



GEOMETRIA DIVERTIDA

LEÓN, 26.10.2024

Partner:

Fundación TMA - Fab Lab León

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Sólidos Platónicos: De la Geometría a la Arquitectura



TETRAEDRO



CUBO



OCTAEDRO



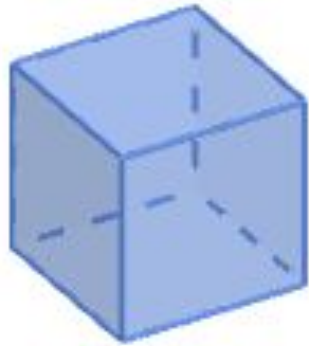
DODECAEDRO



ICOSAEDRO

Sólidos Platónicos: Poliedros regulares

Todas sus caras iguales



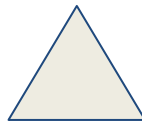
CUBO



Cuadrado



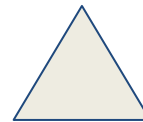
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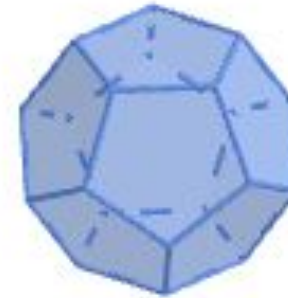
Triángulo



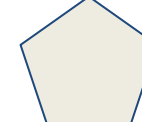
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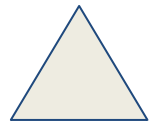
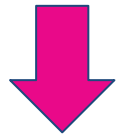
DODECAEDRO



Pentágono

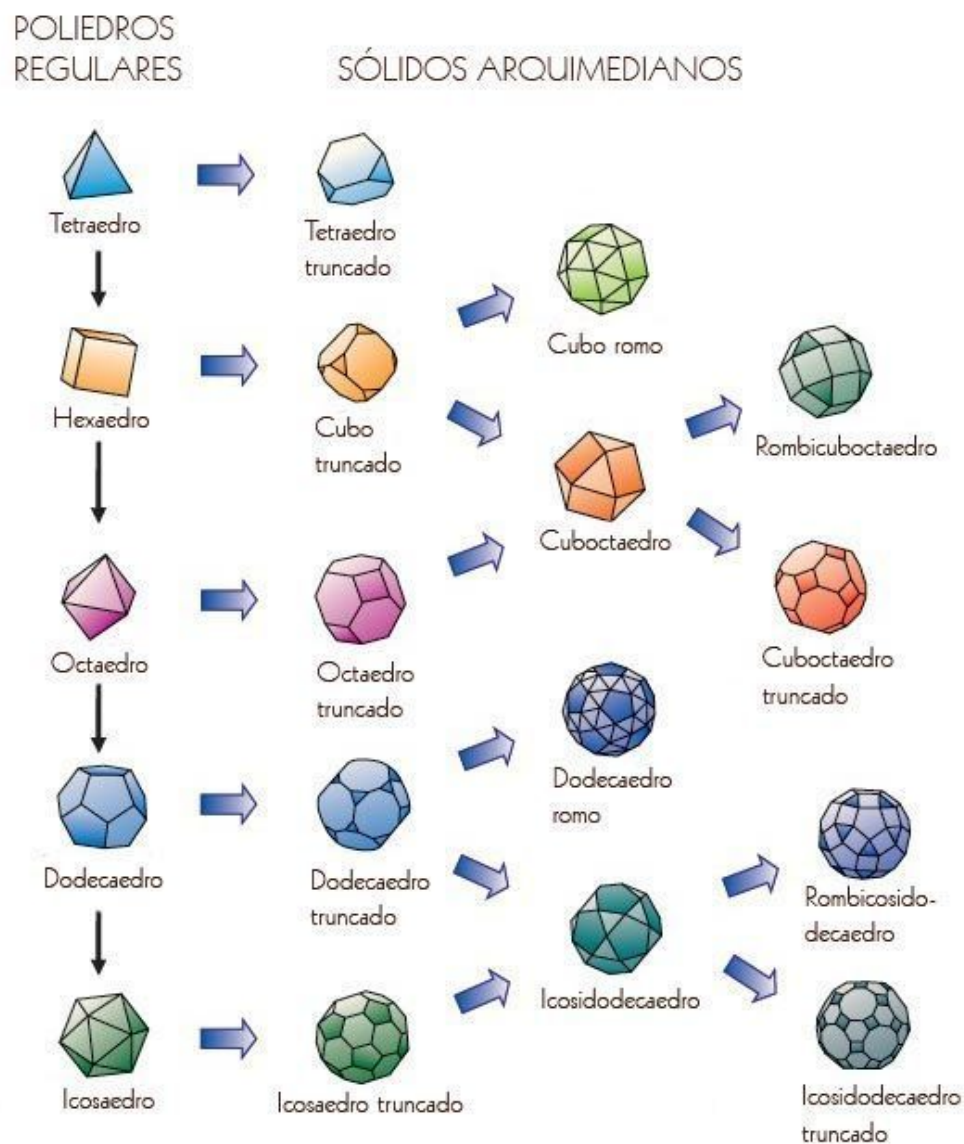


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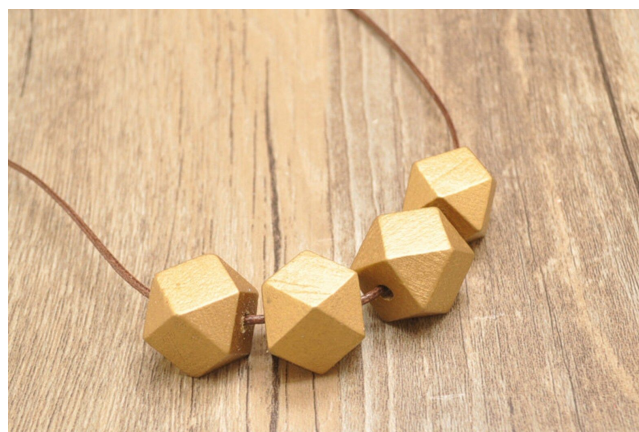
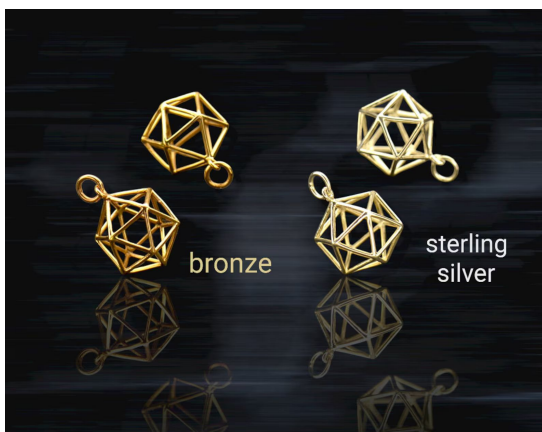
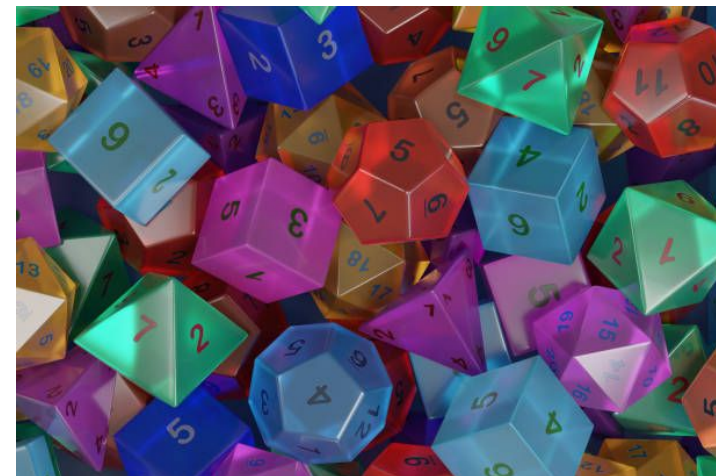


