



# **GEO** **SOLIDS KIT**

X GEO is a versatile geometric building system designed to help learning skills.

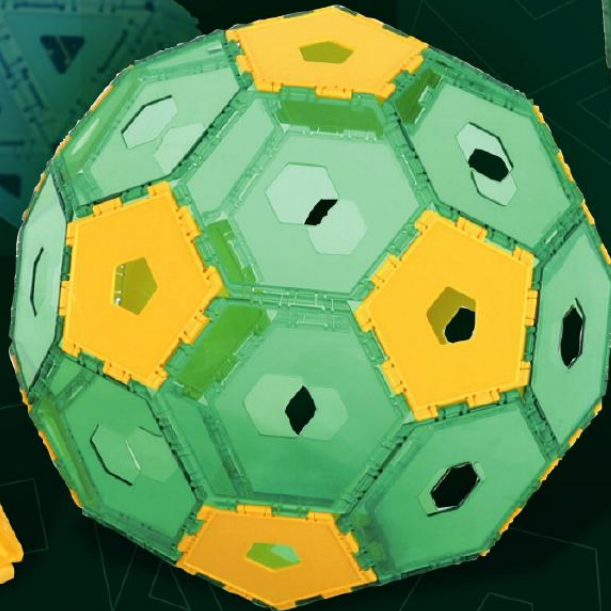
*A GUIDE FOR PLAY WITH X GEO*

TEACHING AID

**#1216**

240 pcs

*Using X GEO helps to develop spatial awareness well by converting 2-D nets into 3-D solids.*



*Easily be snapped together, edge to edge, with patented hinge and easily disassembled, too.*

4+

## Introduction

*X GEO is a versatile geometric building system designed to help learning skills.*

*It contains 7 basic geo shapes which can be fixed together, edge to edge, with specially-designed hinge. Each shape has a frame completely showing the shape and a hole in the center and in the same shape used for easier shape-recognition, handling and tracing net before building a solid.*

*X GEO shapes are made from durable transparent or opaque plastic material.*


*It allows kid to identify the shapes and models clearly and also see through individual shapes and models to investigate angles, edges and vertices.*

*Besides, transparent X GEO shapes help kids discover color relationship, e.g. clear yellow plus clear blue makes clear green.*

*X GEO is a great resource for children to explore and investigate a variety of different mathematical areas including shape & space, patterns and colors, sorting and classifying, problem solving and develop technology and creativity.*

*Using X GEO helps to develop spatial awareness well by converting 2-D net into 3-D shapes and solids. More than this, X GEO connector allows X GEO to work with GIGO existing building system to create more fun.*

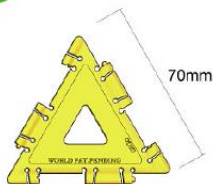
# Parts List

No	Parts Names	No	Parts Names	No
1	 Equilateral Triangle-opaque red	20	11  Square-clear green	17
2	 Equilateral Triangle-clear yellow	21	12  Rectangle-clear green	12
3	 Equilateral Triangle-clear blue	32	13  Pentagon-opaque yellow	12
4	 Equilateral Triangle-clear green	5	14  Pentagon-clear yellow	1
5	 Right Angle Triangle-clear green	2	15  Pentagon-clear blue	36
6	 Isosceles Triangle-clear yellow	18	16  Pentagon-clear green	2
7	 Square-opaque red	1	17  Hexagon-clear yellow	1
8	 Square-opaque yellow	30	18  Hexagon-clear green	22
9	 Square-clear yellow	1	19  Solid-Opening Tool	1
10	 Square-clear blue	6		

