



# Chapter 2

## Network Models

# LAYERED TASKS

*We use the concept of **layers** in our daily life. As an example, let us consider two friends who communicate through postal mail. The process of sending a letter to a friend would be complex if there were no services available from the post office.*

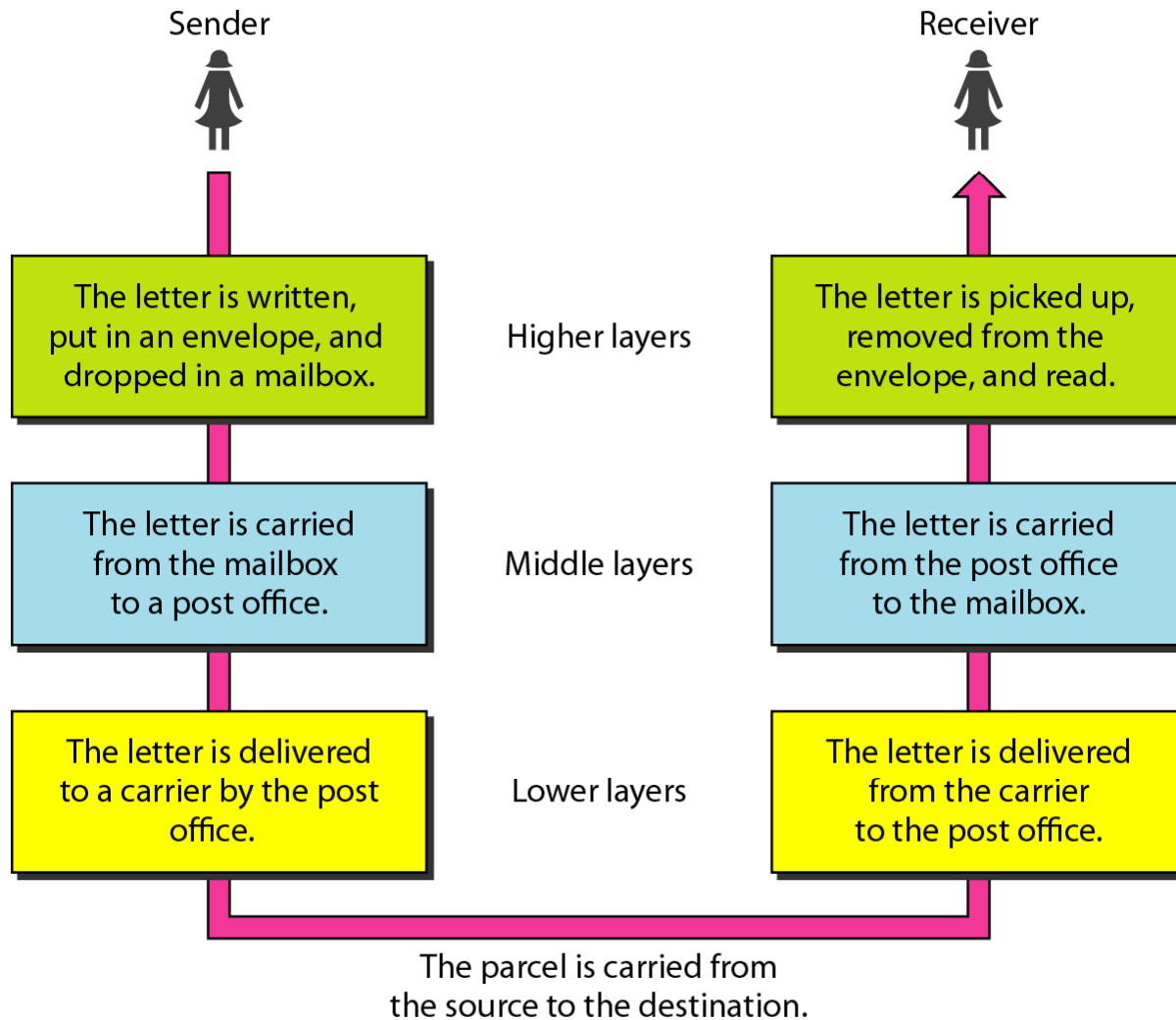
*Topics discussed in this section:*

**Sender, Receiver, and Carrier  
Hierarchy**

## *Sender, Receiver, and Carrier*

- *We have a sender, a receiver, and a carrier that transports the letter.*
- *There is a hierarchy of tasks.*

# Tasks involved in sending a letter



# *At the Sender Site*

*Let us first describe, in order, the activities that take place at the sender site.*

- *Higher layer*

*The sender writes the letter, inserts the letter in an envelope, writes the sender and receiver addresses, and drops the letter in a mailbox.*

- *Middle layer*

*The letter is picked up by a letter carrier and delivered to the post office.*

- *Lower layer*

*The letter is sorted at the post office; a carrier transports the letter.*

# *The Way (Carrier)*

- *The letter is then on its way to the recipient.*
- *On the way to the recipient's local post office, the letter may actually go through a central office.*
- *In addition, it may be transported by truck, train, airplane, boat, or a combination of these.*

# *At the Receiver Site*

- *Lower layer*

*The carrier transports the letter to the post office.*

- *Middle layer*

*The letter is sorted and delivered to the recipient's mailbox.*

- *Higher layer*

*The receiver picks up the letter, opens the envelope, and reads it*

# Hierarchy

- *There are three different activities at the **sender site** and another three activities at the **receiver site**.*
- *The task of transporting the letter between the sender and the receiver is done by the carrier.*
- *At the **sender site**, the letter must be written and dropped in the mailbox before being picked up by the letter carrier and delivered to the post office.*
- *At the **receiver site**, the letter must be dropped in the recipient mailbox before being picked up and read by the recipient.*