

Chapter 1 : Smart Homes & Domotics

1. Setting the Stage

Activity 1: Smart Homes & Domotics Vocabulary

Match each term in Column A with its correct definition in Column B.



Column A - Terms	Column B - Definitions
1. Sensor	A. Household device connected to the internet for remote control
2. Actuator	B. A device that detects changes in the environment (light, temperature, motion)
3. Automation	C. AI-powered tool that responds to spoken commands
4. Smart Appliance	D. Technology that performs tasks without human intervention
5. Interoperability	E. The way users interact with a system or device
6. Voice Assistant	F. A mechanism that moves or controls a system based on signals
7. Connectivity	G. Using less energy to perform the same task
8. Energy Efficiency	H. Ability of devices/systems to work together seamlessly
9. Security System	I. Devices that protect a home (cameras, alarms, locks)
10. User Interface (UI)	J. The state of being linked to a network or the internet

Activity 2: Building Your Smart Home Vocabulary

Read each clue carefully. Fill in the blank with the correct term from the word bank.
Each term can be used once.

Word Bank: Smart Hub, Domotics, Smart Lock, Smart Thermostat, Zigbee, Automation, Security System, User Interface (UI), Connectivity, Energy Efficiency

Clues

1. I am the brain of the smart home, connecting and managing all devices. Who am I? → _____
2. I am the science and technology of automating homes. Who am I? → _____
3. I keep doors secure and can be unlocked with a phone or code. Who am I? → _____
4. I adjust heating and cooling automatically to save energy. Who am I? → _____
5. I am a wireless protocol that lets smart devices talk to each other. Who am I? → _____
6. I make things happen without human intervention. Who am I? → _____
7. I guard the home with cameras, alarms, and locks. Who am I? → _____
8. I am the app or dashboard you use to control smart devices. Who am I? → _____
9. I am the invisible thread that connects devices to the internet or a local network. Who am I? → _____
10. I help reduce power consumption while maintaining performance. Who am I? → _____

2. Take a Listen



Activity 3: Smart Home Secrets



Chapter 1 Smart
homes.mp4

Fill in the missing words based on what you heard in the video.

1. The lights on the _____ turn on at night when motion is detected to prevent accidents.
2. Motion sensors under the _____ tables activate lights when feet touch the ground.
3. The touch panels in the bedroom allow control of lights, _____, air conditioning, and blinds.
4. The heating system was integrated into the _____ home setup thanks to advice from a viewer.
5. In the living room, lights dim automatically when watching _____ and brighten when paused.
6. The speaker disliked share houses because he had to turn on the _____ at night to go to the bathroom.
7. The kitchen has individually addressable _____ installed by the speaker and his dad.
8. The old-school _____ system in the kitchen is described as "janky" and unreliable.

Activity 4: Test Your Smart Home IQ

Answer the following multiple-choice and true/false questions.

MCQs:

1. Why did the speaker dislike share houses?
 - A) No heating system
 - B) Lights had to be turned on to go to the bathroom

- C) No Wi-Fi coverage
- D) Too noisy at night
- 2. What feature makes the bedroom feel like an expensive hotel?
 - A) Ceiling speakers
 - B) Smart blinds
 - C) Touch panels
 - D) Motion sensors
- 3. What technology did the speaker install in the kitchen for better connectivity?
 - A) 3D printer
 - B) Intercom system
 - C) Access point
 - D) Smart switches
- 4. What happens when both people have been in bed for 20 minutes?
 - A) The blinds open
 - B) The alarm turns off
 - C) The system shuts down unnecessary power and sets night mode
 - D) The lights brighten

True/False:

- 5. The intercom system in the kitchen works perfectly.
Options: (True / False)
- 6. Sensors under the bed detect when both people are in bed and shut down unnecessary power.
Options: (True / False)
- 7. The living room has been fully renovated with advanced automation.
Options: (True / False)
- 8. The speaker's dad helped install smart lights in the kitchen.
Options: (True / False)

3. Read & Reflect

Smart Homes and Domotics: From Origins to Today

Smart homes—often referred to as *domotics* (from the Latin *domus*, meaning “home”)—represent one of the most fascinating journeys in modern technology. What began as experimental automation in the 1970s has now become an everyday reality, blending comfort, security, and sustainability.



Early History (1970s–1990s)

- In the **1970s**, engineers experimented with centralized control systems that could manage lighting and heating.
- The **X10 protocol**, introduced in 1975, allowed devices to communicate over existing electrical wiring, marking the first widely adopted home automation standard.
- By the **1990s**, the rise of the internet enabled remote monitoring and control, though early smart appliances remained niche and expensive.



Wireless Revolution (2000s)

- The spread of **Wi-Fi and Bluetooth** transformed domotics, making systems more affordable and user-friendly.
- Smart lighting, locks, and entertainment systems entered mainstream households.
- However, systems were often fragmented, with devices from different brands struggling to work together.



Voice Assistants & IoT (2010s)

- The arrival of **Amazon Alexa, Google Assistant, and Apple HomeKit** brought voice control into homes.
- The **Internet of Things (IoT)** expanded rapidly, connecting appliances, sensors, and cameras into integrated ecosystems.
- Smart speakers became the central hub for many households.