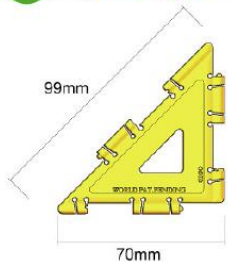
TOTAL: 240 pcs

# The 7 Basic Geo Shapes of X GEO

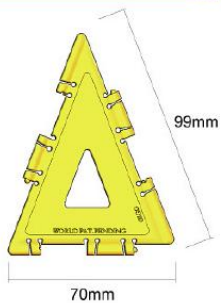
1 Equilateral Triangle



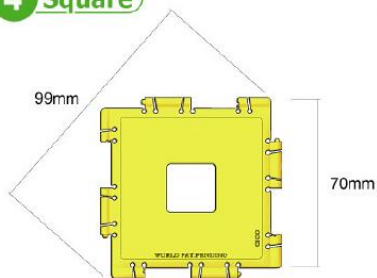
2 Right Angle Triangle



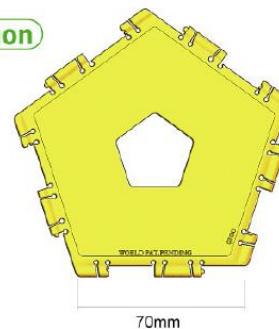
3 Isosceles Triangle



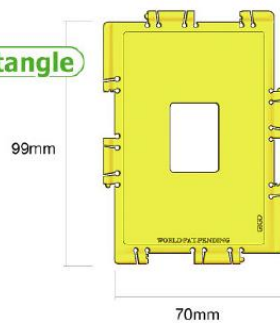
4 Square



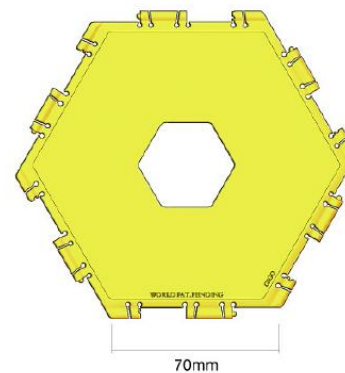
6 Pentagon



5 Rectangle



7 Hexagon

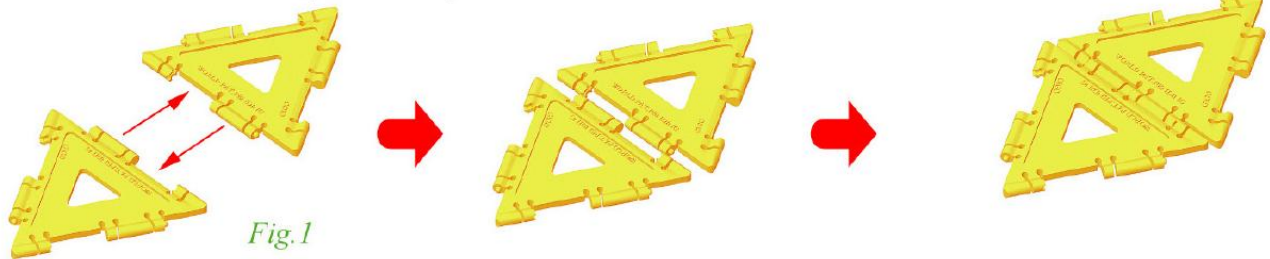




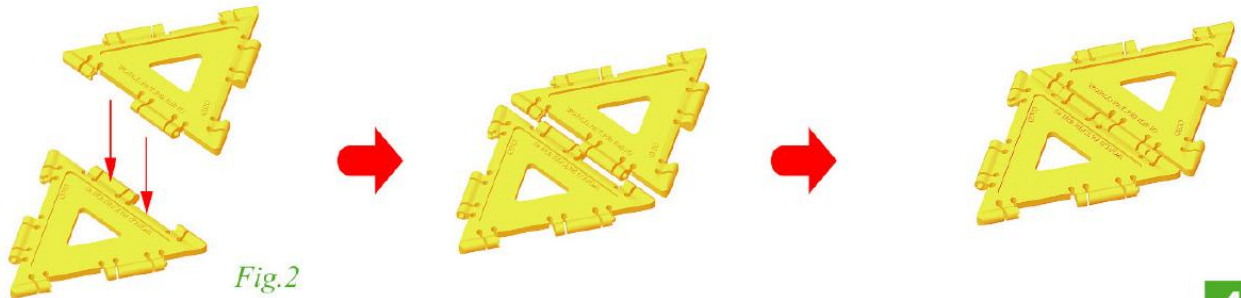
## How to Connect the Shapes of X GEO

### There are two ways:

- 1 Put two shapes to be connected come closer as Fig. 1 shows. Be sure to have the surface with words face up. And push them together until a "click" or "clicks" heard. Then they are so easily linked.



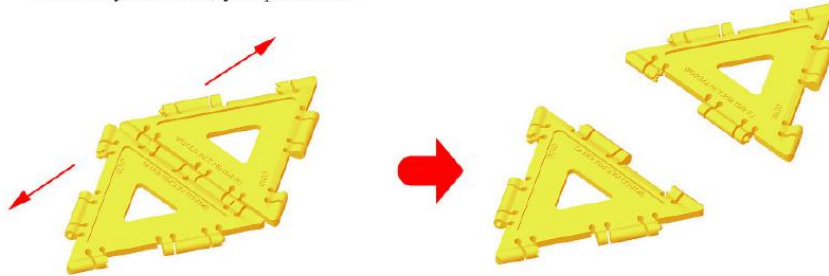
- 2 Align the edges of two shapes to be connected as Fig. 2 shows. Be sure to have the surface with words face up. And press the edge on a higher level downward until a "click" or "clicks" heard. Then they are so easily linked.