Triángulo

EVOLUCIONES:



APLICACIONES:



APLICACIONES: ARQUITECTURA



APLICACIONES: ARQUITECTURA



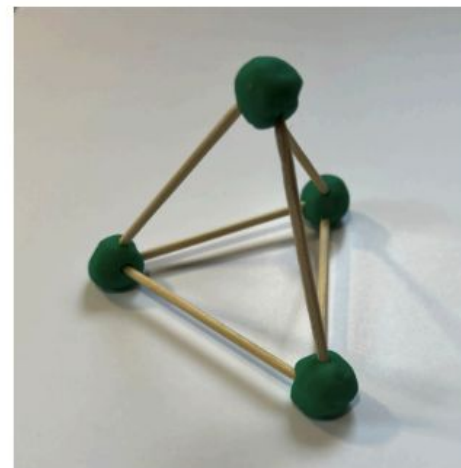
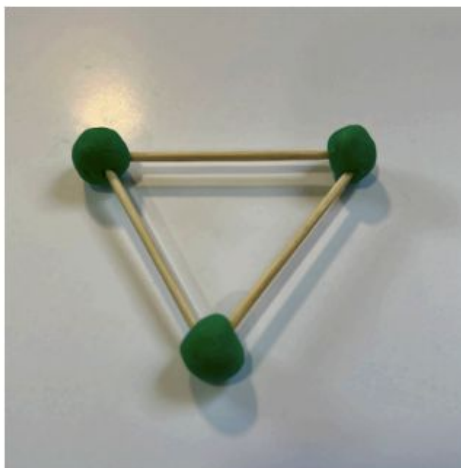
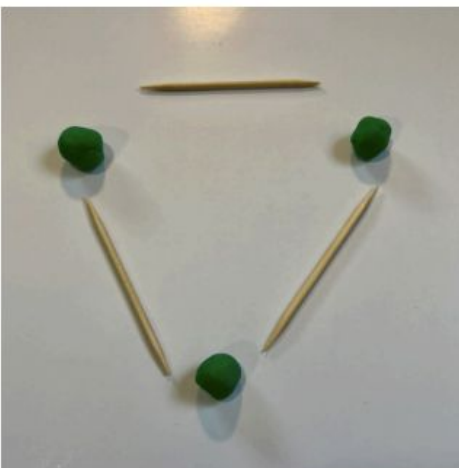
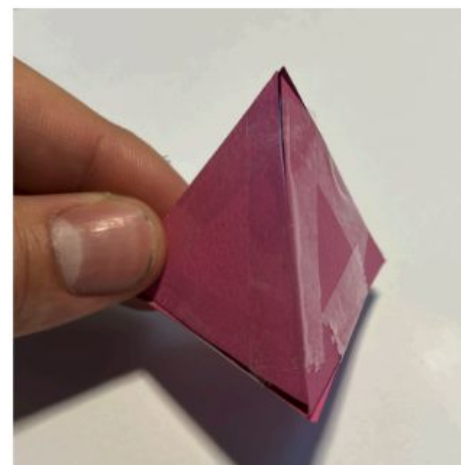
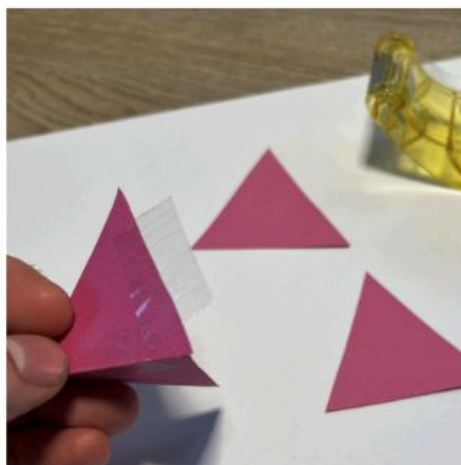
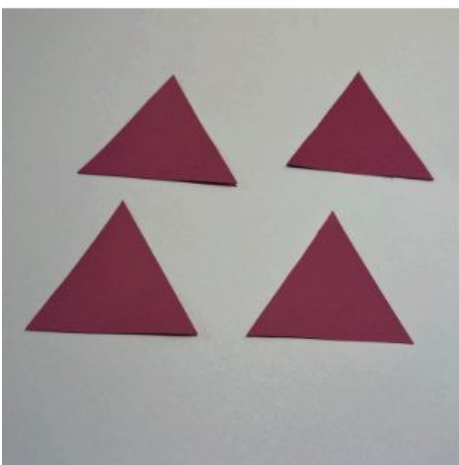
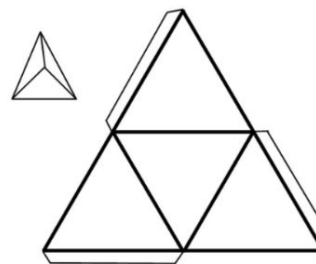
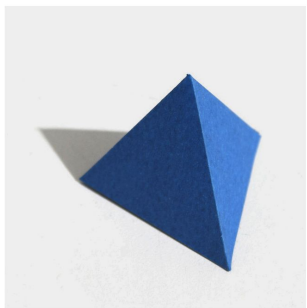
CÚPULA GEODÉSICA



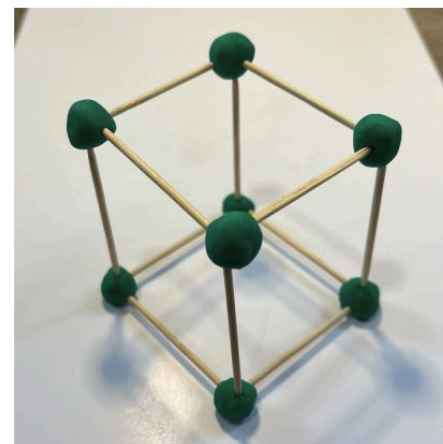
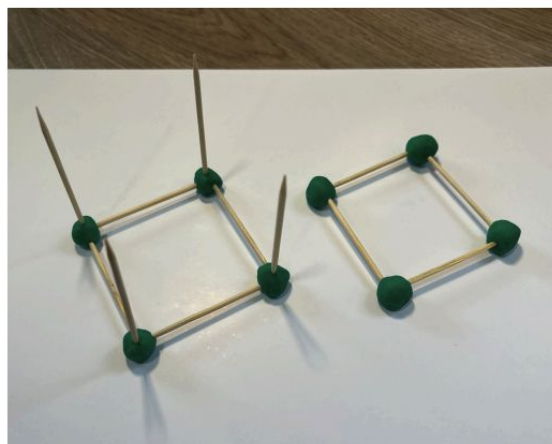
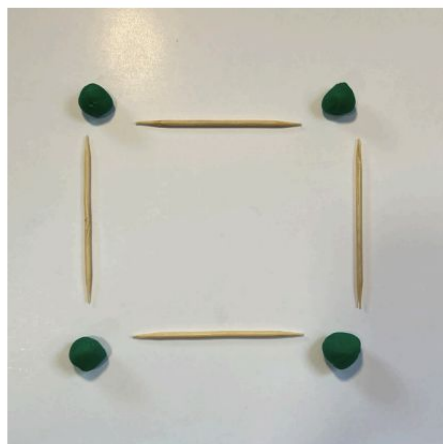
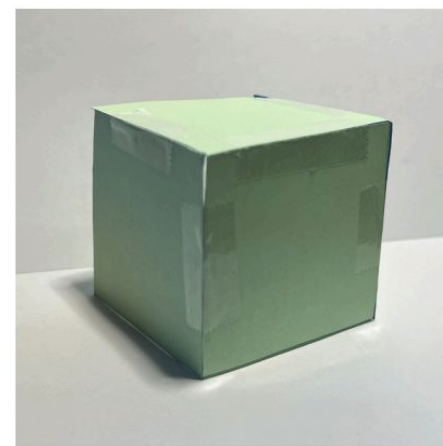
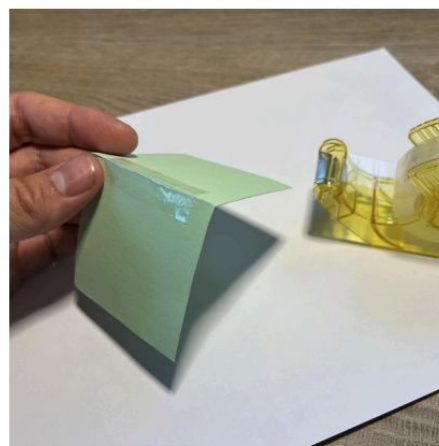
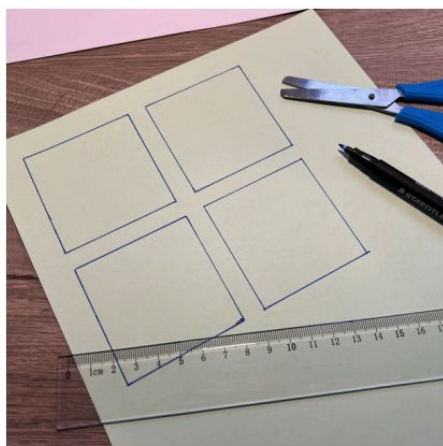
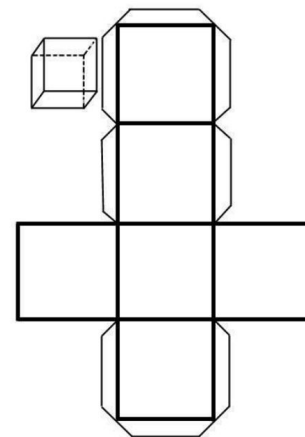
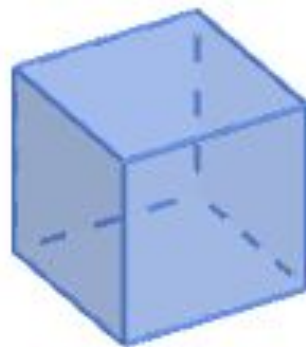
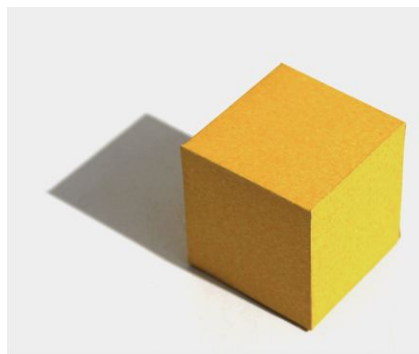
¿CÓMO SON SUS CARAS?

