



### Activity — Worksheet C2

Distribute copies of Worksheet C2. Discuss worksheet requirements and answer any questions before completing it in class.

Award a point for each correct answer to Questions 1 and 2 (the information is supplied below). Question 3 is open-ended.

- A. Timber frame
- B. Brick or concrete load bearing walls
- C. Reinforced concrete frame
- D. Precast concrete portal frame
- E. Steel girder frame
- F. Cast iron frame

### Homework

1. Distribute copies of Worksheet C3. Read through the worksheet with the class and explain anything they don't understand.
2. Update **Scrapbook** and **Vocabulary File**.

### Cross-Curricular Connections

1. Construction Studies/Physics — Explore a variety of structural systems used in buildings. Prepare a set of diagrams showing how the laws of physics operate in each system.
2. Architecture — Visit a building site to observe the work in the early stages of construction. Do this only with adult supervision!
3. Woodwork — Learn more about joinery and carpentry structural techniques.
4. Biology — Study the anatomy of a human skeleton and an animal skeleton to look at their “support systems”.
5. Classical Studies/Architecture — Find out more about the construction techniques used by the ancient Greeks and Romans.
6. Engineering/Construction Studies — Investigate the possibilities of tensile structures. Build a model of a famous bridge, tower or building with a tensile structure.
7. Engineering/Construction Studies — How many ways can you construct a dome? Consider every building material you can think of. Make a series of small models to represent the different techniques.
8. Engineering/Construction Studies — Different structural systems suit different kinds of spaces. Choose a particular structural system — cantilever, beam and column, arch, vault, shell. What kinds of buildings are possible with this structure? Collect examples.
9. Engineering/Construction Studies — How would you go about roofing a football stadium, the school gym, the changing rooms at the local football pitch? What kind of structural systems would be most suitable for each?
10. Classical Studies/Construction Studies — The Romans were great structural engineers. Study the construction techniques they developed.

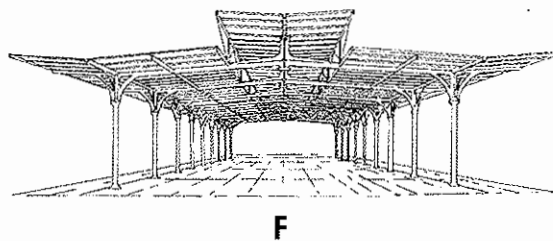
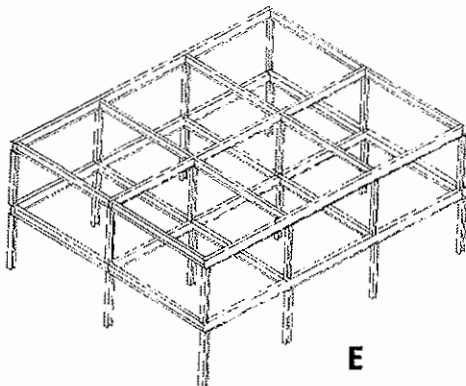
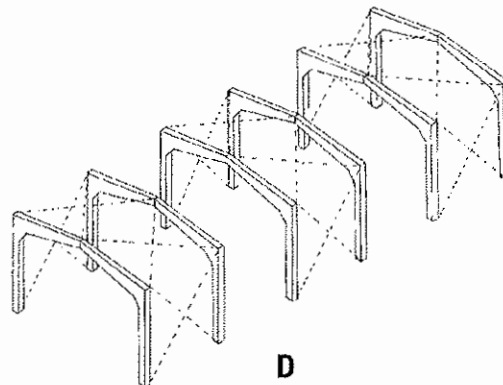
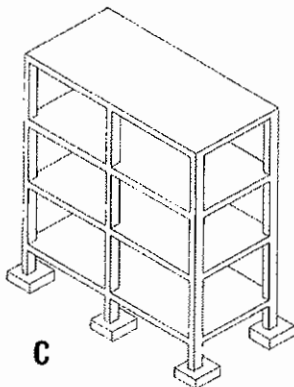
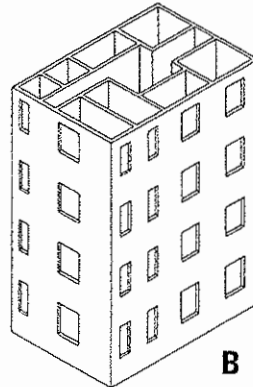
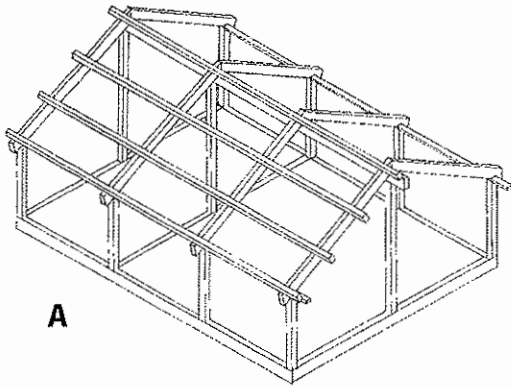


## Worksheet C2

Do this with Lesson 3.

Put all completed work in your folder.

Look at these drawings of structures.



1. Identify the materials which each structure could be made of.

- A. ....
- B. ....
- C. ....



## BUILDINGS THROUGH HISTORY

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- D. ....
- E. ....
- F. ....

2. Which structures are load-bearing and which are frames? Put the letter representing each structure on the correct line.

Load-bearing: .....

Frame: .....

3. What kinds of buildings (office block, department store, factory, church, apartment building, aircraft hanger, barn, railway station) would you expect each of these structures to be used for?

- A. ....
- B. ....
- C. ....
- D. ....
- E. ....
- F. ....