Learning Math
with play!

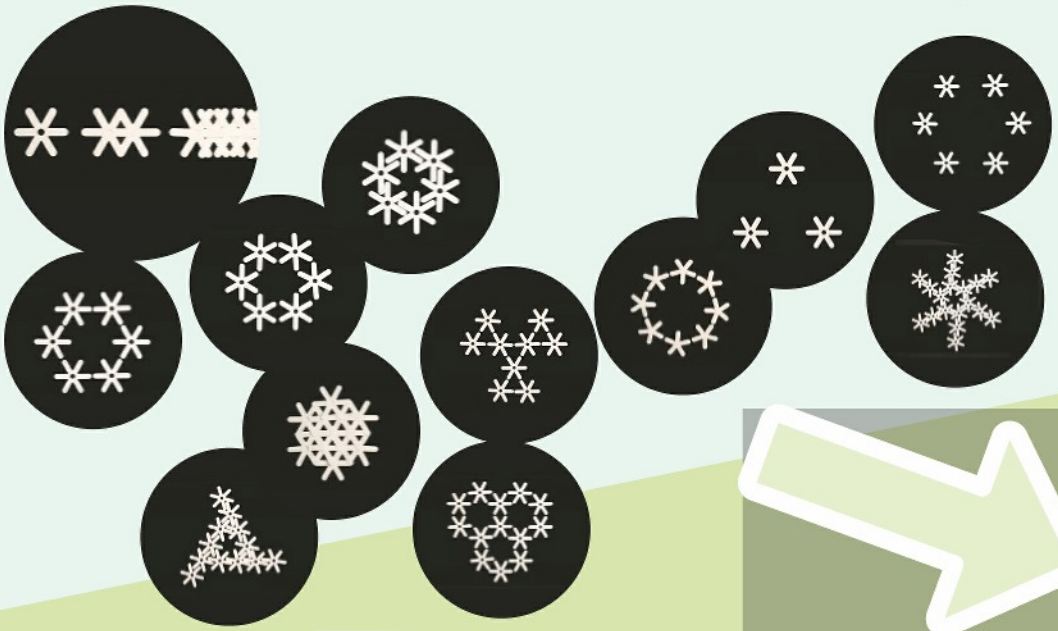
Super4DFrame

kids

4DFRAME

www.4dframe.com

Kids can learn Math by experiencing points, lines, and shapes with Super4DFrame.