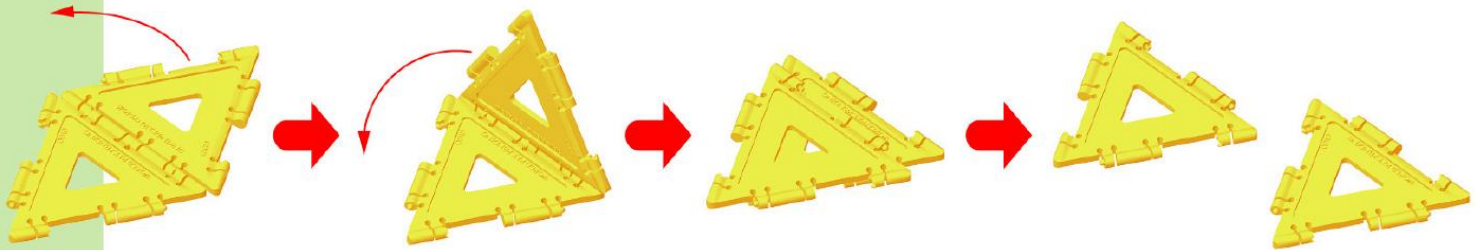
## How to Separate the Connected Shapes of X GEO

There are two ways:

- 1 Pull two connected shapes in the contrary directions with your two hands. Then they are easily separated.



- 2 Turn one of two connected shapes upward and then press it until "Pa!" is heard. Then they are easily separated.



## How to Disassemble a Solid

### There are two ways:

- 1 Get one small coin ( no more than 2cm in diameter ) and insert it into one slot between two connected shapes and turn the coin upward like a lever ( see Fig. 1 )  
The shapes are immediately separated.

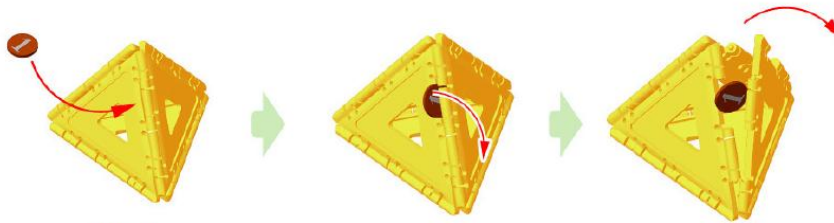


Fig.1

- 2 Insert the end B of Solid-Opening Tool with "B" facing down into one slot between two connected shapes and keep going. The shapes are immediately separated. ( see Fig.2 )

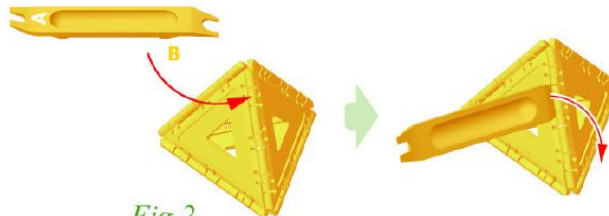
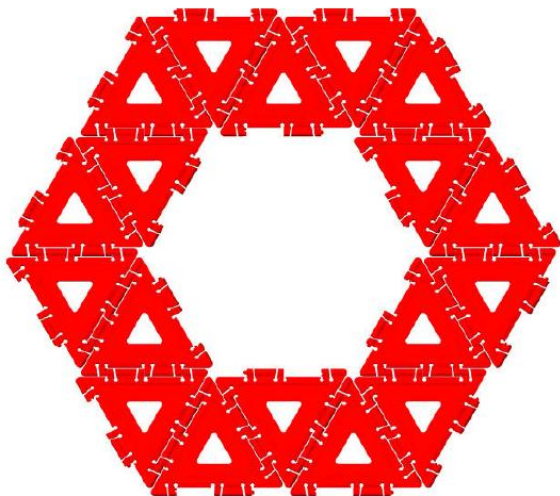


