

LESSON 3

From **Cathedral: The Story of Its Construction** (informational)
by David Macaulay

On April 14, 1253, the bishop of Chutreaux blessed the first foundation stone as it was lowered onto the bed of small stones covering the clay at the bottom of the **excavation**.

The mortar men were ready with **exact** mixtures of sand, lime, and water. Laborers carried the mortar down the ladders to the masons who would lay the stones on top of each other, troweling a layer of mortar between each stone and each layer of stones. When it was dry the mortar would permanently **bind** the stones together.

The master mason checked **continually** with his **level** to make sure the stones were perfectly horizontal and with his **plumb** line to make sure that the wall was perfectly vertical. Any mistake in the foundation could endanger the wall that was to be built on top of it.

When the foundation was complete, work began on the walls. The walls of a Gothic cathedral like Chutreaux's consist of the **piers** or columns that support the vault and roof, and space between the piers that is filled for the most part with the tracery—the stone **framework** of the windows—and the small areas of solid-wall construction. The piers of the choir at Chutreaux were to be one hundred and sixty feet high and six to eight feet thick. They were constructed of hundreds of pieces of cut stone. The tracery, all of which was cut from **templates**, was cemented into place along with iron **reinforcing** bars as the piers were being built.

Note: The cathedral of Chutreaux is imaginary, but the building techniques described above are accurate.

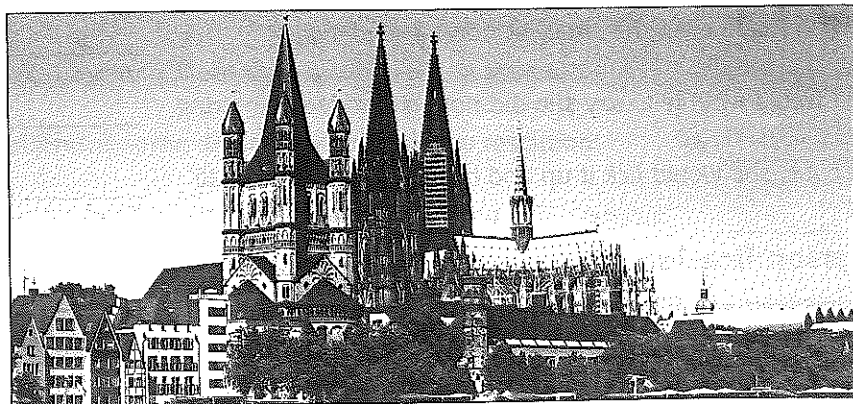
Exercise I: Context Clues

Read the passage above, paying special attention to the words in dark type. These are the Master Words you will study in this lesson. As you read, look for context clues in the sentences and paragraphs around each Master Word. Circle any words and phrases that give clues to the meaning of the Master Words.

Master Words

Place a check by words you feel you know; underline words you don't know.

bind	exact	framework	pier	reinforce
continual	excavation	level	plumb	template



Cologne Cathedral, Cologne, Germany

Exercise 2: Using Context Clues

Fill in the form for each of the Master Words listed below with context clues (if any), your definition, and the dictionary definition. If you have difficulty writing a definition, try using the word in a sentence instead.

1. **bind** Part of Speech: *v.* Context Clues: _____

Your Definition: _____

Dictionary Definition: _____

2. **continual** Part of Speech: *adj.* Context Clues: _____

Your Definition: _____

Dictionary Definition: _____

3. **exact** Part of Speech: *adj.* Context Clues: _____

Your Definition: _____

Dictionary Definition: _____

4. **excavation** Part of Speech: *n.* Context Clues: _____

Your Definition: _____

Dictionary Definition: _____

5. **framework** Part of Speech: *n.* Context Clues: _____

Your Definition: _____

Dictionary Definition: _____

6. **level** Part of Speech: *n.* Context Clues: _____

Your Definition: _____

Dictionary Definition: _____

7. **pier** Part of Speech: *n.* Context Clues: _____

Your Definition: _____

Dictionary Definition: _____

8. **plumb** Part of Speech: *adj.* Context Clues: _____

Your Definition: _____

Dictionary Definition: _____

9. **reinforce** Part of Speech: *v.* Context Clues: _____

Your Definition: _____

Dictionary Definition: _____

10. **template** Part of Speech: *n.* Context Clues: _____

Your Definition: _____

Dictionary Definition: _____

• • • Exercise 3: Using Words in Context

Correct or Incorrect: Write **C** on the line if the word is used correctly; write **I** if the word is used incorrectly.

