

Al-Mustaqbal University
Department of Communications
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 4 – Family and Friends

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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 AC, DC, or battery-based and must be stable and regulated.

Part 2 _ Unit 4 – Family and Friends

In Unit 4, students learn how to:

- Use 's = is correctly
- Use possessive 's to show ownership
- Differentiate between possessive adjectives and possessive pronouns
- Talk about family members
- Use have / has correctly

1. Grammar Explanation 's = is (contraction).

- In English, 's is a short form of the verb is.
- This is called a **contraction**.
- It is very common **in spoken and written English**.

Examples ;

- She's married.

→ She is married.

- He's a doctor.

→ He is a doctor.

- It's a big family.

→ It is a big family.

Important Note

In this case, 's does NOT show possession. It only means is

2. Possessive 's (Showing Ownership)

We use **possessive 's** to show that something **belongs to** someone.

Form; Person + 's + noun

Examples ;

- This is Annie's family.
- Jim's office is big.
- Emma's school is near her house.

Important Note

- In all these examples, 's means "belongs to".
- It answers the question: Whose?

Q/ Look at the sentences below and say what type of 's is used, and also Choose the correct sentence ;

- 's = is → contraction
- Possessive 's → shows ownership

1-

- What's your daughter name? ✗
- What's your daughter's name? ✓

2-

- That's my sister's car. ✓
- That's my sister is car. ✗

3-

- What's your brother job? ✗
- What's your brother's job? ✓

4-

- She's a teacher. ✓
- She's teacher. ✗

5-

- This is Ali's family. ✓
- This is Ali is family. ✗

3. Possessive Adjectives.

Possessive adjectives show who owns something. They are always used before a noun.

Subject Pronoun	Possessive Adjective
I	my
You	your
He	his
She	her
It	its
We	our
They	their

Examples;

- This is my family.
- Her name is Emma.
- His office is on the second floor.
- Their house is very comfortable.

Important Note

- A possessive adjective must be followed by a noun. This book is my book. ✓
- You cannot use it alone. This book is my ✗

4. Possessive Pronouns.

Possessive pronouns also show ownership, but they replace the noun. They are used when the noun is already known.

Subject Pronoun	Possessive Adjective	Possessive Pronoun
I	my	mine
You	your	yours
He	his	his
She	her	hers
It	its	—
We	our	ours
They	their	theirs

Examples ;

- This book is mine.
- The bag is hers.

Important Note

- Possessive adjectives → **before a noun** → This is **my family**.
- Possessive pronouns → **no noun after them** → This book is **mine**.
- It** has no possessive pronoun form.

5. Family Vocabulary / the Use of Have / Has.

In this unit, we use family words to practice possession.

- father
- mother
- brother
- sister
- husband
- wife
- son
- daughter
- parents

Important Note

We use **have** and **has** to talk about possession or family members.

Have/ Has Usage ; I / You / We / They → ***have***
He / She / It → ***has***

Examples

- I have two brothers.
- We have a big family.
- She has one sister.
- He has a son.

Common Mistakes:

- ✘ *She have a brother* → ✔ *She has a brother.*
- ✘ *This is her family's* → ✔ *This is her family.*
- ✘ *This bag is her* → ✔ *This bag is hers.*
- ✘ *He have a big family* → ✔ *He has a big family.*

Conclusion

By the end of this lecture, students will be able to:

- Use 's = is correctly
- Use possessive 's to show ownership
- Use possessive adjectives and possessive pronouns
- Talk about family members
- Use has / have correctly

The End
Thanks for your attention