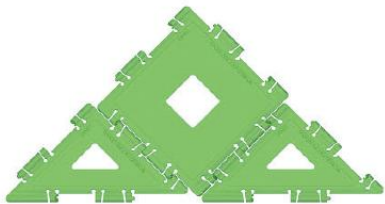
Fig.2



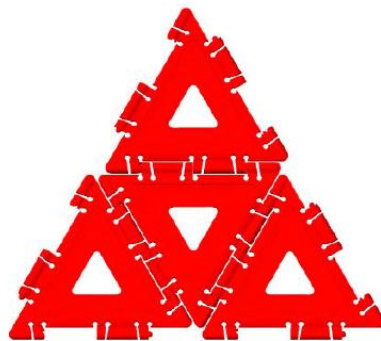
● *Link triangles into a ring.*



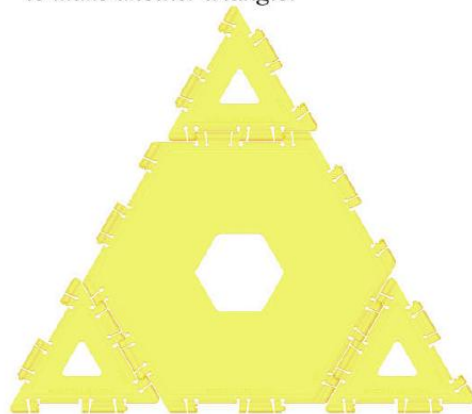
● *Use two triangles and one square to make another triangle.*



● *Use four triangles to make another triangle.*



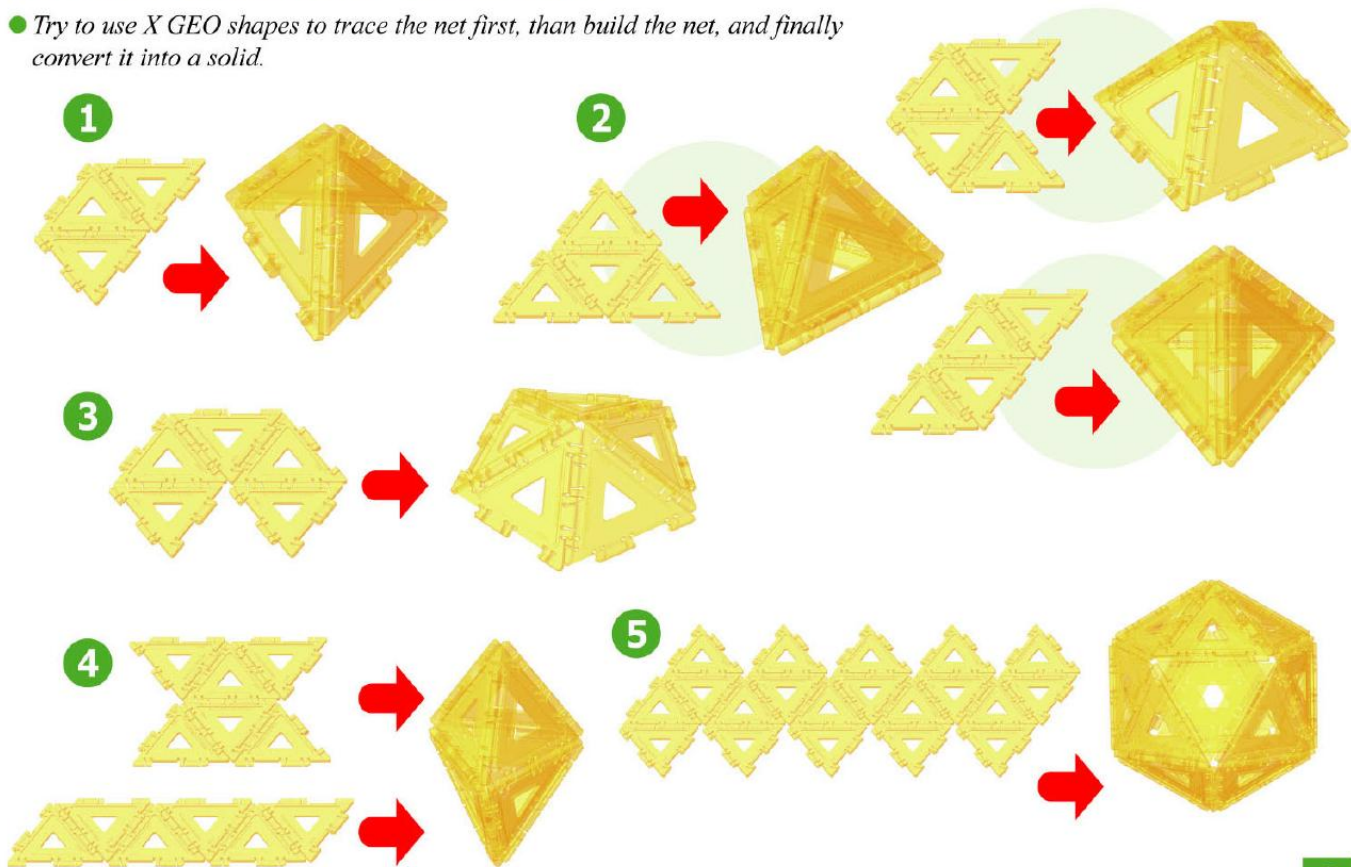
● *Use three triangles and one hexagon to make another triangle.*





