KEITH'S KUBES

Picture Puzzles

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This Picture Puzzle is based on
      ... Task 192, Keith's Kubes
Teaching Notes
      ... mathematicscentre.com/picturepuzzles/teachingnotes.htm
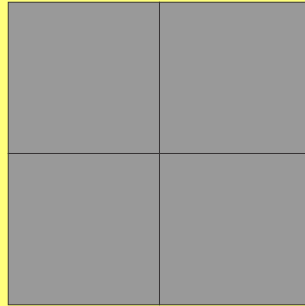
Picture Puzzles

Picture Puzzles

To Do

1. Make objects from six cubes and learn about views.
2. Record objects in different views.
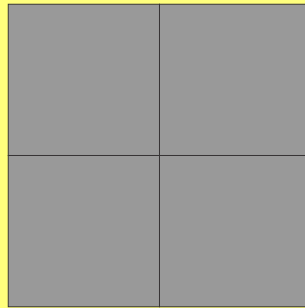3. Solve a puzzle using some of the objects.

You Need

- Six linking cubes for each person - four of one colour and two of another
- Square graph paper (1cm)
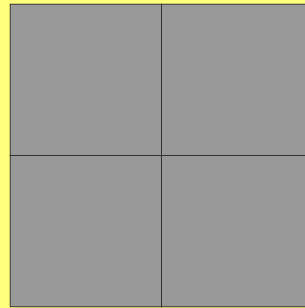- Isometric dot paper (1cm)
- Scissors

Both of you make this.

The drawing is a plan view of what you made.
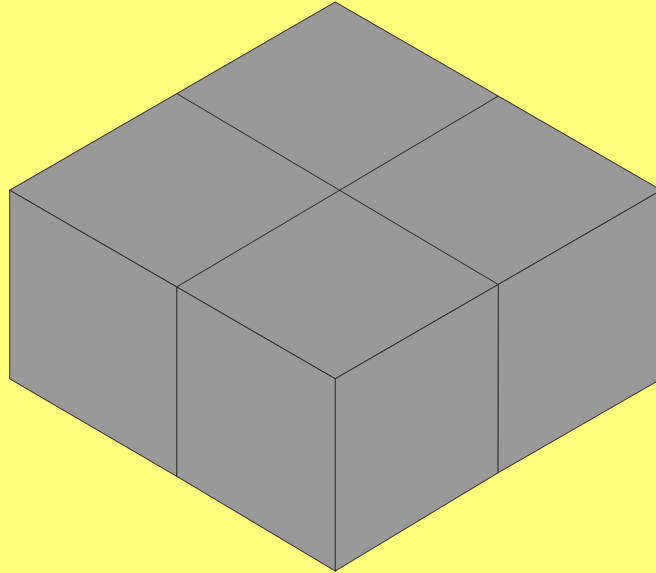
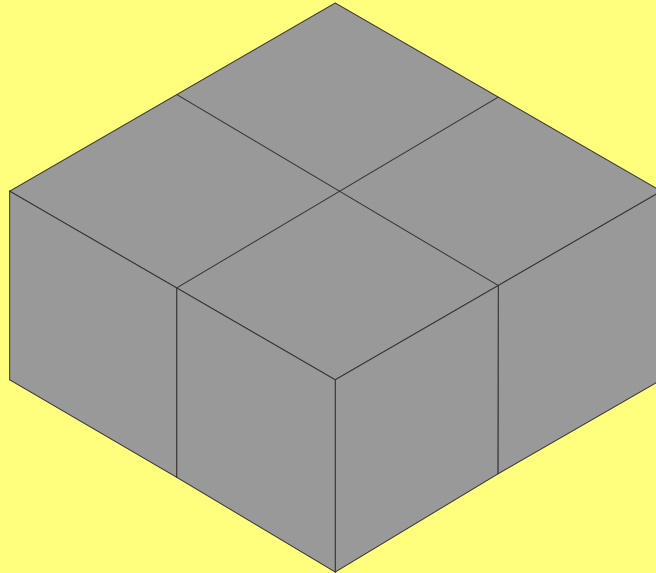The drawing is a plan view of what you made.

It is also called a birds eye view or looking down view.

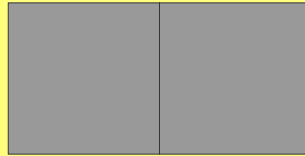Your object could also be drawn like this.