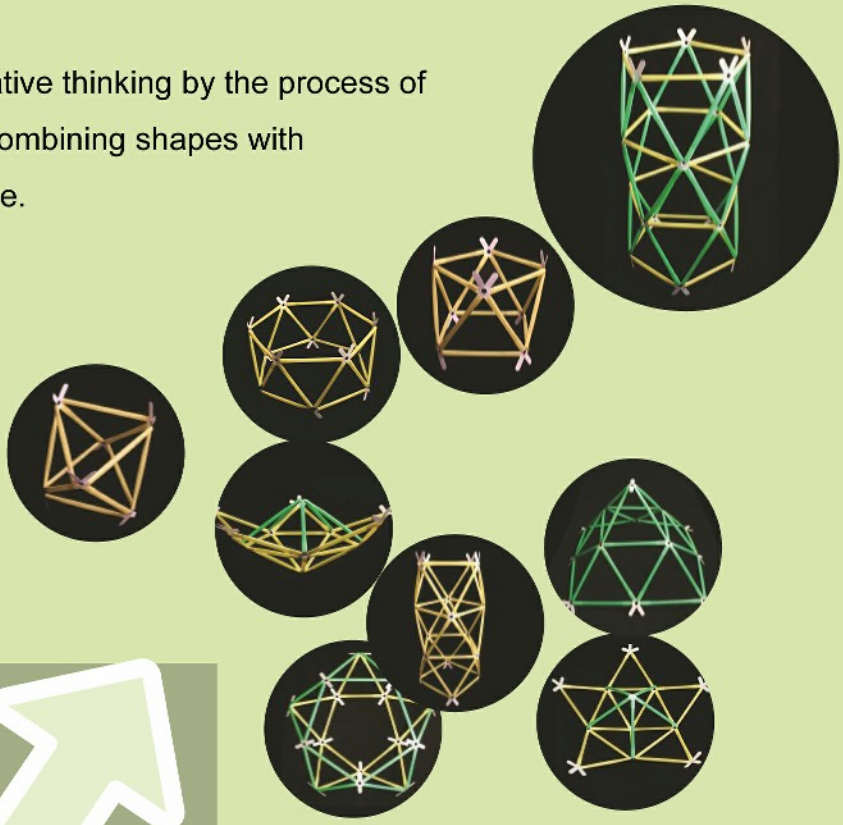


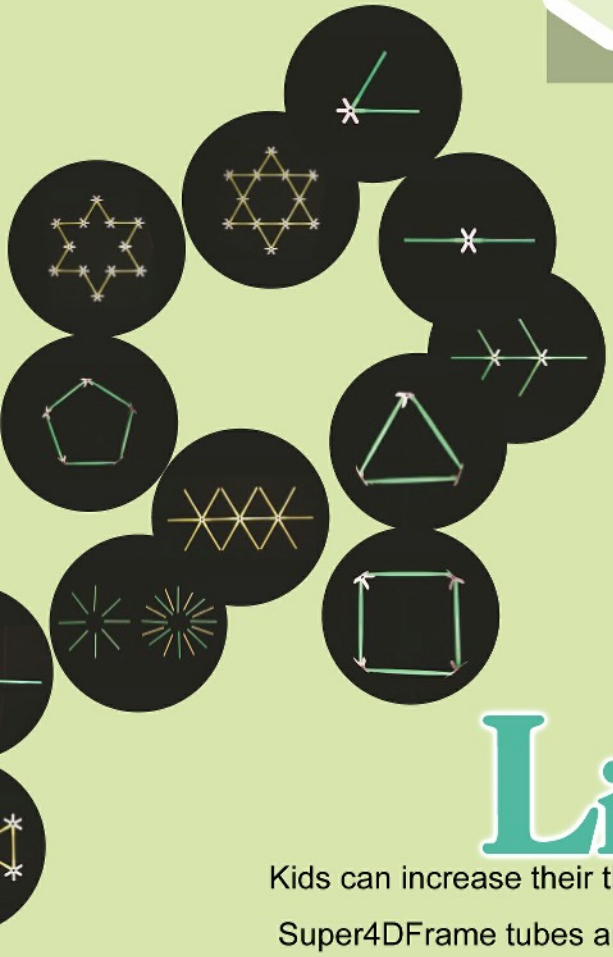
Points

Thinking begins by discovering what can be made by combining, stacking, and organizing with connectors of Super4DFrame.

Shapes

Kids learn creative thinking by the process of building and combining shapes with Super4DFrame.





Lines

Kids can increase their thinking ability by making specific shapes while working with Super4DFrame tubes and connectors.

Super4DFrame for Kids helps them learn Math through points, lines and shapes

Features of Super4DFrame for Kids

This material can be bent, but not broken, because the tubes are hollow and the connectors are made of Polypropylene (PP), which is flexible.

Tubes and connectors can be used to make curved lines and free angles from 0° to 360°. Their use can also be expanded by bending tubes and connectors - even by cutting them with ordinary scissors.

The word "4DFrame" is a combination of "4 Dimensions" + "Frame," or structures. This means 4DFrame can be used to express what cannot be seen: human thoughts, ideas, dreams, etc., using visible things like points, lines, shapes, and solids built from flexible tubes and connectors.

Playing with Super4DFrame for Kids

(Additional materials) Rubber bands, paper clips, binder clips

Building a tower / Stacking up

Moving a friend

Building a tower around a friend

Students can experience principles of Math and Science with tubes and connectors of Super4DFrame for Kids via building 3-dimensional models by combining 1-dimensional lines and 2-dimensional shapes together.

These pictures show kids at a daycare center affiliated with Ansan City Hall, where they freely play games and discover together as a group. Playing with Super4DFrame for Kids can help develop empathy and cooperation as well as explore principles of Math and Science.

A dome for a house

A ball or sphere

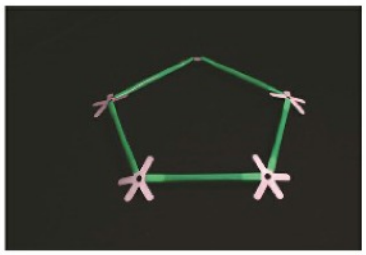
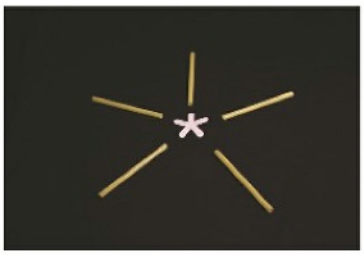
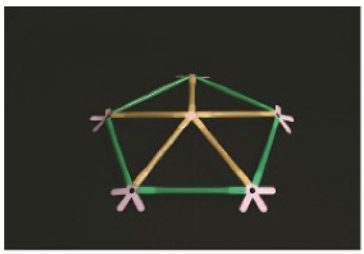
A dome can be built by combining several of the same pentagon-shapes together.
Let's find some geometric shapes showing this.
Discuss why this is different from my own house.
Let's make a big ball by combining two domes.

How to make a dome 2 domes/one box of Super4DFrame for Kids

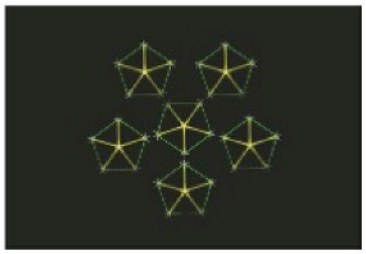
12 students

(6 groups/2 students each are required to make a section by each group.)
Tubes: 35x (green), 30x (yellow) Connectors: 6x Pentapods, 20x Hexapods

1. (2 students/group) One student makes the green pentagon and the other makes the star shape by attaching five yellow tubes to a Pentapod, then combine them.