- _____ 1. The measurements had to be **exact** because there was no room for error.
- _____ 2. My teacher said I should **reinforce** my argument with more examples.
- _____ 3. The Leaning Tower of Pisa is an example of a building that is not **plumb**.
- _____ 4. Without his **level**, the carpenter had nothing to stand on while working on the ceiling.
- _____ 5. When they were done mining, the quarry owners backfilled the **excavation** so it was level land.
- _____ 6. If his father hadn't offered **continual** reminders, Sam might have forgotten his backpack.
- _____ 7. All around the house you could see evidence of the artist's fine **framework**.
- _____ 8. The first stencil pattern became a **template** for the rest.
- _____ 9. A tool that squeezes together the ends of a metal ring is called a **pier**.
- _____ 10. To **bind** the stain, the cleaner used a strong solution.

• • • Exercise 4: Sentence Completion

From the Master Words, choose the appropriate word for the blank in each of the following sentences. Write the word in the space provided at the right.

1. Carly asked her art teacher what material would be best to ...?... the broken pieces of the ceramic bowl.
2. Our baseball uniforms have an extra layer of cloth to ...?... the knees.
3. The word processing program included a ...?... for party invitations.
4. In a common type of ...?... , a bubble inside a tube of liquid moves outside the center position if a surface is not completely horizontal.
5. Environmental groups protested the ...?... because the mining would disrupt protected wildlife.
6. The sensitive scale gave the ...?... weight of the metal.
7. The Plains Indians built teepees on a ...?... of three or four main poles slanted together and secured at the top.
8. A ...?... line is a string with a weight on the end of it used to check for vertical alignment.
9. The strength of a bridge depends largely on the strength and design of the ...?...(s, es) that provide vertical support.
10. The ...?... dripping of water mixed with chemicals forms stalagmites, deposits rising from the floor of a cave.

• Exercise 5: Using Words with Multiple Meanings

Each of the Master Words (in bold type) is used differently and has a different meaning from the same word in the passage. For each word, note the part of speech and write your definition of the word as it is used in the sentence. Then write the dictionary definition.

1. Shonell was in a **bind**; she had left her cell phone at home and she had no way to reach her parents.

Your Definition: _____

Dictionary Definition: _____

2. The king **exact**ed high payments, or tribute, for the protection he offered the people against enemies.

Your Definition: _____

Dictionary Definition: _____

3. The demolition crew **level**ed the broken-down building.

Your Definition: _____

Dictionary Definition: _____

4. Harriet decided to **level** with her parents and admit she forgot to lock the door.

Your Definition: _____

Dictionary Definition: _____

5. The campers sat on the **pier** watching the sparkle of the moonlight on the water.

Your Definition: _____

Dictionary Definition: _____

• Exercise 6: Analogies

Determine the relationship between the first pair of words below. Then write the Master Word on the blank that would create a similar relationship with the second pair of words. The types of analogies used are synonyms, antonyms, tool/occupation, and "is used to." (See page 158 for a guide to analogy types.)

1. wrench : mechanic :: _____ : carpenter

2. freeze : thaw :: _____ : weaken

3. frequent : seldom :: _____ : occasional

4. thread : sew :: glue : _____

5. lazy : slothful :: precise : _____

Write About It: Construction Procedure

Write a paragraph explaining in detail how the foundation of the cathedral was laid. Use transitions to indicate how one step led to another. Use at least four words related to the Master Words.