Latest Updates (2020s–2026)

- **AI-Driven Automation:** Homes now predict user behavior, adjusting heating or lighting before you act.
- **Energy Efficiency:** Smart thermostats, solar integration, and automated blinds reduce energy consumption.
- **Security Enhancements:** Facial recognition cameras and biometric locks improve safety.



- **Health & Wellness:** Smart air purifiers, circadian lighting, and sleep-tracking beds enhance wellbeing.
- **Interoperability:** The **Matter protocol** (2022) ensures devices from different brands work seamlessly, reducing fragmentation.

Past vs. Present Snapshot



Era	Key Features	Limitations
1970s–1980s	Centralized control, X10 protocol	Expensive, limited functionality
1990s	Internet monitoring, smart appliances	Niche, not user-friendly
2000s	Wi-Fi, Bluetooth, smart lighting	Fragmented systems
2010s	Voice assistants, IoT integration	Privacy concerns, compatibility issues
2020s–2026	AI, Matter protocol, health focus	Cybersecurity risks, upgrade costs

Activity 5: Fact-Finding Questions

Answer the following questions based on the text.

1. What was the significance of the X10 protocol introduced in 1975?
2. Which technologies in the 2000s helped make smart homes more affordable and user-friendly?
3. What role did smart speakers play in the 2010s?
4. Name two health and wellness innovations in smart homes from the 2020s-2026.

Activity 6: Compare & Contrast

Using the "Past vs. Present Snapshot" table, compare one limitation from an earlier era with how it was addressed in later developments.

Activity 7: Inference & Application

Imagine you are advising a family considering upgrading their home in 2026. Based on the text, which **two innovations** would you recommend for improving both security and sustainability, and why?

5. Grammar in Action: Inversion with



Negative/Restrictive Adverbials

Form:

- When adverbs like *never*, *rarely*, *hardly*, *scarcely*, *little*, *only*, *not until* begin a sentence, the auxiliary verb comes before the subject.
- Example: *Never* have smart homes advanced so quickly as in the 2020s.

Introduce the Rule:

- **Normal:** Smart homes have never advanced so quickly.
- **Inversion:** Never have smart homes advanced so quickly.

Examples from the text (rewritten with inversion):

- Only in the 2000s did Wi-Fi and Bluetooth make smart homes affordable.
- Rarely were early smart appliances user-friendly in the 1990s.
- Not until 2022 was interoperability ensured by the Matter protocol.

Activity 8: Practice Inversion

A Rewrite these sentences using inversion.

- Smart homes had never been so health-focused before the 2020s.
- Engineers only experimented with centralized control systems in the 1970s.
- Privacy concerns rarely troubled households before the 2010s.

Common Words/Phrases That Require Inversion

Negative Adverbs

- **Never:** Never have smart homes advanced so quickly.
- **Rarely:** Rarely did early smart appliances prove user-friendly.
- **Seldom:** Seldom has technology changed domestic life so profoundly.
- **Hardly / Scarcely / Barely:** Hardly had Wi-Fi spread before Bluetooth transformed domotics.

Restrictive Adverbs/Expressions

- **Only then:** Only then did smart homes become affordable.
- **Only later:** Only later was interoperability achieved.
- **Only by...:** Only by adopting the Matter protocol were devices able to work seamlessly.
- **Only in this way:** Only in this way can cybersecurity risks be reduced.

"Little" for emphasis

- *Little did engineers know that the X10 protocol would shape future automation.*

"So / Such ... that" structures

- *So rapidly did AI-driven automation evolve that households struggled to keep up.*
- *Such was the impact of the Matter protocol that fragmentation nearly disappeared.*

Conditionals (formal inversion)

- *Had engineers not experimented in the 1970s, smart homes might never have emerged.*
- *Should cybersecurity risks increase, smart homes will face major challenges.*
- *Were interoperability absent, devices would remain fragmented.*

Activity 9: Practice Inversion

Transform these sentences using inversion:

1. Smart homes have never been so health-focused before the 2020s.
2. Engineers only achieved interoperability in 2022.
3. AI-driven automation evolved so rapidly that households struggled to adapt.

5. Speak & Debate

Activity 10: Smart Homes - Convenience or Concern?

Answer the following debate-style questions. Use evidence from the text to support your points. Try to include at least one inversion structure (e.g., "Never before have homes been so connected...") for emphasis.

Questions

1. **Advancement vs. Risk**
 - Do you think the benefits of smart homes (comfort, security, sustainability) outweigh the risks (privacy, cybersecurity, costs)?
 - Support your answer with at least two examples from the text.
2. **Turning Points in Technology**
 - Which era (1970s-1980s, 1990s, 2000s, 2010s, 2020s-2026) represents the most important turning point in smart home development?
 - Justify your choice with evidence.



- Try to use inversion: *"Not until the 2010s did voice assistants transform households."*

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3. Future Outlook

- Based on the latest updates (AI-driven automation, Matter protocol, health focus), do you believe smart homes will become universal in the next decade? Why or why not?

6. Write with Might



Write a paragraph exploring whether smart homes *shape* human behavior more than humans shape smart homes.

- Begin with a clear topic sentence stating your position.
- Support your argument with examples from different eras (e.g., X10 protocol, voice assistants, AI-driven automation).
- Use at least one inversion structure for emphasis (e.g., *"Never before have machines anticipated human needs so directly."*).
- End with a concluding sentence that reflects on the future relationship between humans and technology.