## Linking Various Pieces of Equilateral Triangle to Convert into 3-D Models

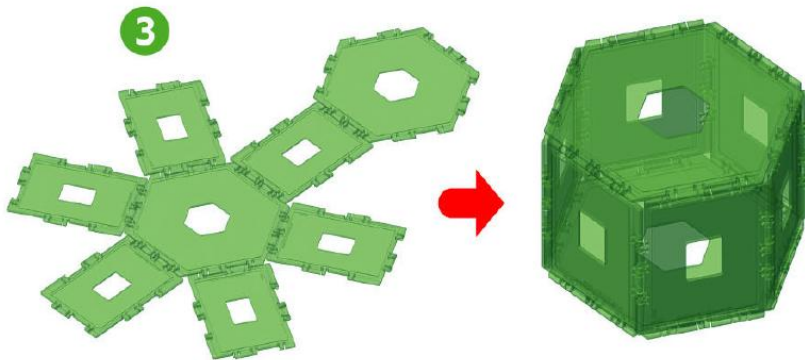
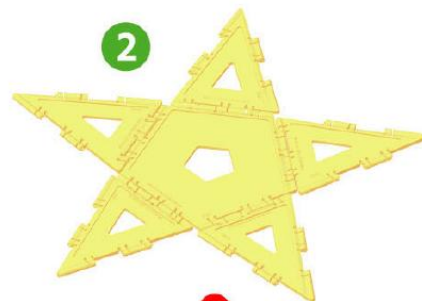
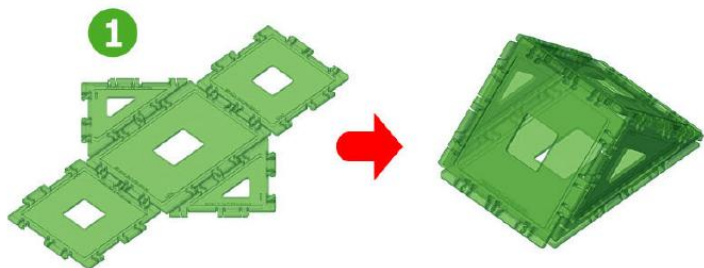
- Try to use X GEO shapes to trace the net first, than build the net, and finally convert it into a solid.



! Try it with other shapes of X GEO and see what happens.

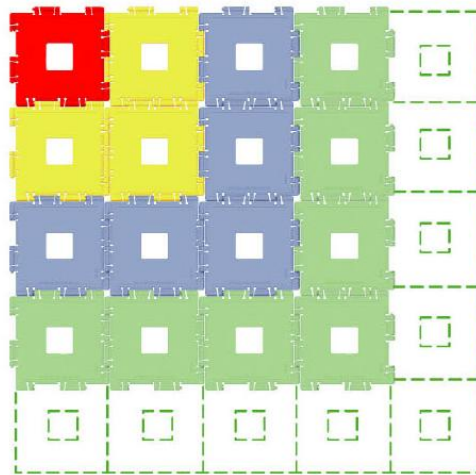
## Linking Different Shapes of X GEO to Convert into 3-D Models

- Try to use X GEO shapes to trace the net first, then build the net, and finally convert it into a solid.

