4 ARM SHAPES

Picture Puzzles

Creator ... Doug. Williams
Publisher ... Mathematics Centre
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This Picture Puzzle is based on
   ... Task 154, 4 Arm Shapes
Teaching Notes
   ... mathematicscentre.com/picturepuzzles/teachingnotes.htm
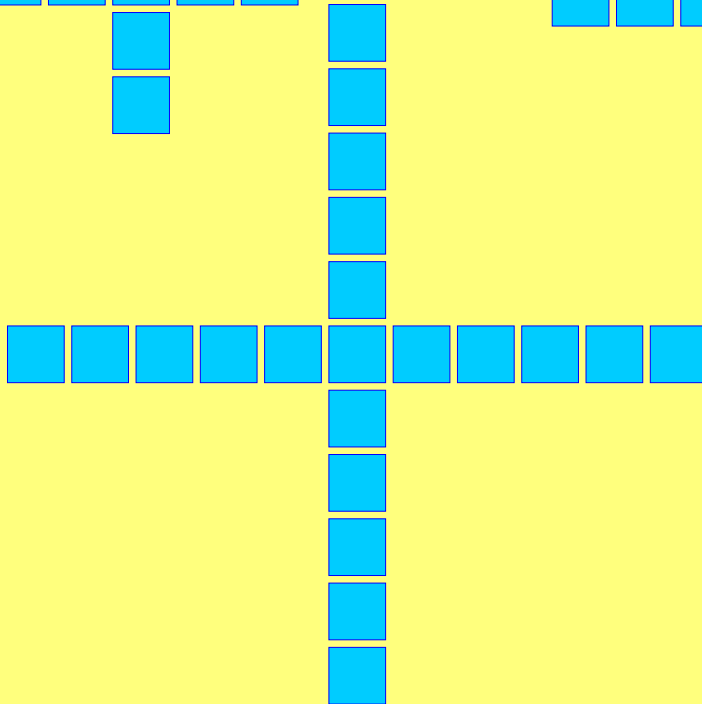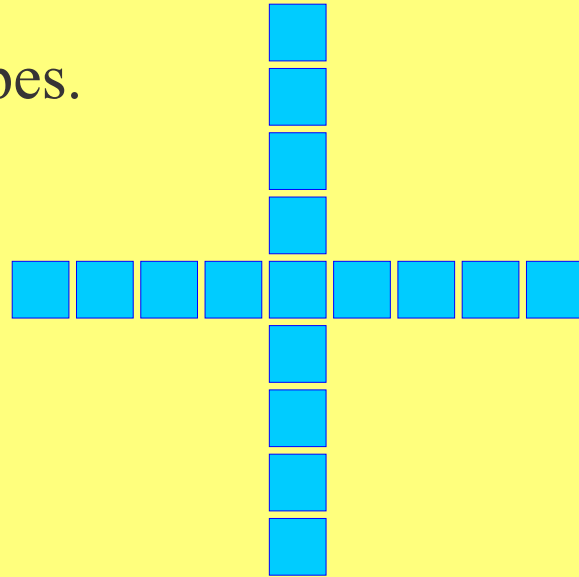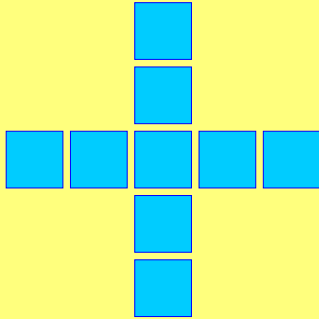
Picture Puzzles

To Do

1. Find your own way to connect arm length & tiles.
2. Explain other ways to connect arm length & tiles.
3. Calculate using your own way and other ways.