Empecemos a construir formas

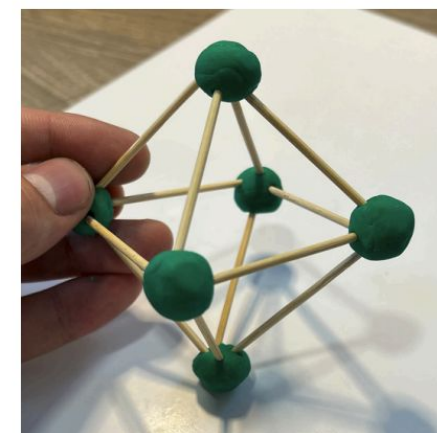
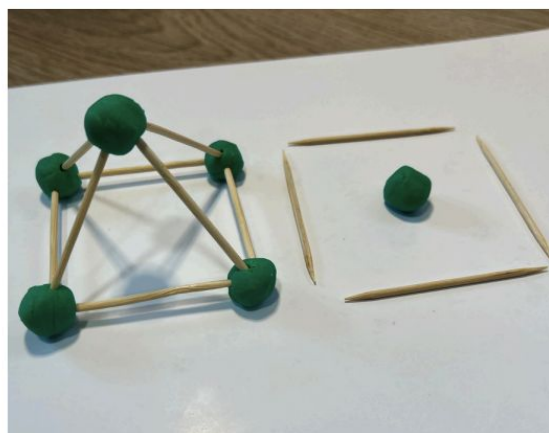
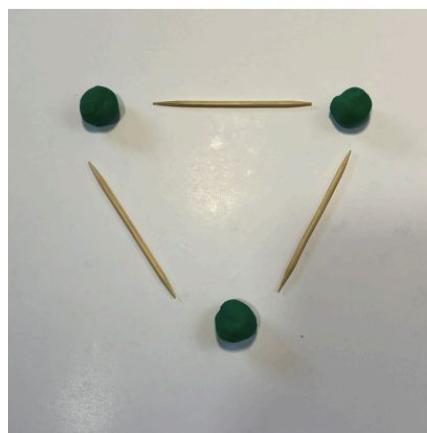
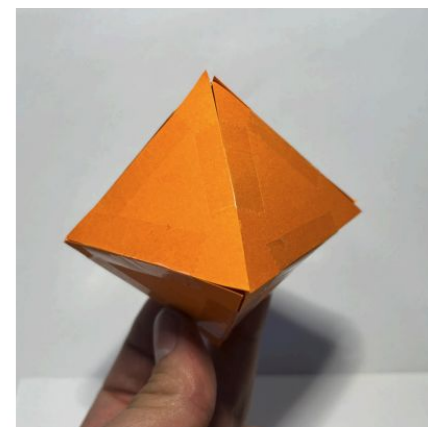
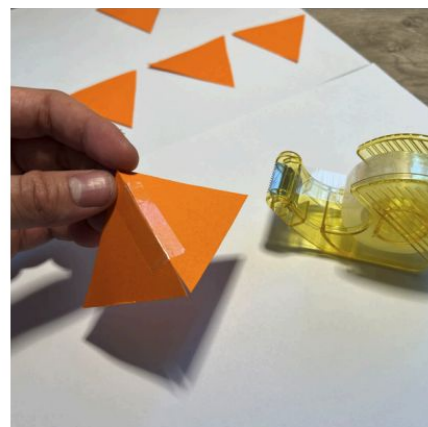
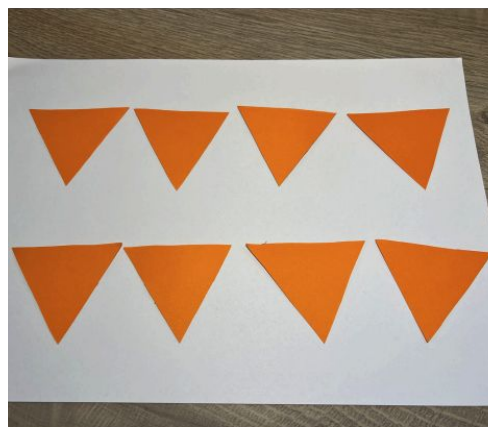
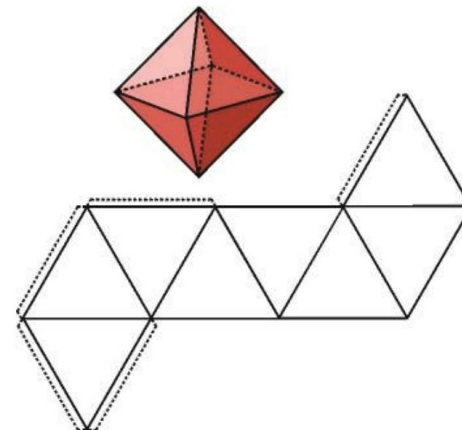
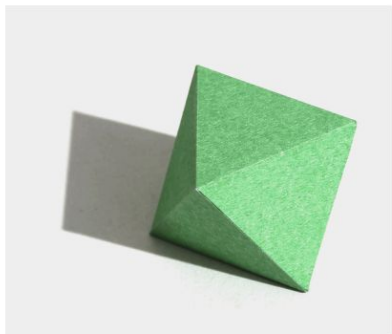
TETRAEDRO



