

Blocked Plans

Annotation

Dalmar is able to interpret multiple perspectives, understanding relationships between shapes and space in two- and three-dimensions. He carefully checks for particular features of each perspective view on the identified plan.

Problem: Blocked Plans

The teacher shows the student this problem and reads it with him as required:

Activity One

Tracey, an architect, was carrying a set of drawings for her latest building designs when the wind blew them away. When she gathered up the plans, they were all mixed up.

1. Help Tracey match the plan views with the perspective views of each building.

The image shows six cards on a blue background. Three cards show plan views (red cubes on a grid): Plan A (top-left), Plan B (top-right), and Plan C (bottom-right). Three cards show perspective views (green cubes in 3D): Perspective 1 (top-middle), Perspective 2 (bottom-left), and Perspective 3 (bottom-middle). A cartoon girl with orange hair and blue glasses is looking at the cards from the bottom right.

Student response

Dalmar correctly matches Perspective 1 with Plan C, Perspective 2 with Plan A, and Perspective 3 with Plan B.

Teacher: Tell me how you did that.

I started with the easiest plan which is Plan B. I know that from every perspective I have to see 3 x 3. So it has to be Perspective 3.

Dalmar: Then I chose Perspective 1 because it seems to have one block sticking out by itself from the back face. So I thought it would be Plan C. I checked from each perspective and it matches as long as there is not another block hidden at the back.

That left Plan A to match Perspective 2. I checked that one too and that single cube at the back confirmed it for me. I am picturing that bit being 3 cubes high, though you can't see them.