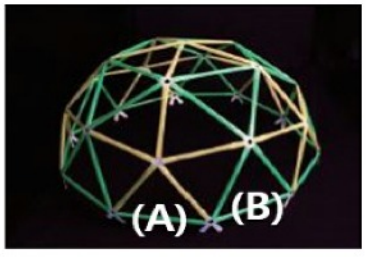
2. Each group has made one part to make a total of 6.

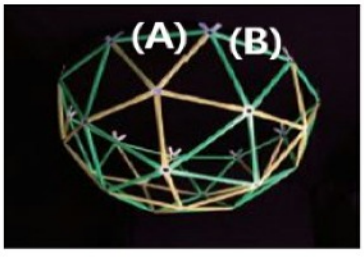


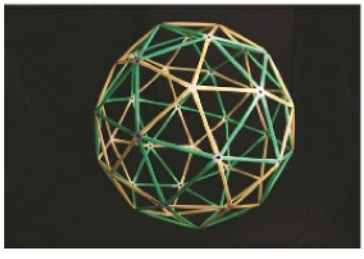
Arranging the sections as shown: pull out extra connectors where edges overlap and combine together.

Lastly, attach green tubes to the open connector "feet" at the bottom edge of the model. The (Geodesic) dome is now complete!

How to make a ball (Geodesic sphere) One ball/one box of Super4DFrame for Kids







Connect the two domes by matching edges A on one sphere and B on the other together. The ball (Geodesic sphere) is now complete!

Sierpinski pyramids

Sierpinski pyramids can be built by combining four smaller pyramids of tubes and connectors.

Each small pyramid is “level 1.” Four are combined to make a Sierpinski pyramid, which is “level 2.”

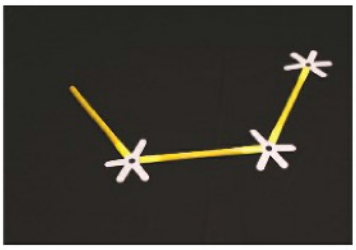
How to make a Sierpinski pyramid One model/one box of Super4DFrame for Kids

8 students

(4 groups/2 students each are required to make a “level 1” pyramid)

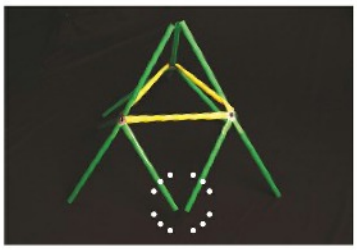
Tubes: 12x (green), 12x (yellow) Connectors: 6x Hexapods

1



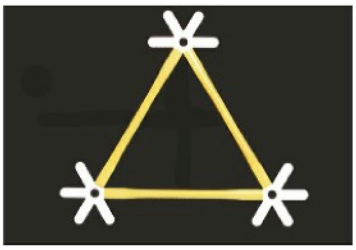
Attach three yellow tubes to three Hexapods as shown.

Attach the ends together. Bend one Hexapod “foot” up and the other three down as shown.

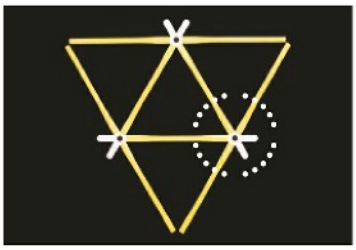


Attach green tubes (12x) to all of the bent Hexapod “feet.”

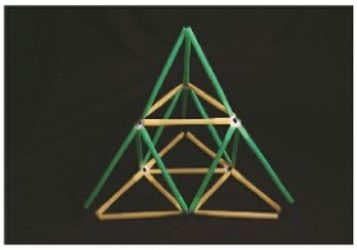
2



Use three yellow tubes and three hexapods to make a triangular shape as shown.



Attach 6x more yellow tubes to the Hexapods as shown to make the larger triangular shape.



Have each two-student group combine steps 1 and 2 to make a “level 1” pyramid.

3

Build a “level 2” pyramid by combining four “level 1” pyramids - one from each student group.

Four Super4DFrame for Kids are needed to make a “level 3” pyramid.

Sierpinski pyramid

Level 1 / around 60cm high

Level 2 / around 120cm high

Level 3 / around 240cm high

The hand and brain - working together.

As your hands move, your brain's neurons move along with your fingers.

4DFRAME is a brain development tool designed and developed to allow you to learn tactilely.

4DFRAME is a creative tool designed to develop the brain through manually pressing, connecting, cutting, and bending activities.

(797-6, Kyomoon-dong)82-9, Jangjadaero 1beon-gil, Guri-si, Gyeonggi-do, Republic of Korea

4DFRAME
www.4dframe.com