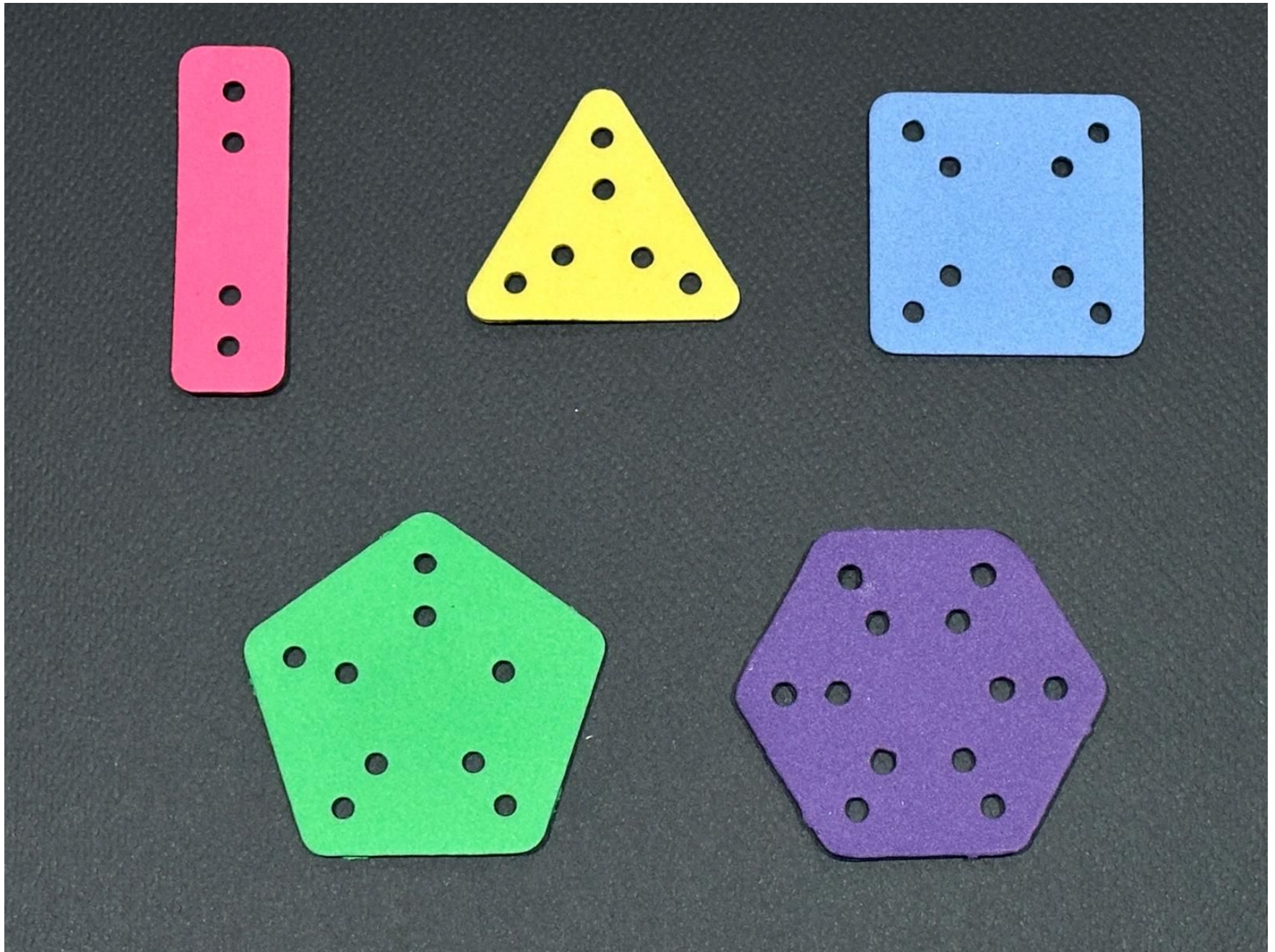
CUBO



OCTAEDRO

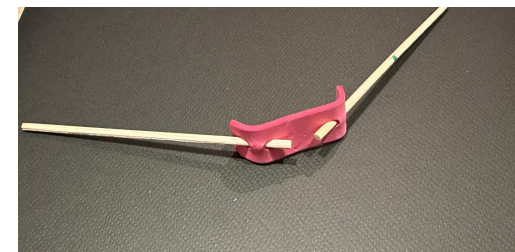
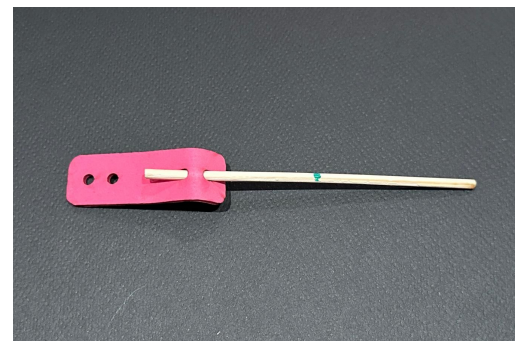
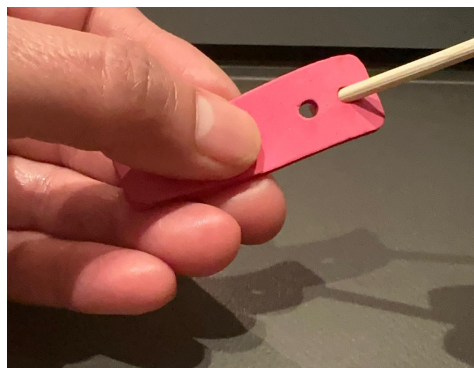
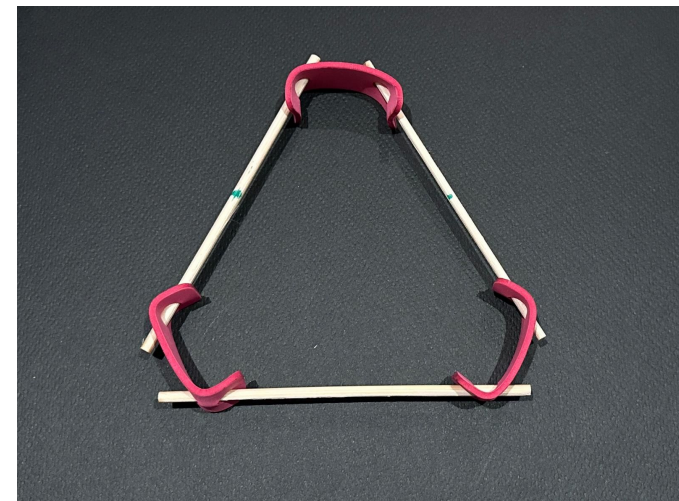
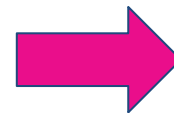
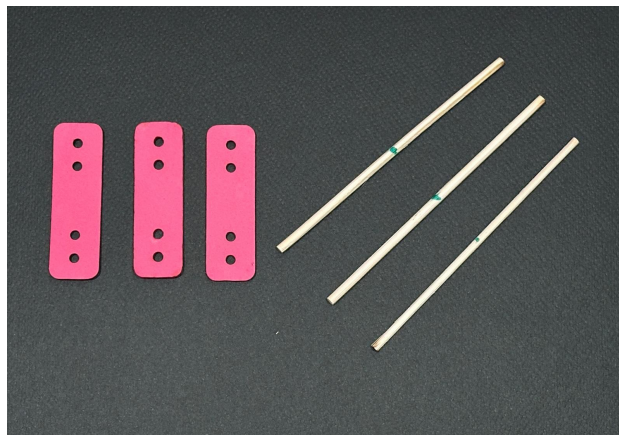


GEOMETRIA CON ALQUIMETRICOS



TRIANGULO (2D)

