

# PLATONIC SOLIDS

- 1 Among the 7 dice you have in front of you, find the Platonic solids.

You can research your teacher's platform to help you.



Platonic solids definition : \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- 2 Give a name to each of the Platonic solids that you discovered in the previous exercise.

	Solid name
Solid #1	
Solid #2	
Solid #3	
Solid #4	
Solid #5	

**3** Complete the boxes of the following table.

Solid name	Number of vertex	Number of faces	Number of edges

**4** Realizes a possible pattern of each platonic solid.

Solid name	Pattern

Solid name	Pattern

## 5 Associates each Platonic solid with the element of the universe it represents.

Tetrahedron	●	●	Earth
Hexahedron	●	●	Water
Octahedron	●	●	Fire
Icosahedron	●	●	Air
Dodecahedron	●	●	Ether*

\*Matter is made of wave : EAÏTHER - The ancient Greeks were so reluctant to the idea of vacuum which developed the notion of "ETHER" a "subtle medium than air" which filled the entire space, even after the air was exhausted.

# CHALLENGES!

Be the first to finish making the 5 Platonic solids with the Polydrons made available to you.

The winner is .....

# PLATONIC SOLIDS

- 1 Among the 7 dice you have in front of you, find the Platonic solids.

You can research your teacher's platform to help you.



Platonic solids definition :

A Platonic Solid is a 3D shape where :

- each face is the same regular polygon
- the same number of polygons meet at each vertex

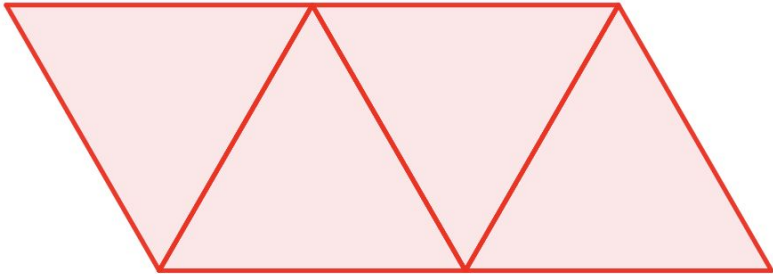
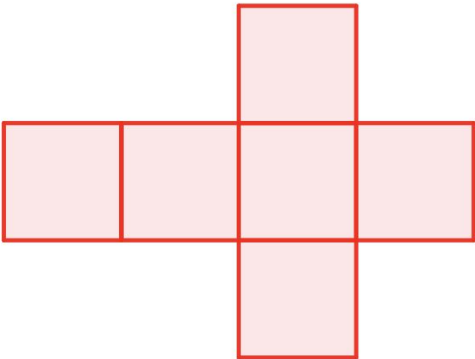
- 2 Give a name to each of the Platonic solids that you discovered in the previous exercise.

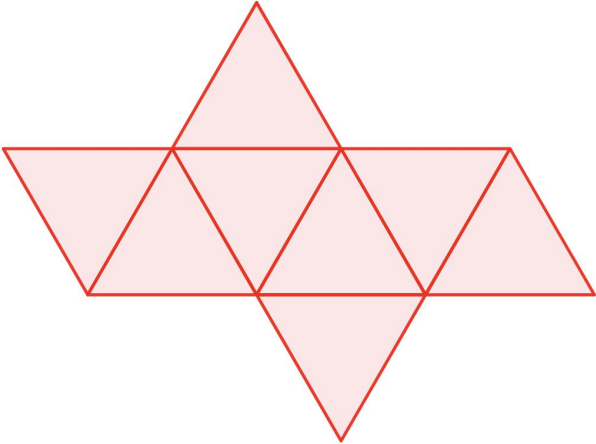
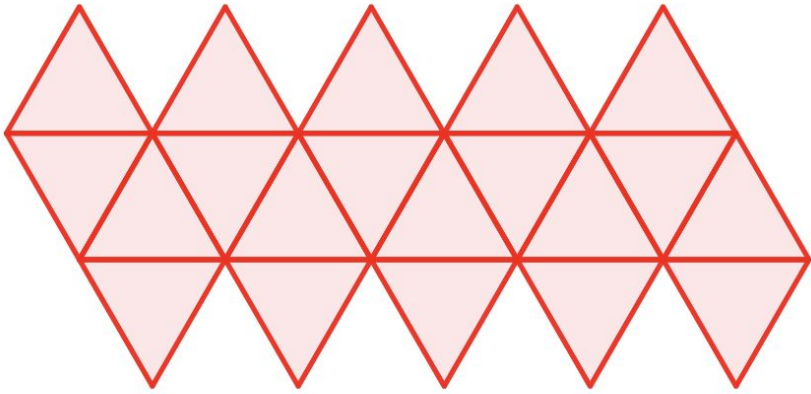
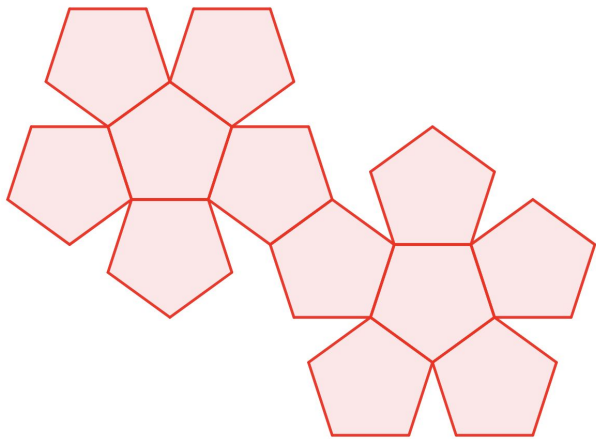
	Solid name
Solid #1	Tetrahedron
Solid #2	Cube
Solid #3	Octahedron
Solid #4	Dodecahedron
Solid #5	Icosahedron

