. So the noun can be plural, but the adjective stays the same.

✓ Correct: Spanish oranges. blue jeans

✗ Incorrect: Spanishes oranges. blues jeans

More examples. 1- an **Italian** car. 2- German **students**

3- **Chinese** food. 4- English **books**

4) How much is it? / Prices

This section helps students talk about numbers and prices in everyday situations (shopping, paying, asking about prices).

Listen and repeat – Numbers

- 10 → ten

- 20 → twenty
- 30 → thirty
- 40 → forty
- 50 → fifty
- 70 → seventy
- 80 → eighty
- 90 → ninety
- 100 → one hundred

Read and listen

Now we learn how to say prices in English. **Pence (p):**

- 30p → **thirty p.** 50p → **fifty p.** 75p → **seventy-five p**

Note: p = pence (in British money). **Pounds (£): 1 pound = 100 pence**

- £1 → **one pound.** £75 → **seventy-five pounds**
- £3.45 → **three pounds forty-five**

Note: We do not say “and” with prices.

✓ three pounds forty-five

✗ three pounds and forty-five

Pounds (£) with Pence (p) :

- £1.60 → **one pound sixty**

- £22.80 → **twenty-two pounds eighty**
- 60p → **sixty p**
- 97p → **ninety-seven p.** £17 → **seventeen pounds**
- £70 → **seventy pounds.** £25 → **twenty-five pounds**
- £20 → **twenty pounds.** £50 → **fifty pounds**
- £100 → **one hundred pounds**

Dollars (\$):

- \$20 → **twenty dollars.** \$50 → **fifty dollars**
- \$100 → **one hundred dollars**

Example; How much is it?

£3.45 → **three pounds forty-five.** \$20 → **twenty dollars**

The End

Thanks for your attention