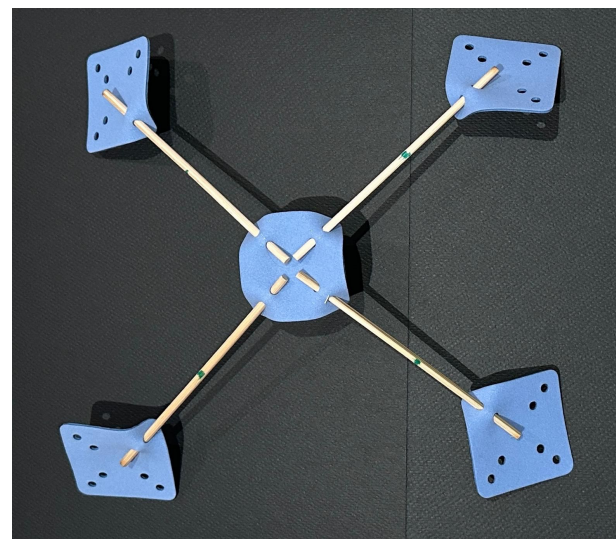
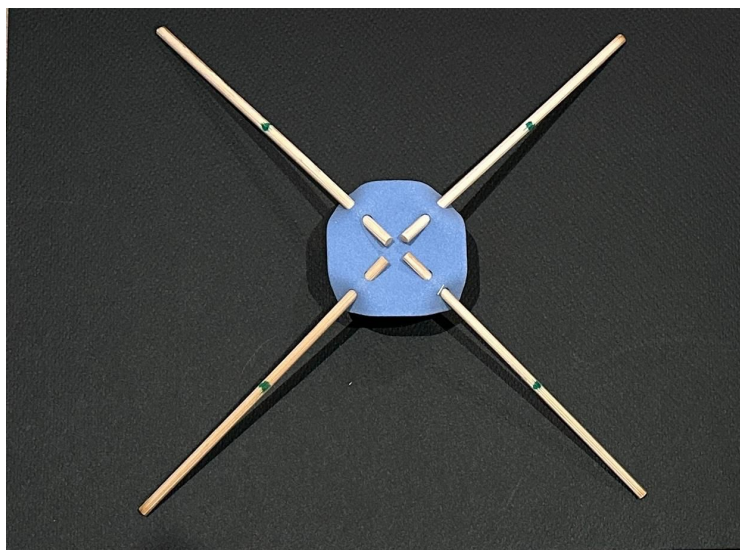
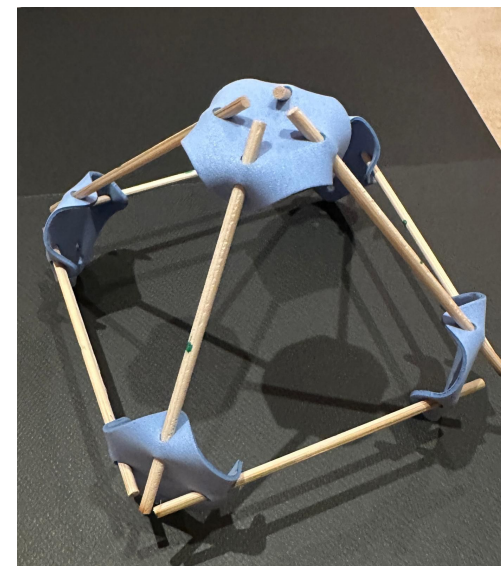
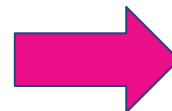
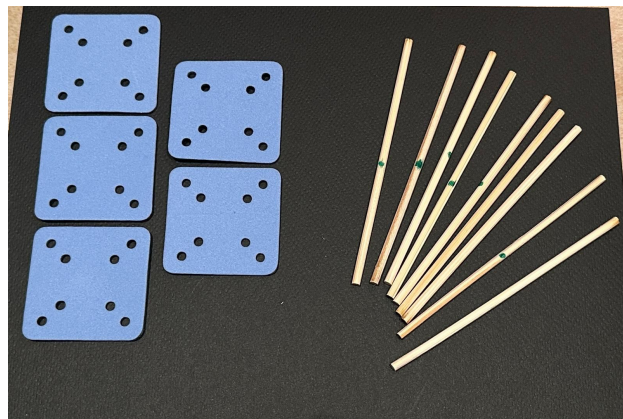
3 X



PIRAMIDE (3D)

5 Cuadrados

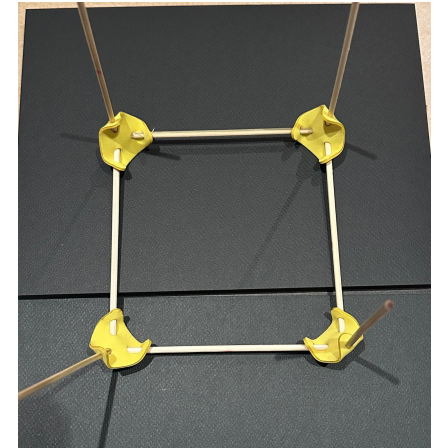
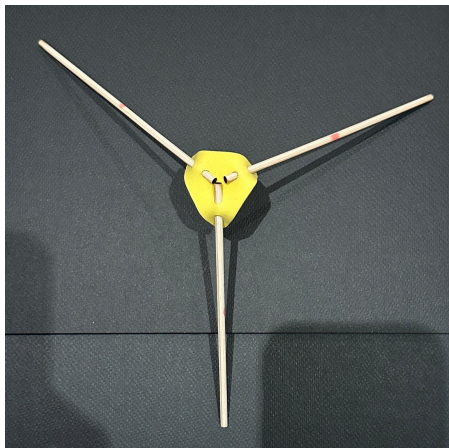
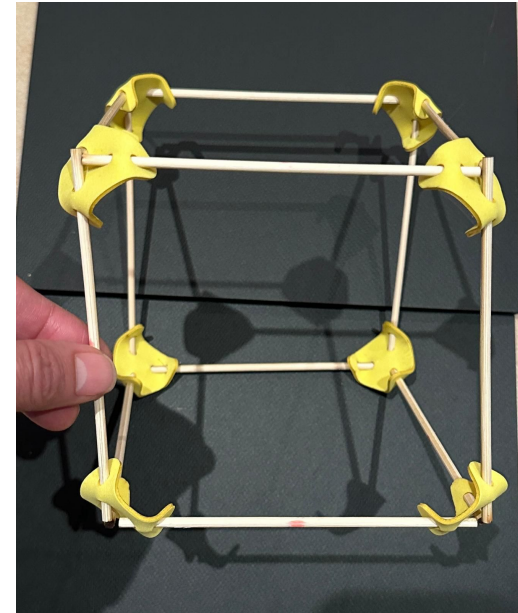
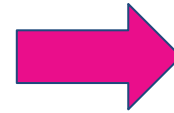
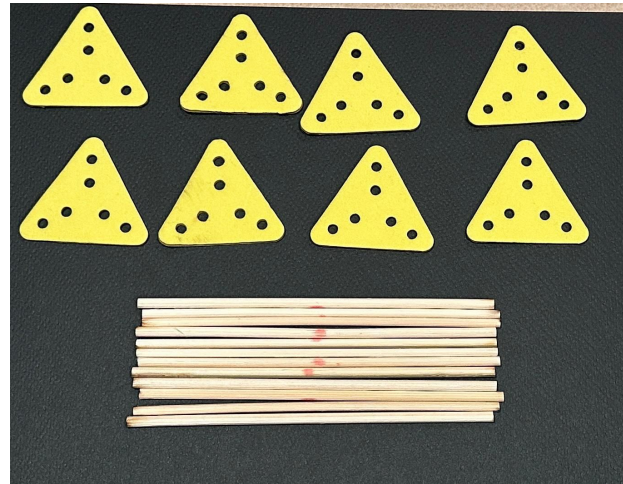
8 Barras



CUBO (3D)

8 Triángulos

12 Barras



CONCLUSIÓN DE LA PRIMERA PARTE

¿Qué os ha parecido?