You Need

- Square tiles or cube blocks in 1 colour
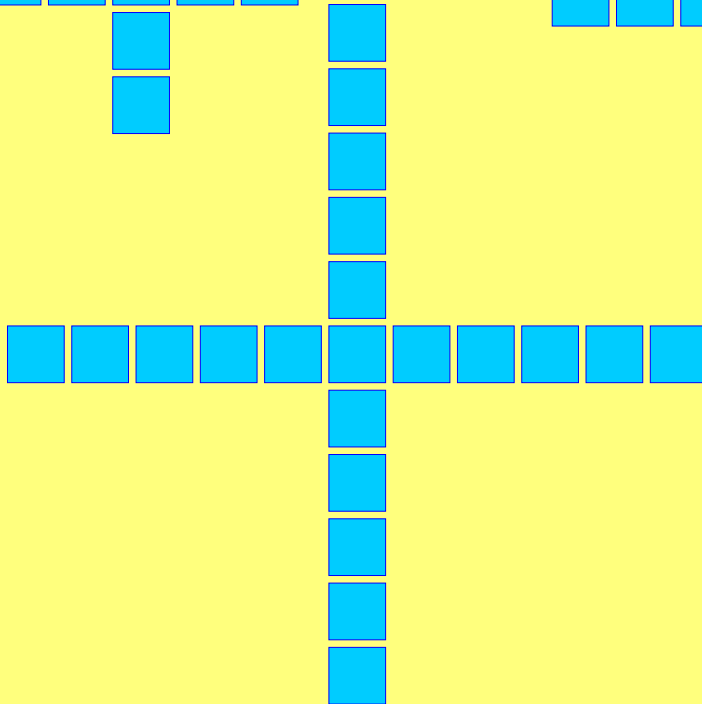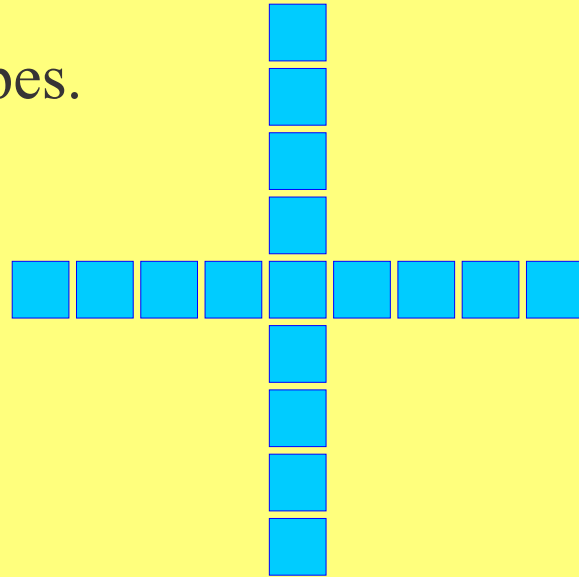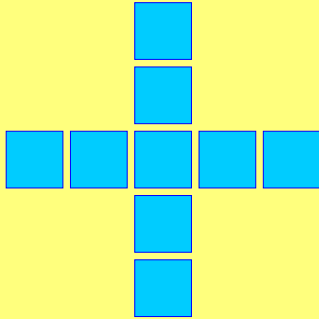- Square graph paper

These are 4 Arm Shapes.

These are 4 Arm Shapes.

Make your own
4 Arm Shapes
like these.

If I tell you any length of arm (A)
can you tell me how to calculate
the total number of tiles (T)?

Explain in your journal and calculate the number of tiles if the arm length is 100.

more

Mattias sees it like this

Mattias sees it like this

Mattias sees it like this
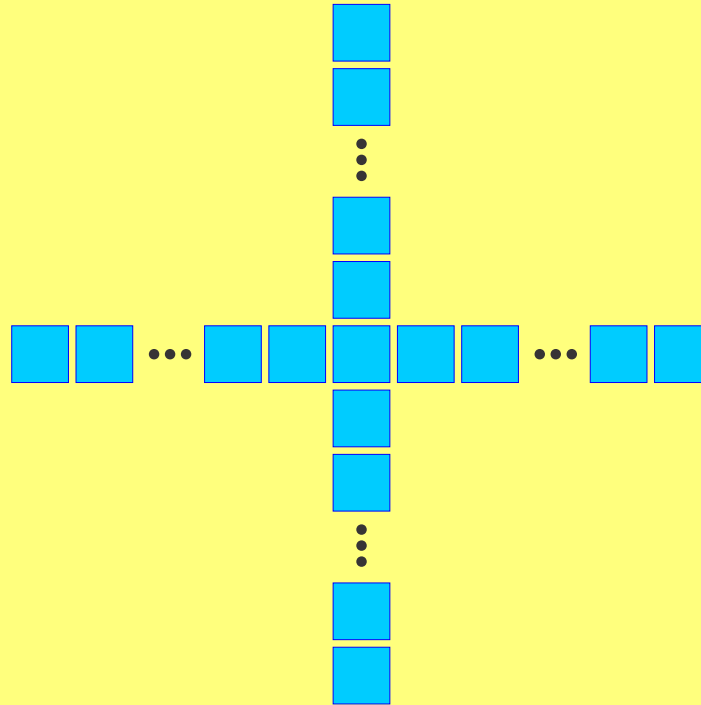
Mattias sees it like this

