

Tech labs

TECH 4

General arrangement drawings

PROGRAMS: EST, AST
LAB TYPE: Observation
CONCEPT: Multiview orthogonal projection (general arrangement drawing)
STUDENT BOOK: Chapter 12, page 403
TOOLBOX: Page 71

GOAL

Build an object with wooden blocks, according to a multiview projection of the object.

OBSERVATION CRITERIA

1. What is a projection?

2. One type of projection requires the presentation of at least three views to show the object in its entirety.

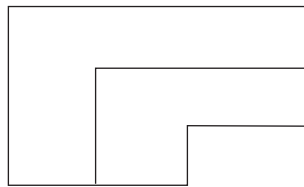
a) What is this type of projection?

b) What are the three views it usually shows?

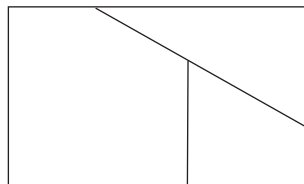
3. What is a general arrangement drawing?

4. What types of projections are the most suitable for general arrangement drawings?

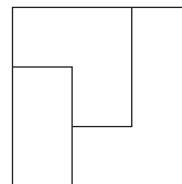
5. a) Look at the drawing below. Write the three views usually shown in this type of projection under the corresponding parts of the drawing.



A _____



B _____

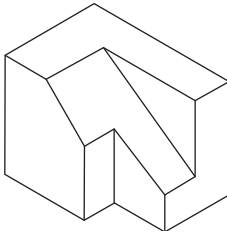


C _____

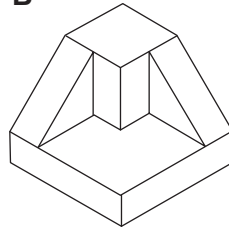


b) Study the drawings below and circle the one that represents the object shown in question a).

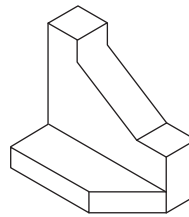
A



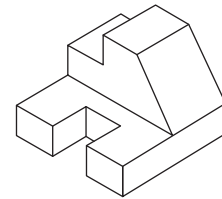
B



C



D



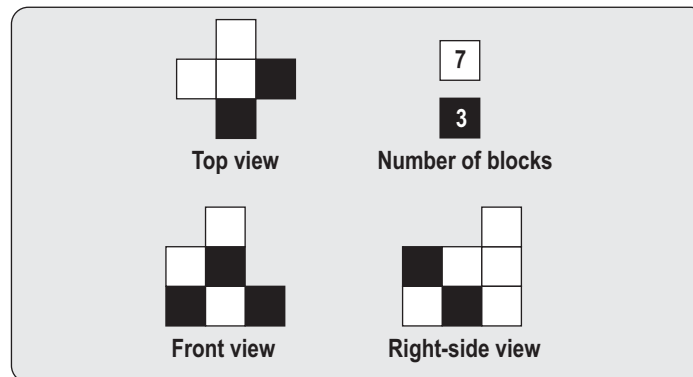
MATERIALS

- 8 white wooden blocks
- 4 black wooden blocks
- 2 pieces of black wooden quarter round
- checkerboard

PROCEDURE

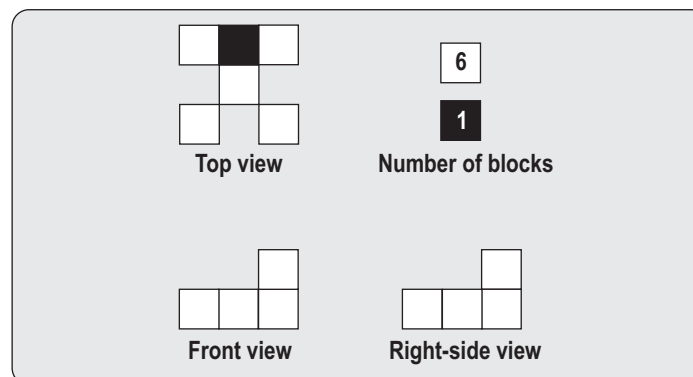
Look at the drawing below.