Your object could also be drawn like this.

Which is called an isometric view.
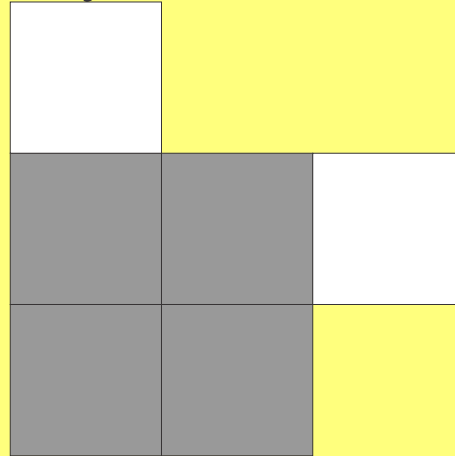
Or it could be drawn like this.
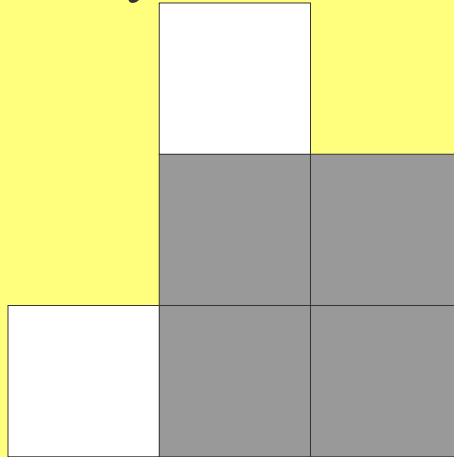
Or it could be drawn like this.

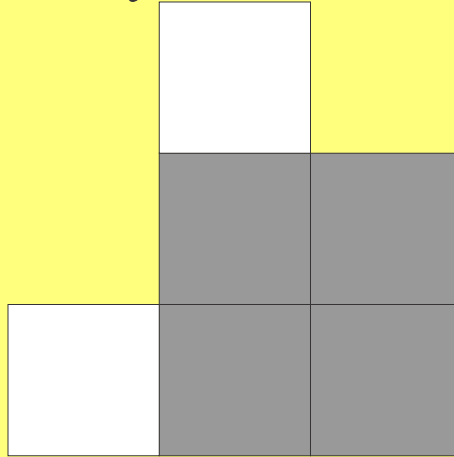Which is an elevation view of one side.

Both of you make this.
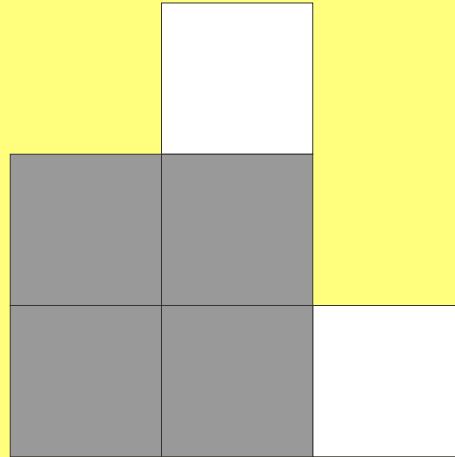
Turn it in your hands to make this.

Turn it in your hands to make this.