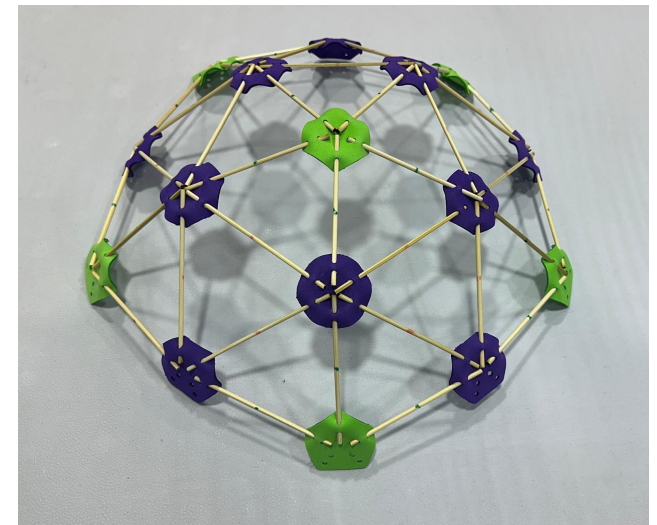
- ¿Te ha quedado la figura retorcida?
- ¿Cómo lo has solucionado?
- ¿Has tenido algún otro problema?
- ¿Has podido solucionarlo?

Parte 2: Construyamos un Domo



Vamos a construir una estructura Geodésica utilizando los módulos de **Alquimétricos: Pentágono y Hexágono**

Una cúpula geodésica es una estructura en forma de media esfera formada por muchos triángulos unidos, lo que la hace muy fuerte y ligera. Es como un gran rompecabezas que usa formas geométricas para crear espacios grandes sin columnas en el centro. Esta forma permite construir edificios eficientes y resistentes.



MANOS A LA OBRA

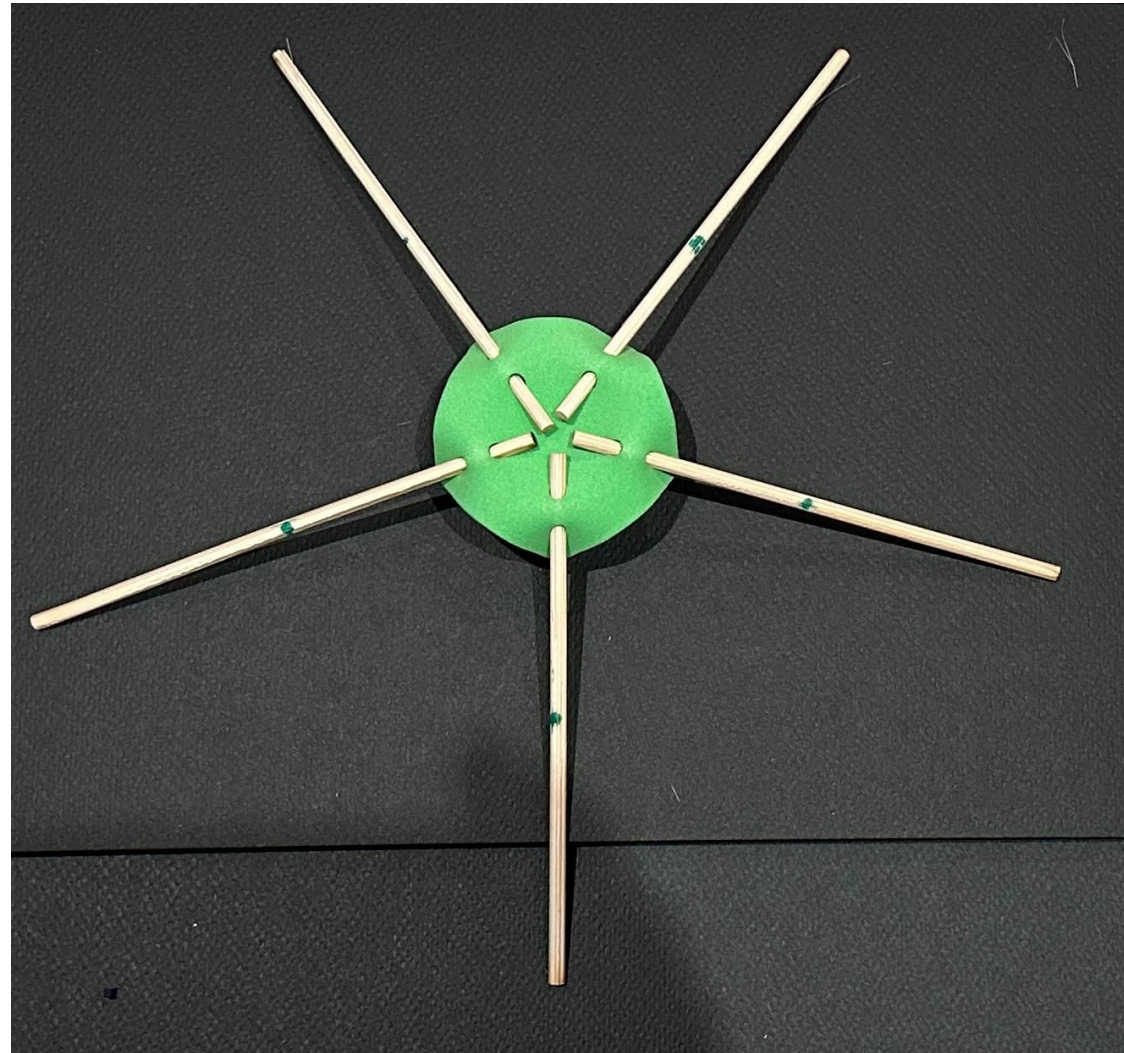
MATERIALES:

- 15** Barras **largas** (Marca **Rosa**)
- 20** Barras **cortas** (Marca **Verde**)
- 6** Pentágonos (Color **Verde**)
- 10** Hexágonos (Color **Morado**)