Object 1

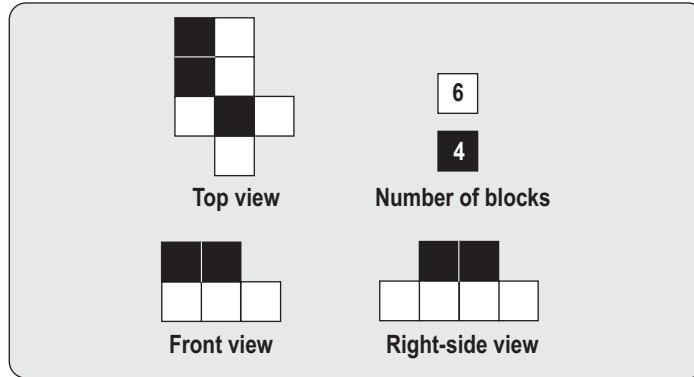


1. Build Object 1 on the checkerboard, using the number of blocks indicated in the drawing.
2. Have your completed object checked.
3. Determine the level of difficulty in building this object. Record the result.
4. Repeat steps 1 to 3 for Objects 2 to 5, consecutively.

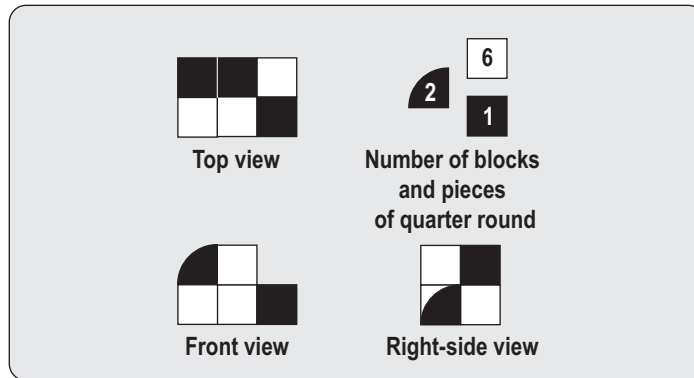
Object 2



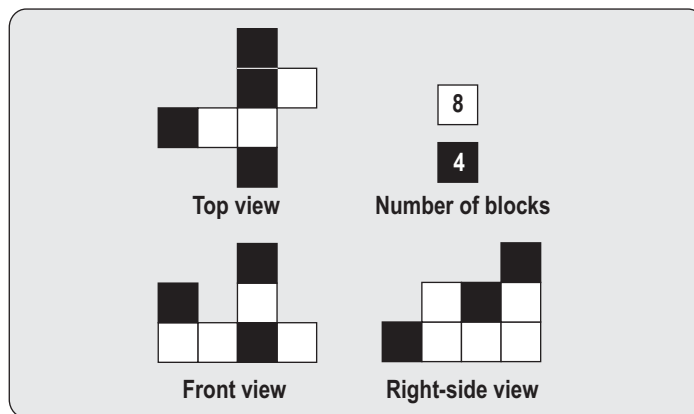
Object 3



Object 4



Object 5



5. Put away the materials.

Name: _____ Group: _____ Date: _____

OBSERVATIONS

Record your observations in the table below. Give your table a title.

Title: _____

Object	Very easy	Easy	Difficult	Very difficult
1				
2				
3				
4				
5				

REFLECTING ON YOUR OBSERVATIONS

1. What aspect of building these objects did you find most difficult?

2. Was it easy for you to build a three-dimensional object from a two-dimensional drawing?
Explain your answer.

3. Were some objects more difficult to build than others? If so, which objects were more difficult to build? Explain your answer.

4. What other type of projection would have made building these objects easier?