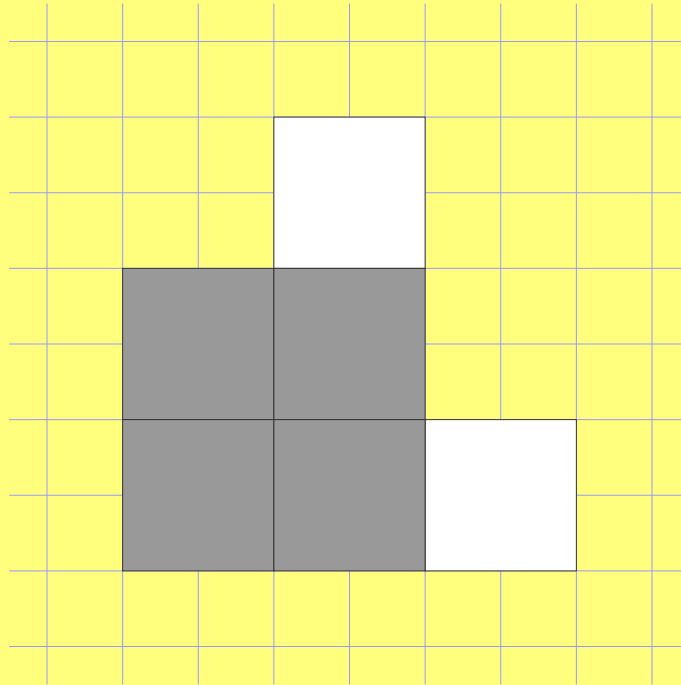
Same object but the plan views look different.
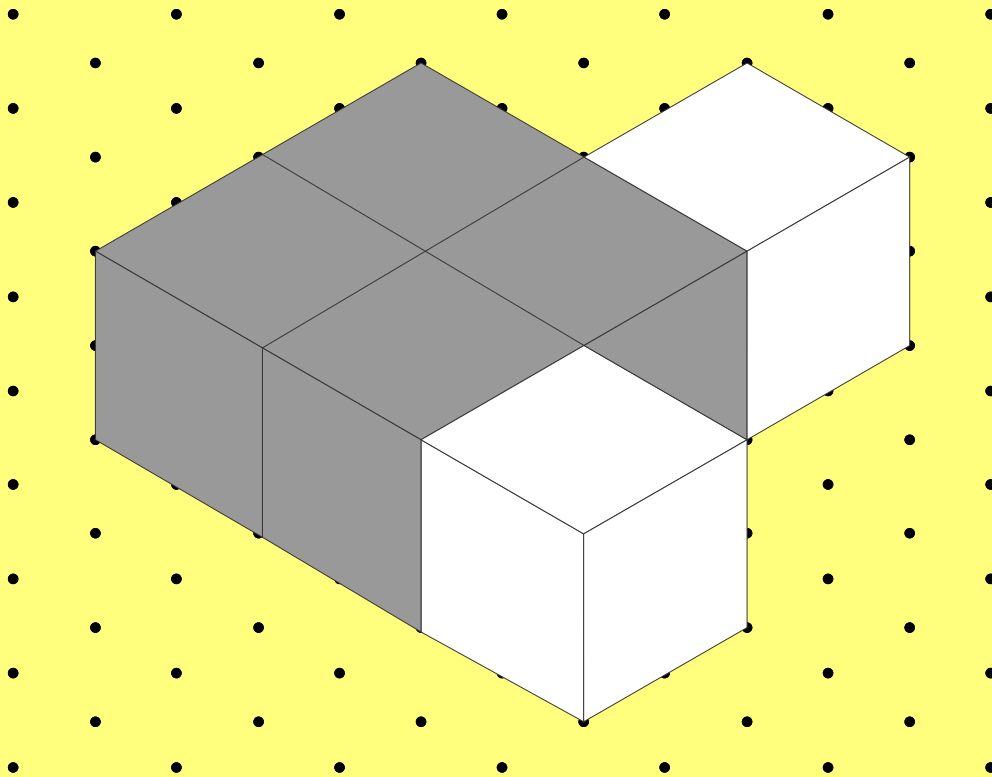
Flip it in your hands to make this.

Same object but the plan views look different.
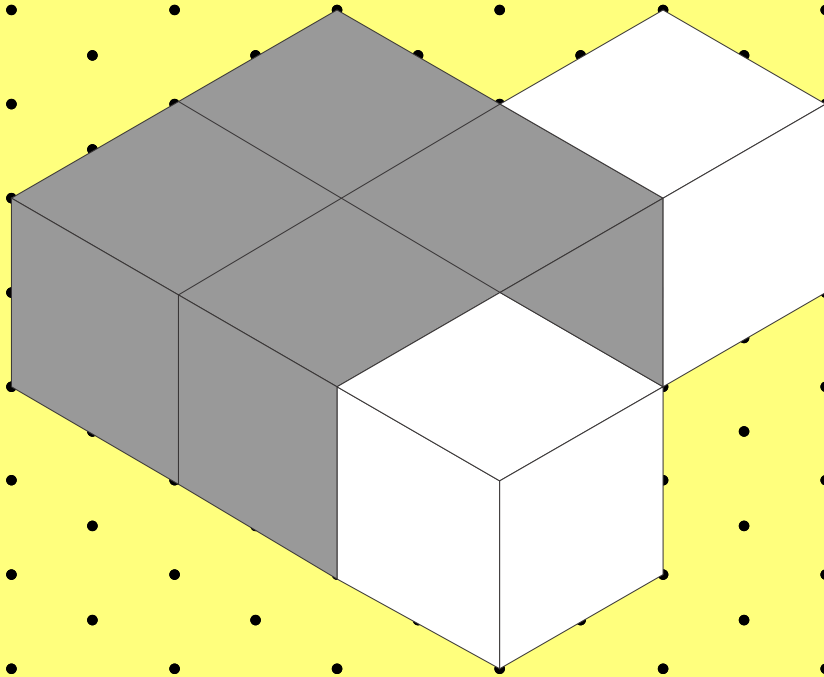
Draw the plan view on graph paper using this scale.