**3** Complete the boxes of the following table.

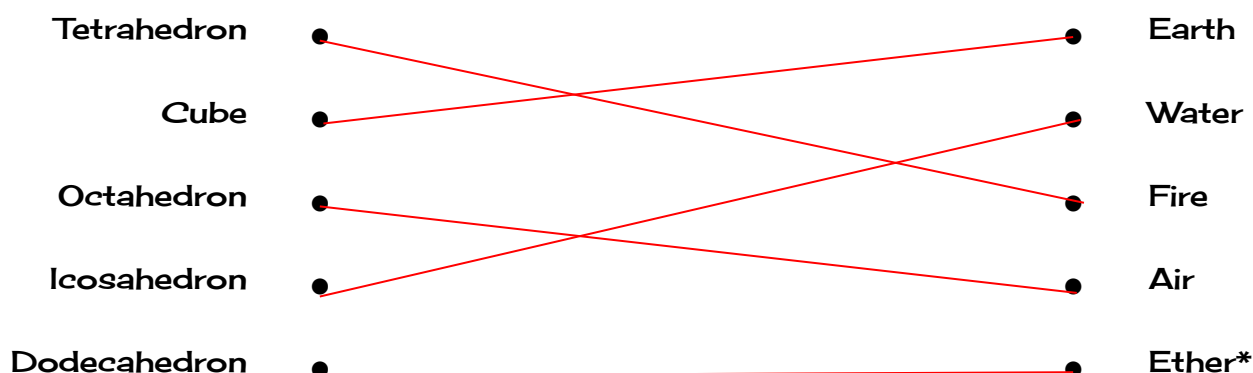
Solid name	Number of vertices	Number of faces	Number of edges
Tetrahedron	4	4	6
Cube	8	6	12
Octahedron	6	8	12
Dodecahedron	20	12	30
Icosahedron	12	20	30

**4** Realizes a possible pattern of each platonic solid.

Solid name	Pattern
Tetrahedron	
Cube	

Solid name	Pattern
Octahedron	 A net of an octahedron consisting of six equilateral triangles. It is arranged in a central horizontal row of four triangles. The second triangle from the left has a fifth triangle attached to its top edge, and the third triangle from the left has a sixth triangle attached to its bottom edge.
Dodecahedron	 A net of a dodecahedron consisting of ten squares. It is arranged in three rows: the top row has five squares, the middle row has five squares, and the bottom row has five squares. The squares in the top and middle rows are offset by half a square relative to each other, and the bottom row is aligned with the middle row.
Icosahedron	 A net of an icosahedron consisting of twenty equilateral triangles. It is arranged in a complex, non-linear pattern. It starts with a central triangle, and branches out into several smaller clusters of triangles, totaling twenty triangles.

## 5 Associates each Platonic solid with the element of the universe it represents.



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