Mattias sees it like this

Explain Mattias's way and use it to
calculate the number of tiles
if the arm length is 11.

Investigate using Mattias's way to calculate
the length of each arm if he wants to
build a 4 Arm Shape with 73 tiles.

Sue sees it like this
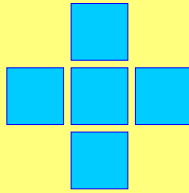
Sue sees it like this
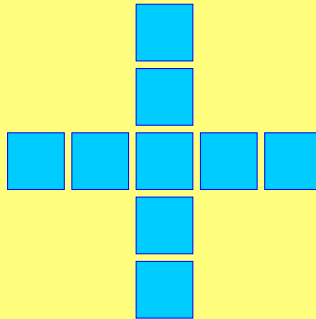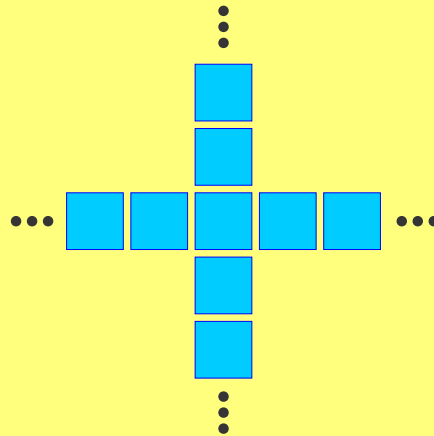
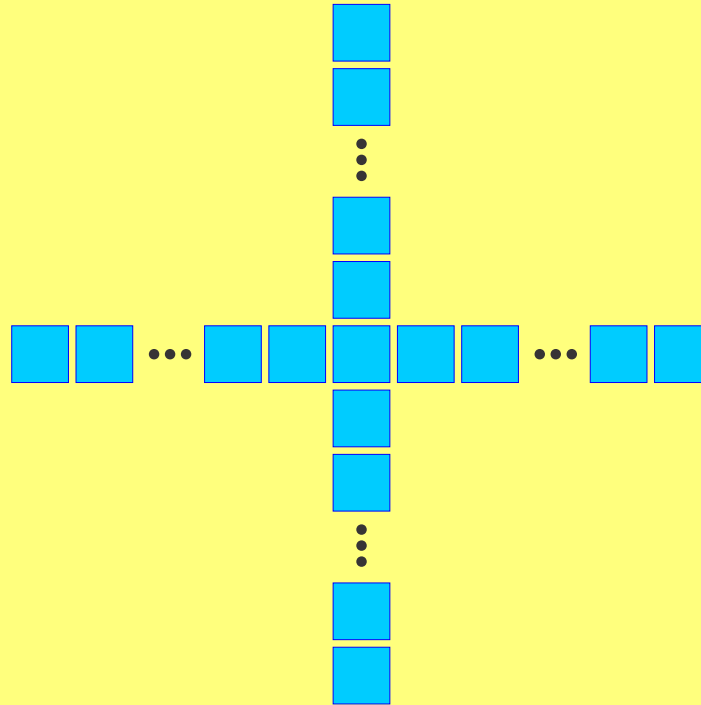Sue sees it like this

Sue sees it like this

Sue sees it like this

Sue sees it like this

Explain Sue's way and use it to
calculate the number of tiles
if the arm length is 16.