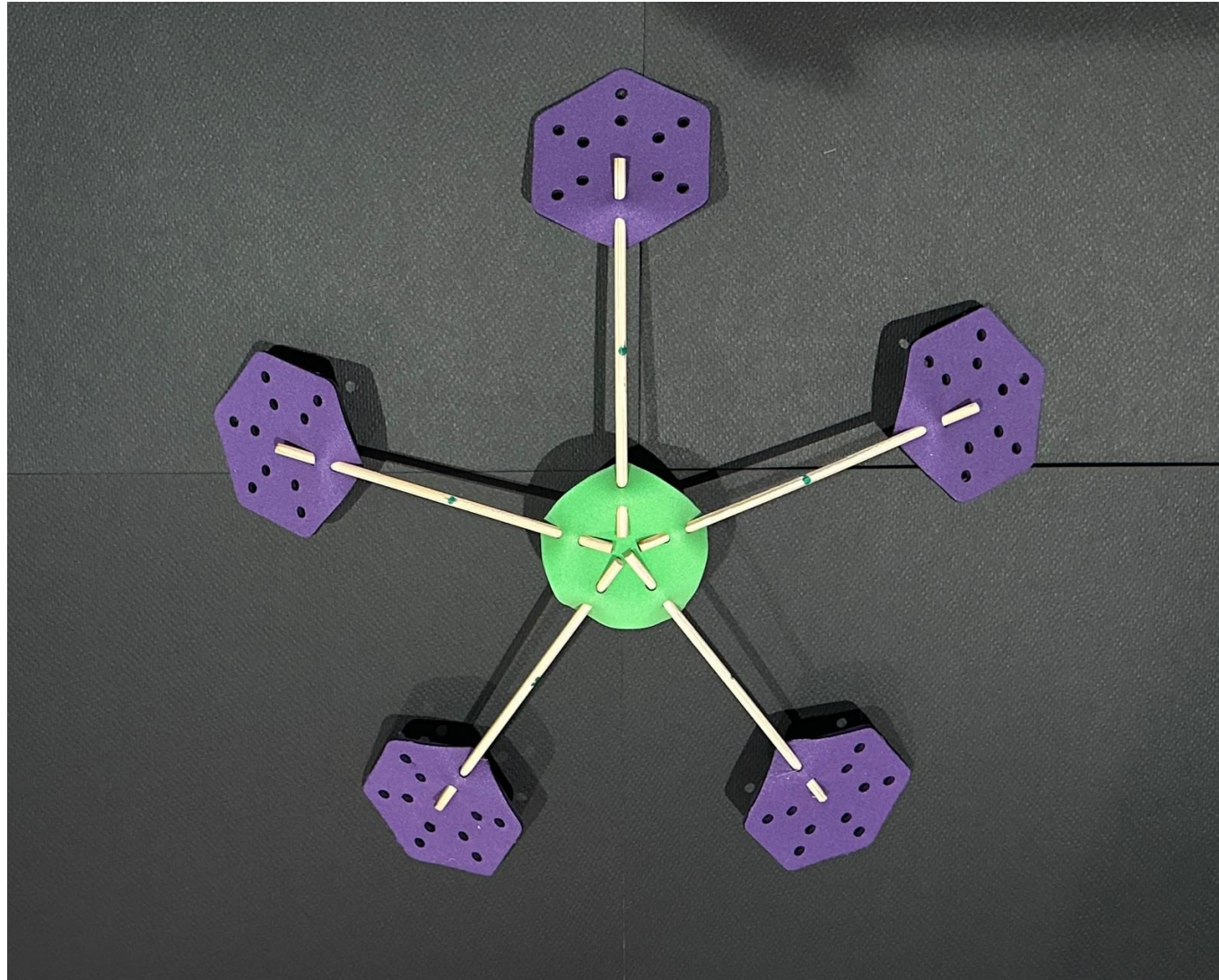
DOMO

PASO 1: COMENZAMOS CON UN PENTÁGONO (**VERDE**) Y LE UNIMOS 5 BARRAS CORTAS (**VERDES**)