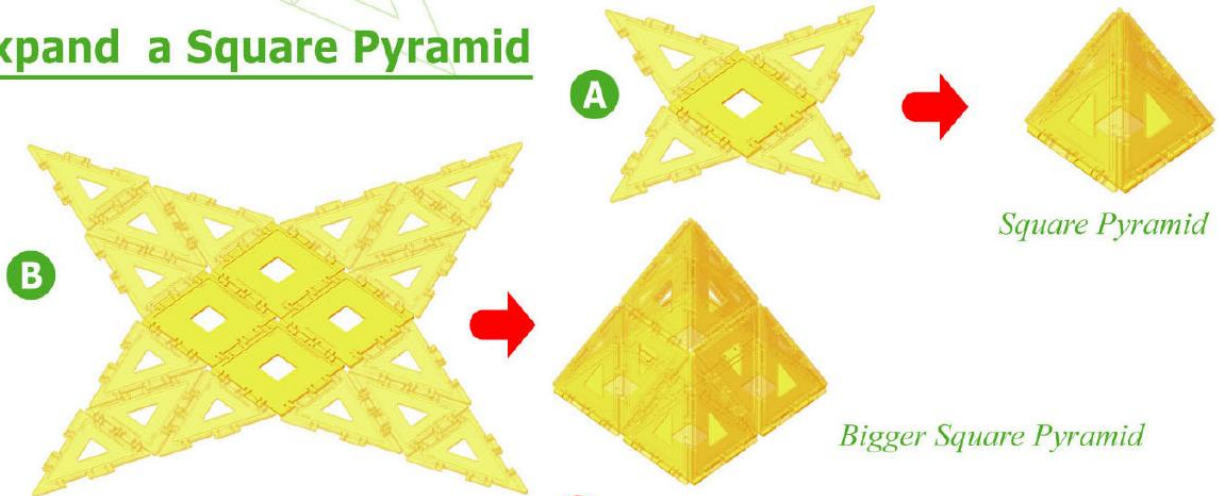


Link into...

## Expand a Square



## Expand a Square Pyramid



! Try to build Square Pyramid with other shapes of XGEO

# 4 Pyramids

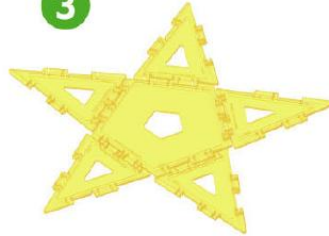
The following are four Pyramids.

1



*Triangular Pyramid*

3



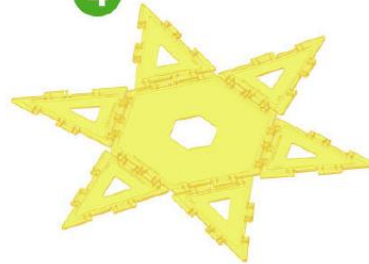
*Pentagonal Pyramid*

2



*Square Pyramid*

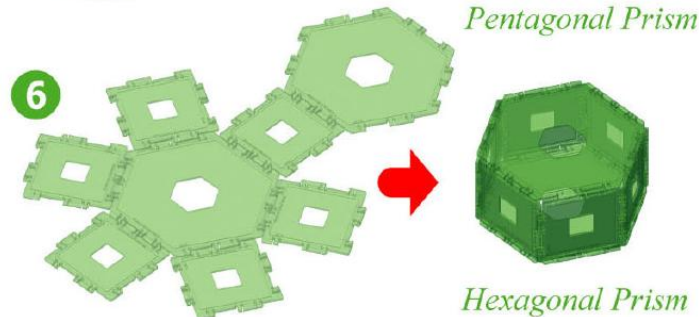
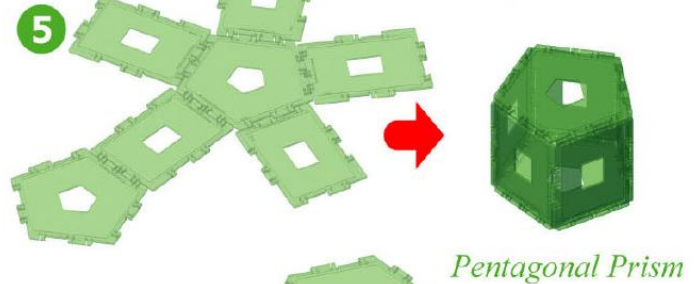
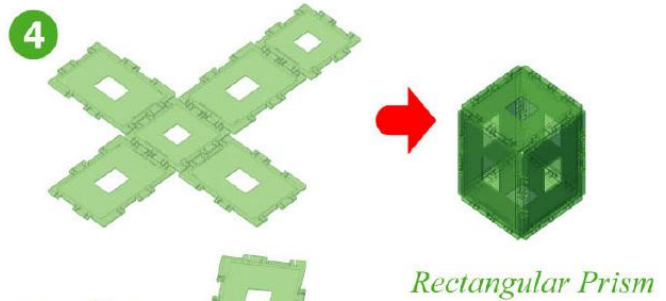
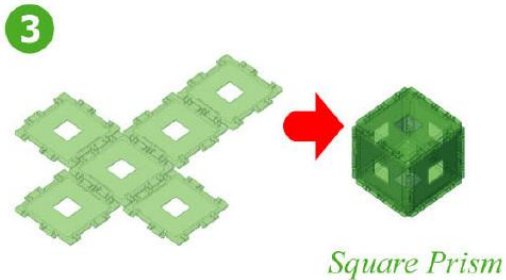
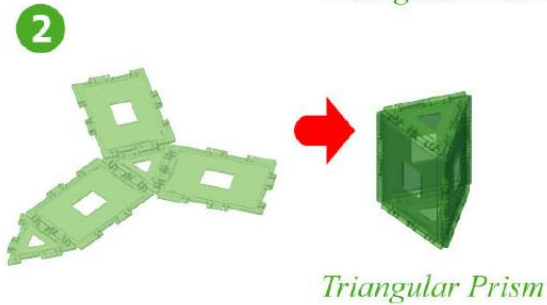
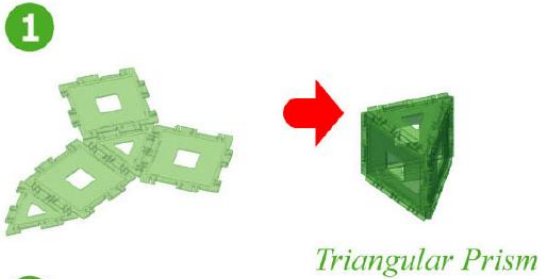
4



