



## COOL TECH

# Megatall Skyscrapers and Other City Tech

Most of us live in or near a big city. Cramping ourselves into these urban centers has many economic and cultural advantages, but it also creates traffic, engineering headaches, and environmental problems. Read *Megatall Skyscrapers and Other City Tech* to discover how engineers, inventors, and urban planners are meeting these problems head-on!

### What did you learn?

#### QUESTIONS

1. The Lever House, which has floor-to-ceiling windows, was completed in ...
  - a. 1952
  - b. 1925
  - c. 1592
  - d. 1529
2. The "ancestor" of the skyscraper was the ...
  - a. Home Insurance Building
  - b. Burj Khalifa
  - c. Shanghai Tower
  - d. Makkah Royal Clock Tower
3. The Council on Tall Buildings and Urban Habitat defines a megatall skyscraper as any building taller than ...
  - a. 1698.5 feet
  - b. 1896.5 feet
  - c. 1968.5 feet
  - d. 1689.5 feet
4. The Array of Things, the collection of more than 100 sensor nodes around Chicago, detects such things as ...
  - a. Temperature
  - b. Air quality
  - c. Vibrations
  - d. All of the above
5. In which city is the Burj Khalifa?
6. In which city is the Makkah Royal Clock Tower?

#### TRUE OR FALSE?

- \_\_\_\_\_ 1. EPCOT stands for Experimental Planned Community of Tomorrow.
- \_\_\_\_\_ 2. The German company ThyssenKrupp has designs for elevator cabins that travel via magnetic tracks.
- \_\_\_\_\_ 3. Most smart speakers send recordings to their manufacturers.
- \_\_\_\_\_ 4. A connected LED light consumes more energy when it's off rather than when it's on.
- \_\_\_\_\_ 5. Frank Lloyd Wright's style of architecture was called prairie style.
- \_\_\_\_\_ 6. VOC or volatile organic compound is a type of hydroponics in which fish waste nourishes plants.



## ANSWERS

- 1. a. 1952.** According to the section "Megatall Skyscrapers" on page 9, we know that "This process culminated in the floor-to-ceiling windows of Lever House, completed in 1952." So, the correct answer is A.
- 2. a. Home Insurance Building.** According to the section "Megatall Skyscrapers" on page 8, we know that "The Home Insurance Building in Chicago, designed by William Le Baron Jenney, was a well-known 'ancestor' of the skyscraper." So, the correct answer is A.
- 3. c. 1968.5 feet.** According to the section "Megatall Skyscrapers" on page 7, we know that "The Council on Tall Buildings and Urban Habitat defines a megatall skyscraper as any building taller than 1968.5 feet." So, the correct answer is C.
- 4. d. All of the above.** According to the section "Smart Cities" on page 24, we know that "These nodes detect such things as air quality, temperature, and even vibrations." So, the correct answer is D.
- 5.** According to page 12, the Burj Khalifa is located in the city of Dubai, United Arab Emirates.
- 6.** According to page 13, the Makkah Royal Clock Tower is located in the city of Mecca, Saudi Arabia.

## TRUE OR FALSE? ANSWERS

- 1. False.** According to the section "Smart Cities" on page 22, we know that "In Florida, he purchased land for a futuristic planned city that he called the Experimental Prototype Community of Tomorrow, or EPCOT." So, the correct answer is False.
- 2. True.** According to the section "Megatall Skyscrapers" on page 17, we know that "In the MULTI elevator design, by the German company ThyssenKrupp, elevator cabins travel up a magnetic track." So, the correct answer is True.
- 3. True.** According to the section "Smart Homes" on page 44, we know that "Most smart speakers send recordings to their manufacturers." So, the correct answer is True.
- 4. True.** According to the section "Smart Homes" on page 45, we know that "In one electrifying study, a connected LED light bulb was found to consume more energy when it was turned off than when it was turned on!" So, the correct answer is True.
- 5. True.** According to the section "Megatall Skyscrapers" on page 10, we know that "By the 1950's, Frank Lloyd Wright was a living legend. His ground-hugging *prairie style* had transformed American architecture in the first half of the century." So, the correct answer is True.
- 6. False.** According to the section "Glossary" on page 46, we know that a "volatile organic compound (VOC) is an unstable substance that breaks down over time and gives off small amounts of toxic gases." So, the correct answer is False.