Here is one isometric view of the same object.
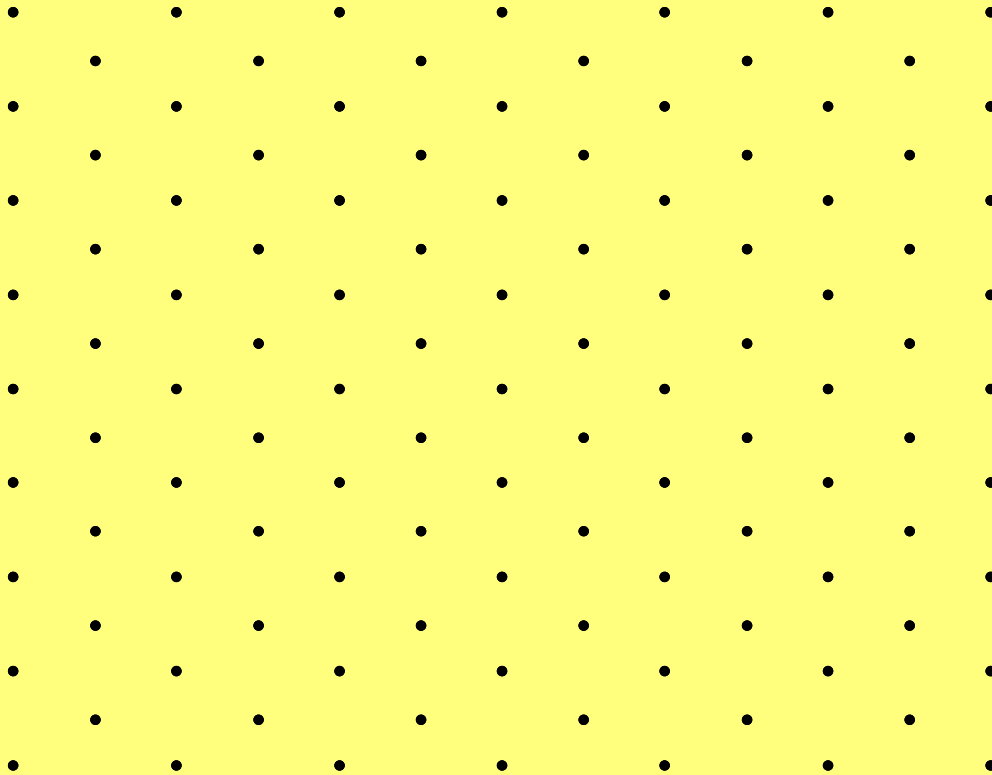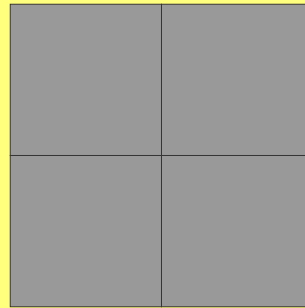
Here is one isometric view of the same object.

Rotate so this
edge is at the
front.

Now draw the isometric view of the rotated object.

Start with this again.

You have found one way to join on the other two
cubes so the plan view shows six cubes.

There are seven more ways to do this.
Find them all and draw each plan view.

more

Cut out your eight plan views.

Cut out your eight plan views.

Use six to make a plan view of a 6x6 square.

One way to do it repeats one piece.

One way to do it has no repeats.

even more

What happens if you are also allowed to
join the two cubes above or below
the 4-cube block?

How many solutions are there?
How do you know when you have found them all?

Record all your solutions so that
someone else can make the objects.

THE END...

...OR IS IT?