*Hexagonal Pyramid*



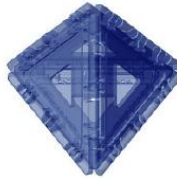
The following are six Prisms.



! Compare the models on 11 & 12 and try to tell the difference between Prism and Pyramid.

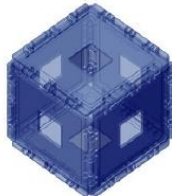
# The Following are 5 Regular Polyhedra Called the Platonic Solids:

1



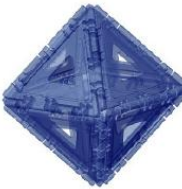
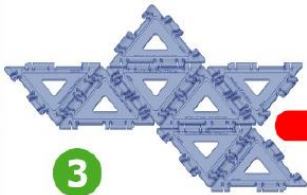
*tetrahedron*

2



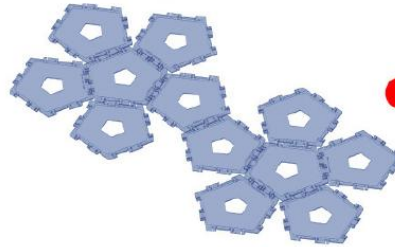
*Cube*

3



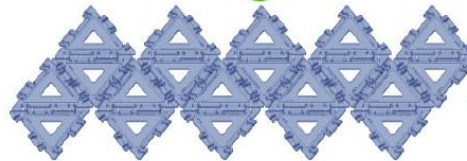
*octahedron*

4



*dodecahedron*

5

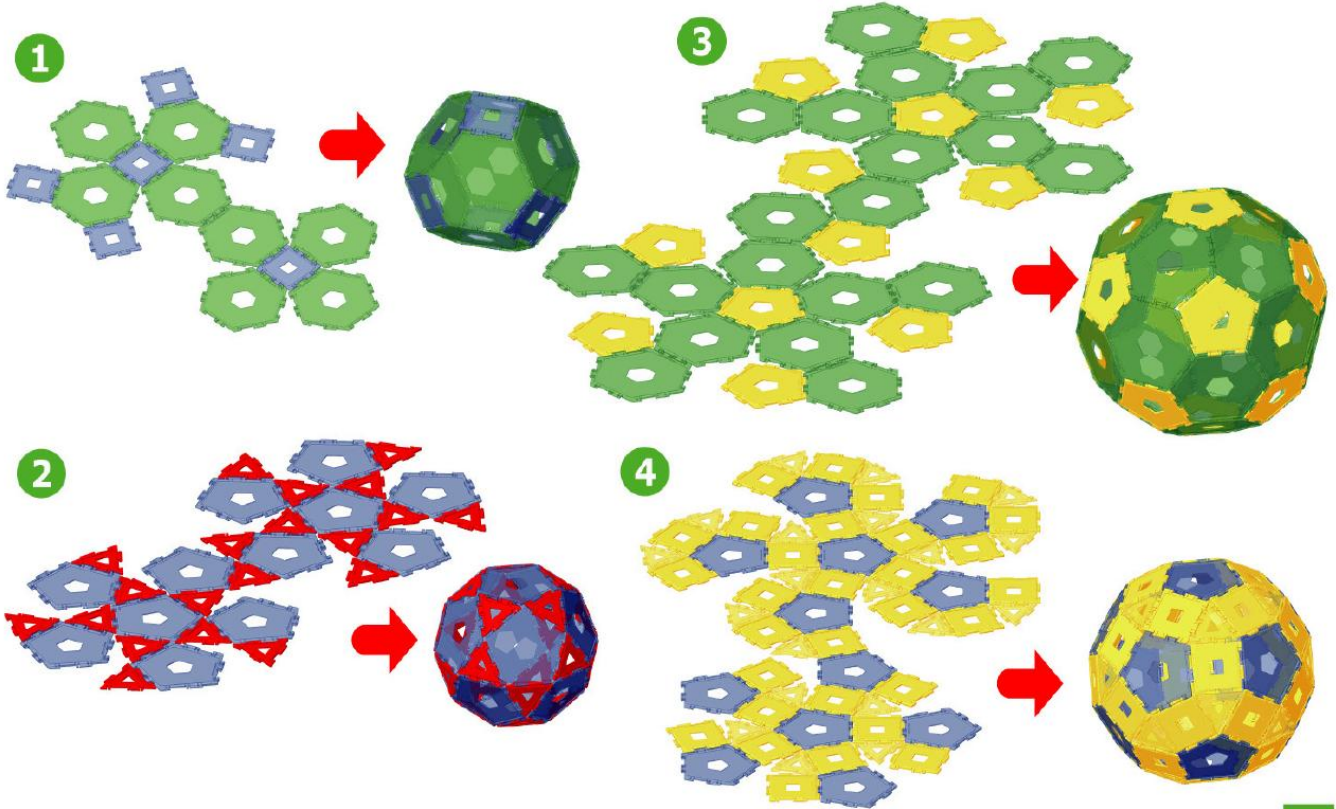


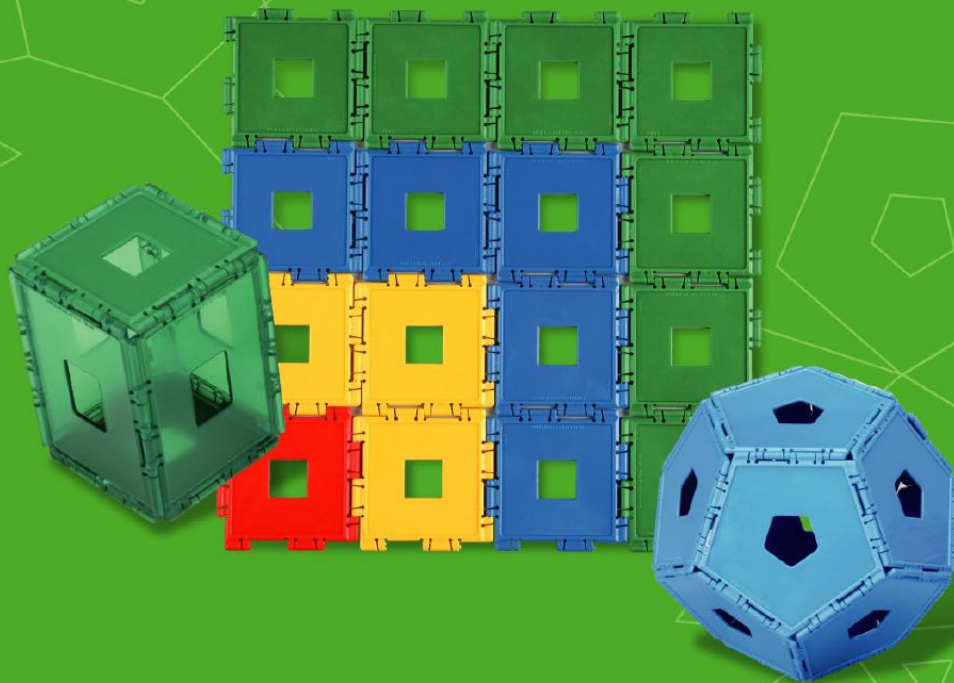
*icosahedron*

# 4

## Achimedean Solids

The following are 4 Semi-Regular Polyhedra  
Called the Achimedean Solids.





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