Worksheet 12 Heating and Cooling Appliances

Task 1 Put the Appliances into the correct type

Types of Heating and Cooling Appliances

Air Conditioners	Electric Heaters	Gas Heaters	Refrigerators
Heat Pumps	Water Heaters	Freezers	Fans
Radiators	Induction Cooktops	Evaporative Coolers	

A. Heating Appliances		
Appliances	Definitions	Thai meaning
1.		
2.		
3.		
4.		
5.		
6.		
B. Cooling Appliances		
Appliances	Definitions	Thai meaning
1.		
2.		
3.		
4.		
5.		

Task 2 Put the definitions into the blank.

Use natural gas or propane to generate heat.
Remove heat from indoor air and release cool air.
Convert electricity into heat to warm up a room.
Keep food and drinks cool by using a refrigeration cycle.
Extract heat from the air or ground to warm indoor spaces.
Use hot water or steam to produce heat.
Heat water for bathing, cooking, and cleaning.
Use electromagnetic energy to heat pots and pans.
Lower temperatures to preserve food for long periods.
Circulate air to provide a cooling effect.
Use water evaporation to cool the air.

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Task 3 read and answer the question.

Heating and Cooling Appliances

Heating and cooling appliances are devices designed to regulate temperature, making environments more comfortable by either increasing or decreasing heat. They are commonly used in homes, offices, and industries to manage climate conditions.

2. Features and Functions

Temperature Control – Adjusts temperature to a desired level.

Energy Efficiency – Some devices use less power to reduce electricity bills.

Portability – Small units like table fans and space heaters are easy to move.

Automatic Timers – Allows scheduled operation for convenience.

Smart Technology – Some devices connect to Wi-Fi for remote control.

3. Benefits of Heating and Cooling Appliances

✅ **Comfort** – Maintains a pleasant indoor environment.

✅ **Health** – Prevents heatstroke, hypothermia, and respiratory problems.

✅ **Food Preservation** – Refrigerators and freezers keep food fresh.

✅ **Productivity** – Helps maintain a comfortable workspace.

4. Disadvantages & Concerns

❌ **High Energy Consumption** – Some appliances use a lot of electricity or fuel.

❌ **Environmental Impact** – Air conditioners release gases that contribute to global warming.

❌ **Costly Maintenance** – Regular cleaning and servicing are needed.

❌ **Safety Risks** – Improper use of heaters can cause burns or fires.

5. Future Trends in Heating and Cooling Appliances

🔹 **Eco-friendly Refrigerants** – Reducing harmful emissions from cooling devices.

🔹 **Solar-powered Heaters and ACs** – Using renewable energy to save electricity.

🔹 **Smart Thermostats** – AI-controlled temperature regulation for efficiency.

🔹 **Energy-efficient Designs** – Appliances with better insulation and performance.

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Multiple Choice Questions (MCQs)

1. Which of the following is NOT a feature of heating and cooling appliances?

a) Temperature control
b) Energy efficiency
c) Automatic timers
d) Water filtration

2. What is one benefit of using heating and cooling appliances?

a) Increases heatstroke risks
b) Helps maintain a comfortable workspace
c) Releases harmful gases into the air
d) Makes food spoil faster

3. Which of the following is a disadvantage of air conditioners?

a) They reduce global warming
b) They require no maintenance
c) They can contribute to high electricity bills
d) They help prevent respiratory problems

4. How do smart thermostats improve heating and cooling appliances?

a) By allowing AI-controlled temperature regulation
b) By increasing energy consumption
c) By making maintenance more expensive
d) By preventing the need for insulation

5. What is an example of an eco-friendly trend in heating and cooling appliances?

a) Using more electricity for better performance
b) Solar-powered heaters and ACs
c) Reducing the use of smart technology
d) Replacing all cooling devices with heaters

True or False Questions

6. Heating and cooling appliances help maintain a comfortable indoor environment. **T / F**

7. Space heaters are difficult to move from one place to another. **T / F**

8. Air conditioners can contribute to global warming if they release harmful gases. **T / F**

9. Smart heating and cooling devices cannot be controlled remotely. **T / F**

10. Refrigerators help preserve food by keeping it at a low temperature. **T / F**

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Short Answer Questions

11. Name two features of heating and cooling appliances that improve energy efficiency.

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12. Why is safety a concern when using space heaters?

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13. How does using solar-powered air conditioners help the environment?

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14. What is one disadvantage of heating and cooling appliances related to cost?

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15. Give one example of a smart technology used in modern heating and cooling appliances.

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