Investigate using Sue's way to calculate the length of each arm if she wants to build a 4 Arm Shape with 37 tiles.

Bruno sees it like this

Bruno sees it like this

Explain Bruno's way and use it to
calculate the number of tiles
if the arm length is 20.

Investigate using Bruno's way to calculate
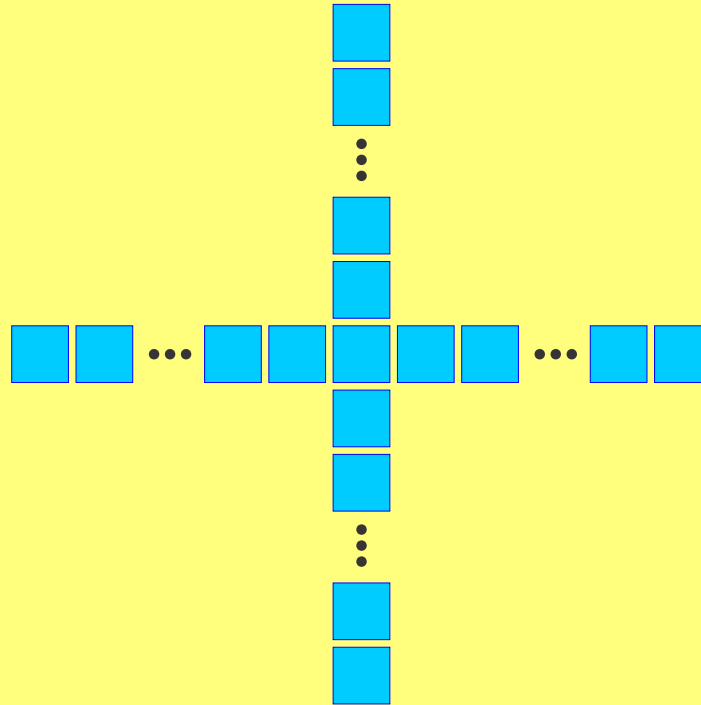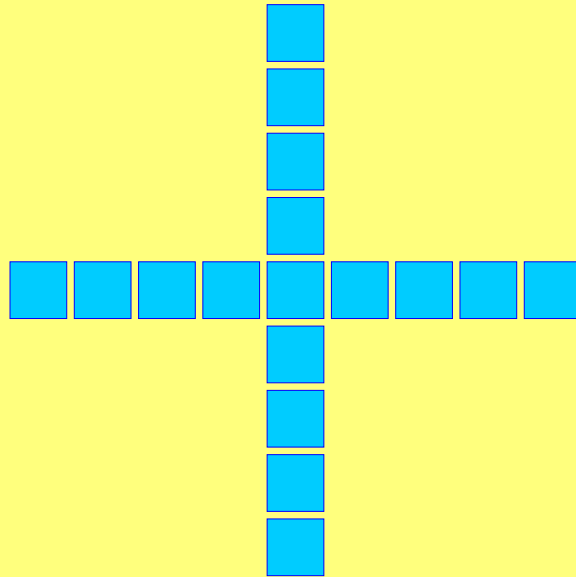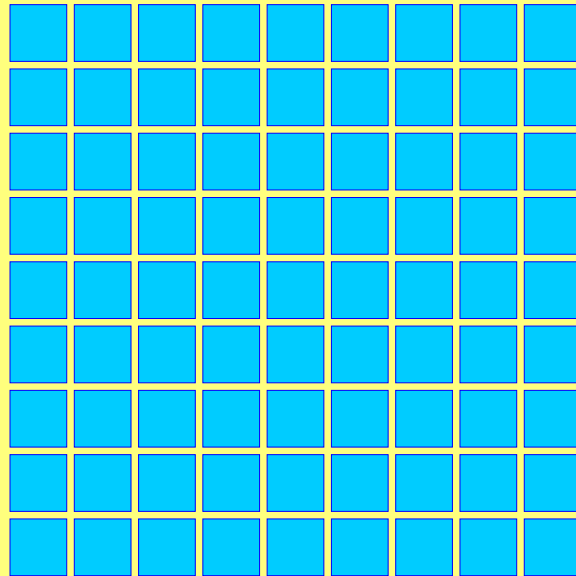the length of each arm if he wants to
build a 4 Arm Shape with 73 tiles.

