

MATCH TRIANGLES

Picture Puzzles

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This Picture Puzzle is based on
... Task 178, Match Triangles
Teaching Notes
... mathematicscentre.com/picturepuzzles/teachingnotes.htm

Picture Puzzles

To Do

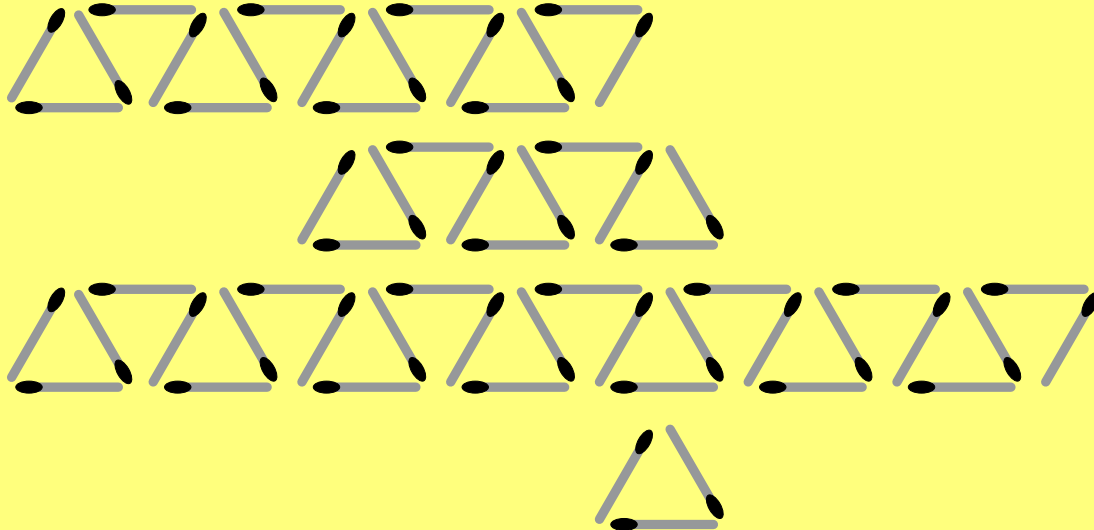
1. Find your own way to connect triangles & matches.
2. Explain other ways to connect triangles & matches.
3. Calculate using your own way and other ways.

You Need

- About 20 sticks the same length ($< 10\text{cm}$)
- Triangle dot paper

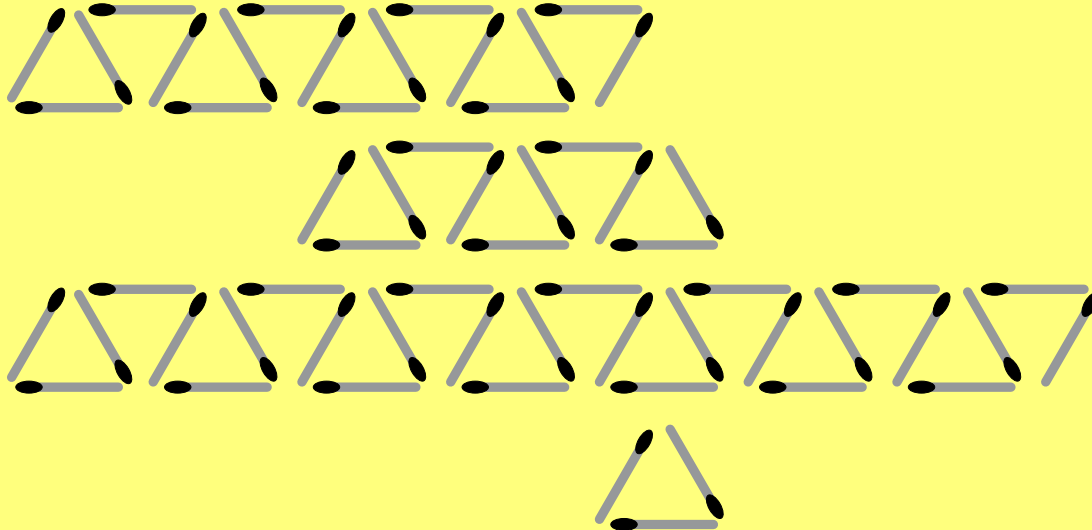
Picture Puzzles

These are examples of triangle chains.



Picture Puzzles

These are examples of triangle chains.



Make your own chains like these. Draw them.
Record the numbers of triangles and matches.

**If I tell you any number of triangles (T)
can you tell me how to calculate
the number of matches (M) to make it?**

**Explain in your journal and calculate
the number of matches for 100 triangles.**

**Picture
Puzzles**

more

**Picture
Puzzles**

Picture Puzzles

Camilla sees it like this



Picture Puzzles

Camilla sees it like this



Picture Puzzles

Camilla sees it like this



Picture Puzzles

Camilla sees it like this



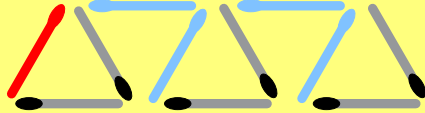
Picture Puzzles

Camilla sees it like this



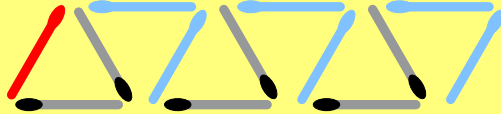
Picture Puzzles

Camilla sees it like this



Picture Puzzles

Camilla sees it like this



Picture Puzzles

Camilla sees it like this



Picture Puzzles

Camilla sees it like this



Picture Puzzles

Camilla sees it like this



**Explain Camilla's way and use it to
calculate the number of matches
for 41 triangles.**

**Investigate using Camilla's way to
calculate the number of triangles she
can make if she only has 37 matches?**

Picture Puzzles

Keith sees it like this



**Explain Keith's way and use it to
calculate the number of matches
for 32 triangles.**

**Investigate using Keith's way to
calculate the number of triangles he
can make if he only has 49 matches.**

Picture Puzzles

Mia sees it like this



Picture Puzzles

Mia sees it like this



Picture Puzzles

Ta daa!



**Explain Mia's way and use it to
calculate the number of
matches for 51 triangles.**

**Investigate using Mia's way to
calculate the number of triangles she
can make if she only has 107 matches.**

even more

Picture Puzzles

Waleed sees it like this



Picture Puzzles

Waleed sees it like this



Picture Puzzles

Waleed sees it like this



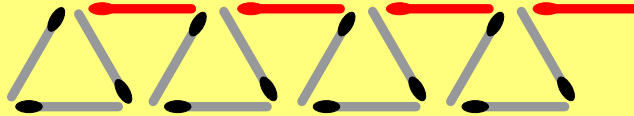
Picture Puzzles

Waleed sees it like this



Picture Puzzles

Waleed sees it like this



Picture Puzzles

Waleed sees it like this



Explain Waleed's way if the total number of triangles is even. Use it to calculate the number of matches for 26 triangles.

Explain Waleed's way if the total number of triangles is odd. Use it to calculate the number of matches for 71 triangles.

Investigate using Waleed's way to calculate the number of triangles he can make if he only has 57 matches.

THE END...

...OR IS IT?