

## INCOMPLETE PLANS

### Performance Standard 9B.F

Construct a building using snap cubes and an incomplete building plan (only two views) and draw the missing view:

- *Mathematical knowledge*: know how to identify and compare relationships in two-dimensional representations of three-dimensional objects,
- *Strategic knowledge*: use appropriate strategies to construct the building using an incomplete plan, and
- *Explanation*: explain completely and clearly what was done and why it was done.

### Procedures

1. ***In order to identify, describe, classify and compare relationships using points, lines, planes, and solids (9B)***, students should experience sufficient learning opportunities to develop the following:
  - Create a three-dimensional object from any two-dimensional representation of the object including multiple views, nets, or technological representations.
2. Provide each student snap cubes, a copy of the “Incomplete Plans” task sheet and the rubric. Have students review and discuss the task to be completed and how the rubric will be used to evaluate it.
3. Ask students to construct a building with the cubes that matches the two views they have and then record the third view in the plan sheet.
4. Have students write a justification for why they chose to build the building they way they did.
5. Evaluate each student’s work using the rubric and its guide to determine the performance level. First, look at how the building was completed. Does it match the given two views? As the students discover, sometimes cubes are hidden behind others and don’t show up on a side or base view, but they do show on a front view. Sometimes cubes are hidden from all views. Next, look at their justification for cube placement. They should mention hidden cubes if applicable. They should tell why they placed the cubes where they did in relation to the views they had.

### Examples of Student Work not available

### Time Requirements

- One class period
- NOTE: If you use a camera to record observations, more time may be needed.

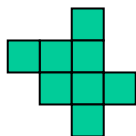
### Resources

- 40 snap cubes for each student
- Copies of the “Incomplete Plan” task sheet
- Digital camera or video camera (optional)
- Mathematics Rubric

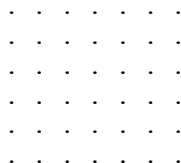
NAME \_\_\_\_\_ DATE \_\_\_\_\_

### INCOMPLETE PLANS

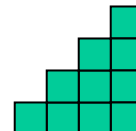
1. Create a building that has this BASE and RIGHT. Draw its FRONT. Record your building on a mat plan. Write what you did and why.



BASE



FRONT

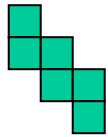


RIGHT

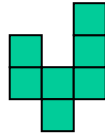
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### INCOMPLETE PLANS

2. Create a building that has this BASE and FRONT. Draw its RIGHT. Record your building on a mat plan. Write what you did and why.



BASE



FRONT



RIGHT

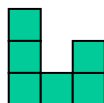
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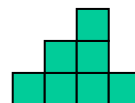
3. Create a building that has this FRONT and RIGHT. Draw its BASE. Record your building on a mat plan. Write what you did and why.



BASE



FRONT



RIGHT

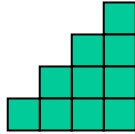
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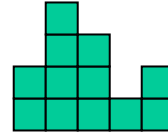
4. Create a building that has this FRONT and RIGHT. Draw its BASE. Record your building on a mat plan. Write what you did and why.



BASE



FRONT



RIGHT