Another way to see it is...

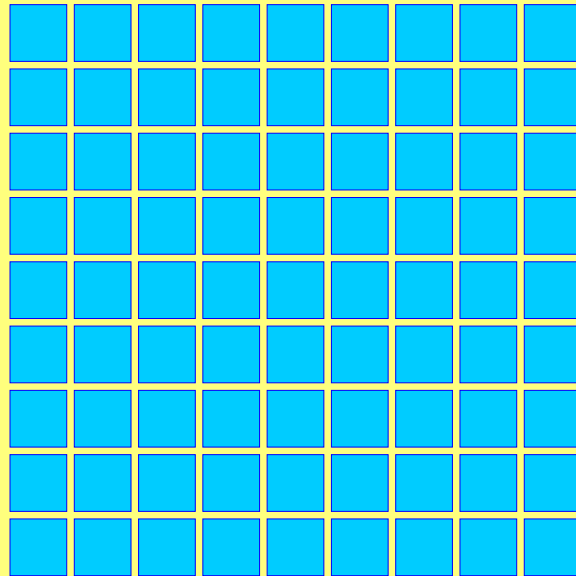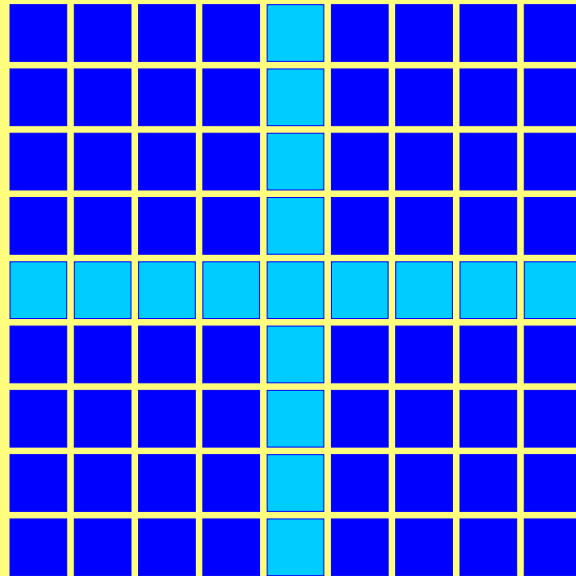...like Christine who imagines this example

...like Christine who imagines this example

Where is the 4 Arm Shape?
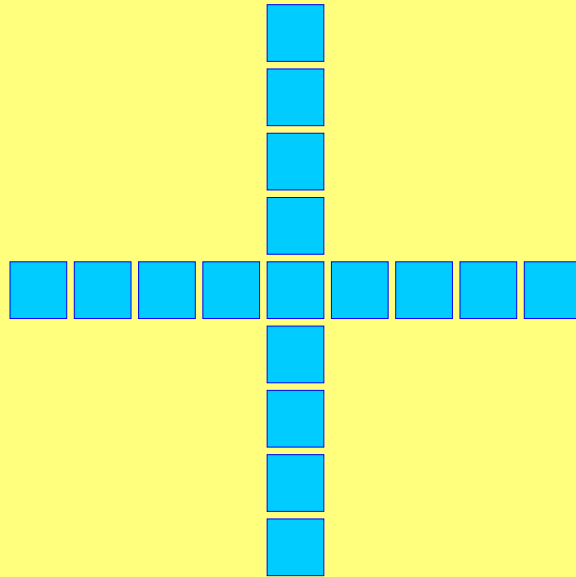
Surprise!

Picture
Puzzles

Here it is.

Explain Christine's way and use it to
calculate the number of tiles
if the arm length is 98.

Investigate using Christine's way to calculate the length of each arm if she wants to build a 4 Arm Shape with 77 tiles.

THE END...

...OR IS IT?