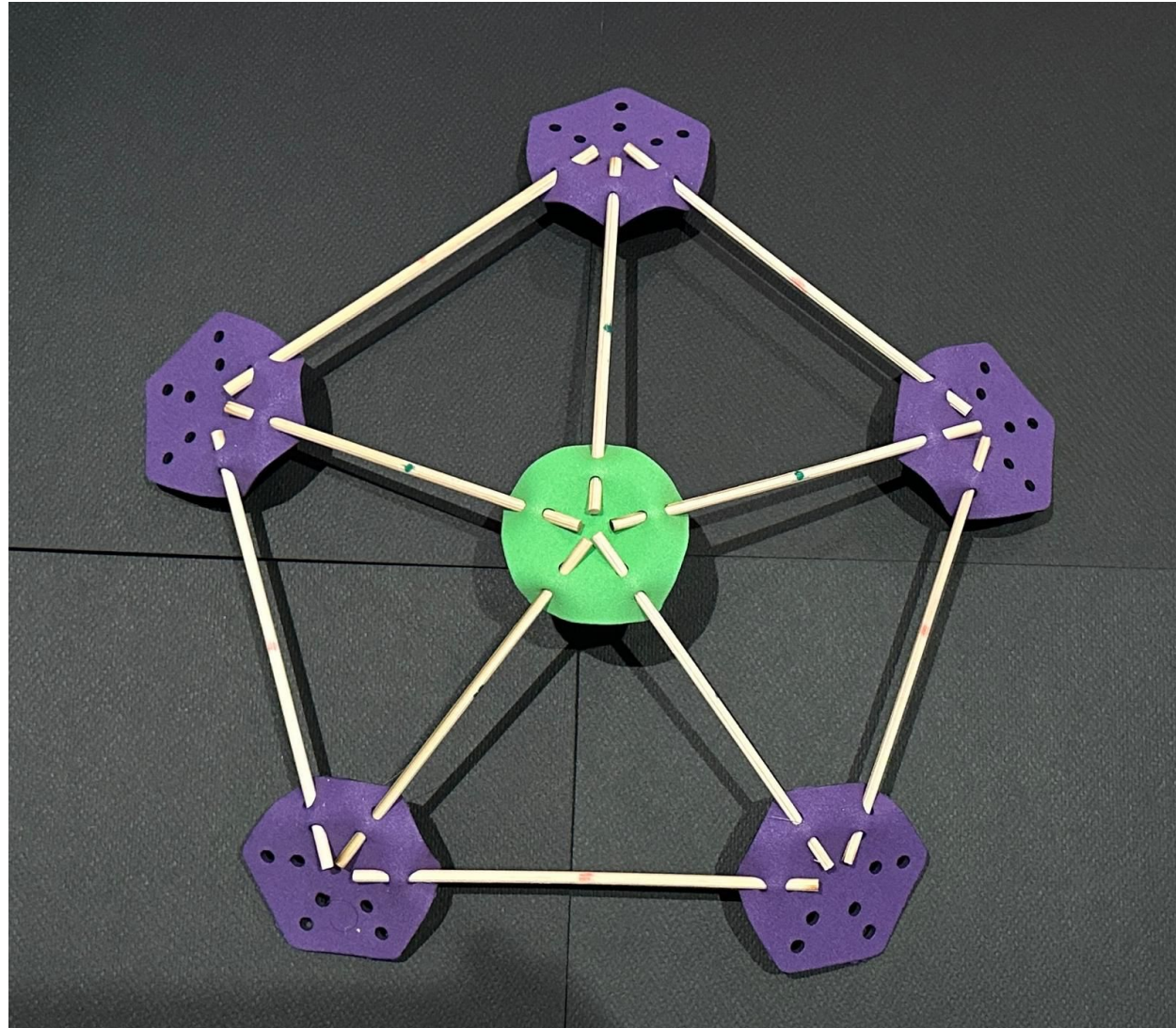
DOMO

PASO 2: UNIMOS UN HEXAGONO (MORADO) AL FINAL DE CADA BARRA



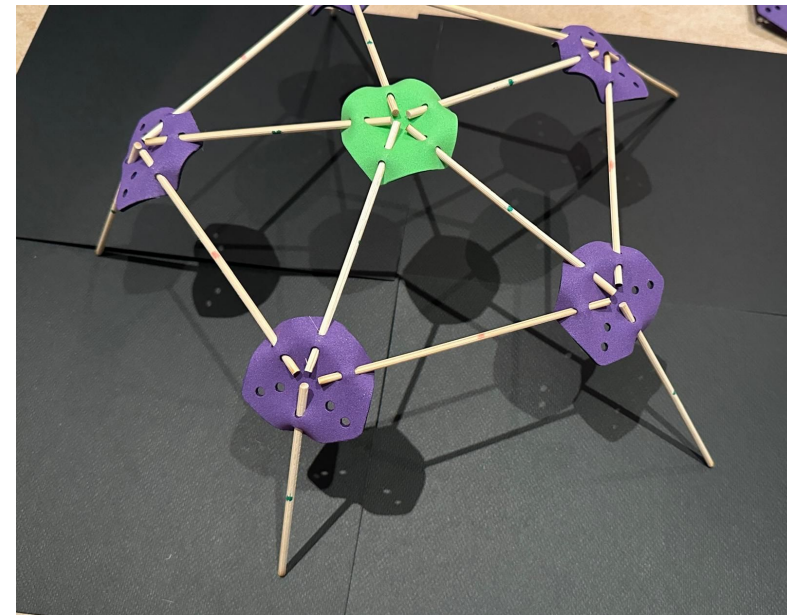
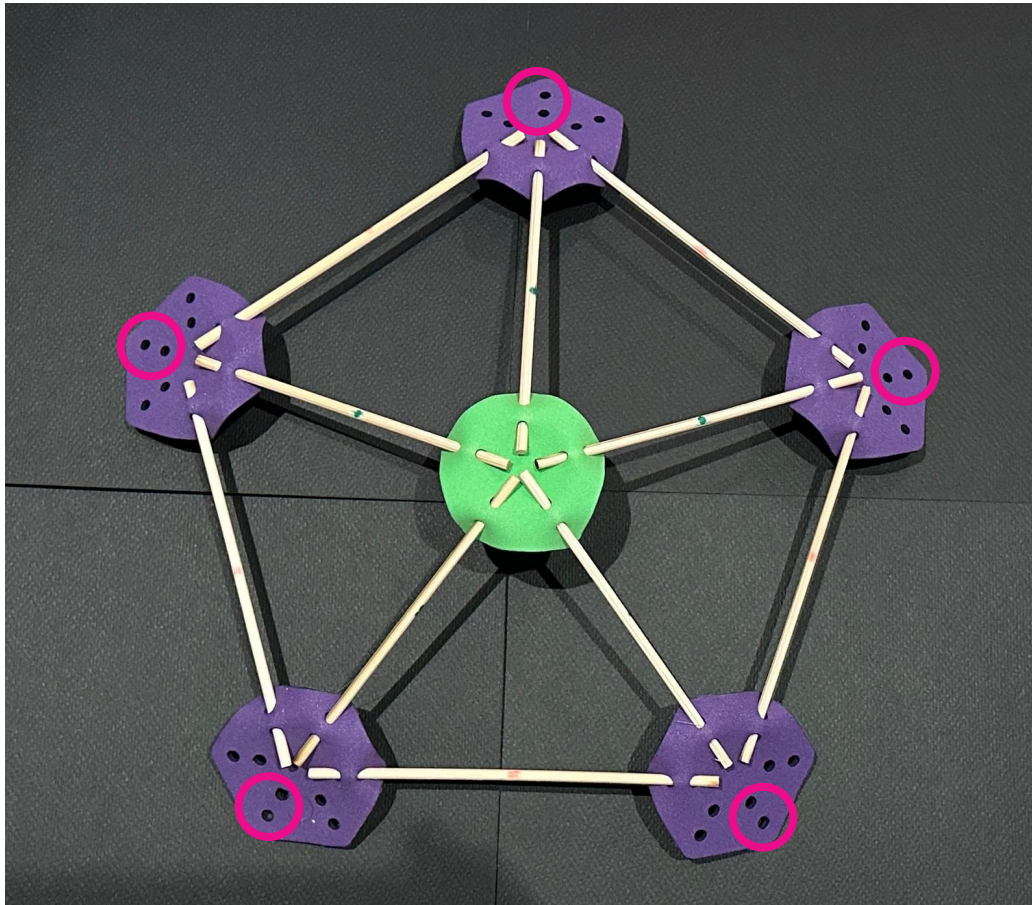
DOMO

PASO 3: UNIMOS LOS HEXAGONOS (MORADO) ENTRE SÍ
CON BARRAS LARGAS (ROSA)



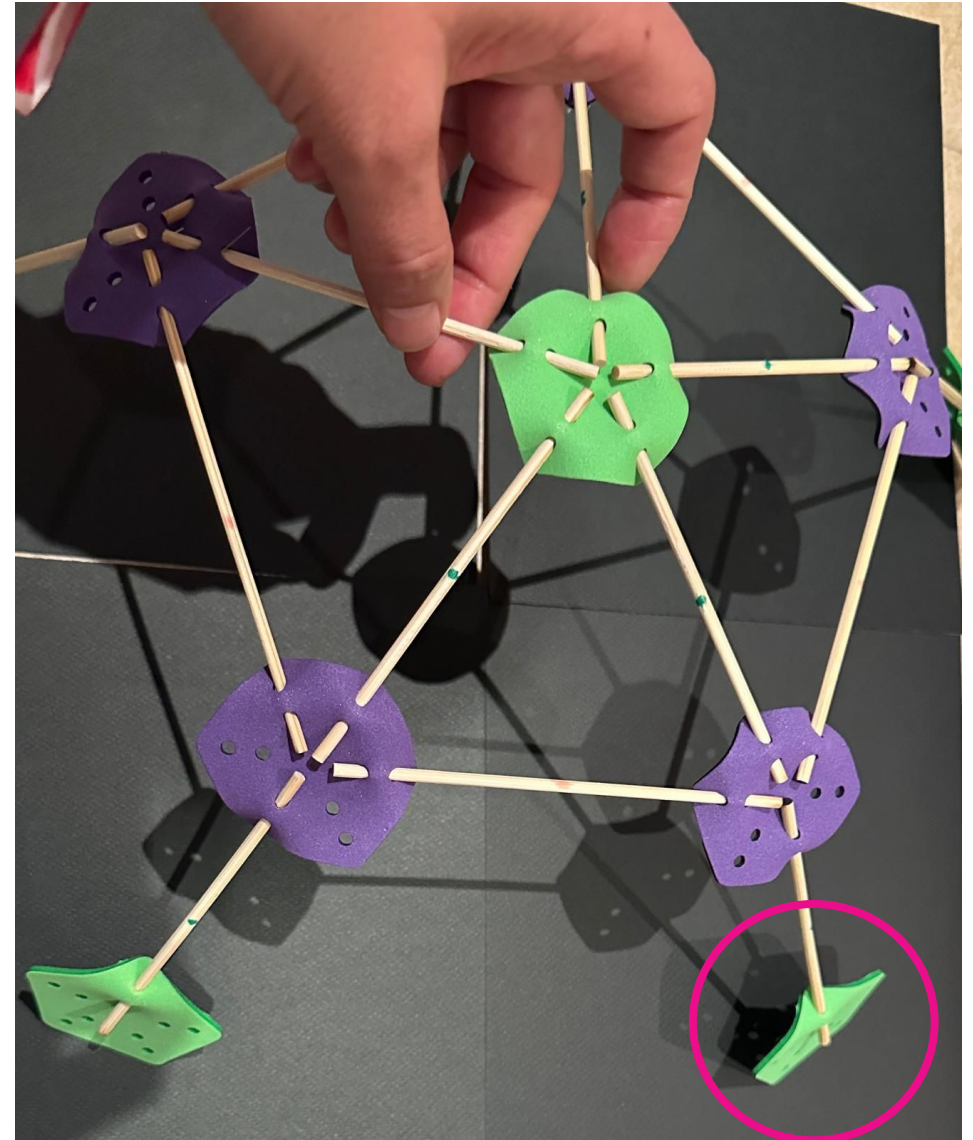
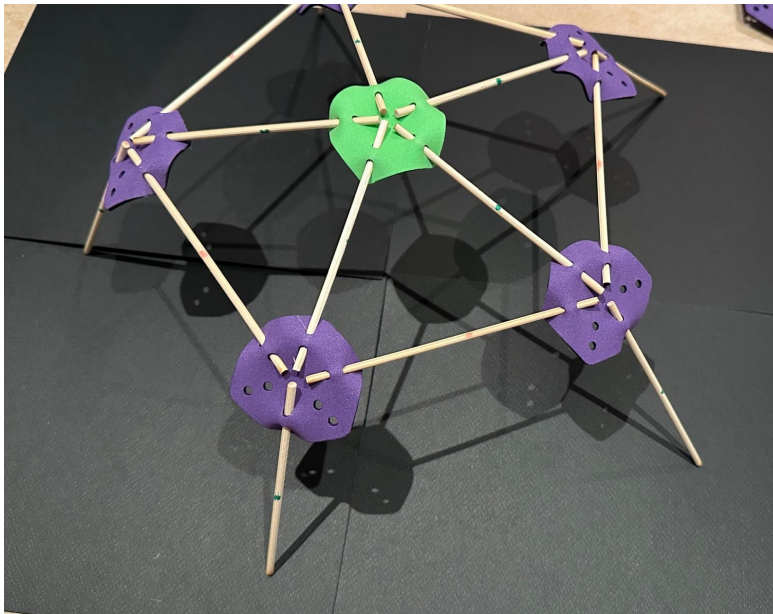
DOMO

PASO 4: AÑADIMOS UNA BARRA **CORTA** (**VERDE**) EN COMO SI FUERA UNA PATA EN LOS PUNTOS CENTRALES DE LOS HEXÁGONOS



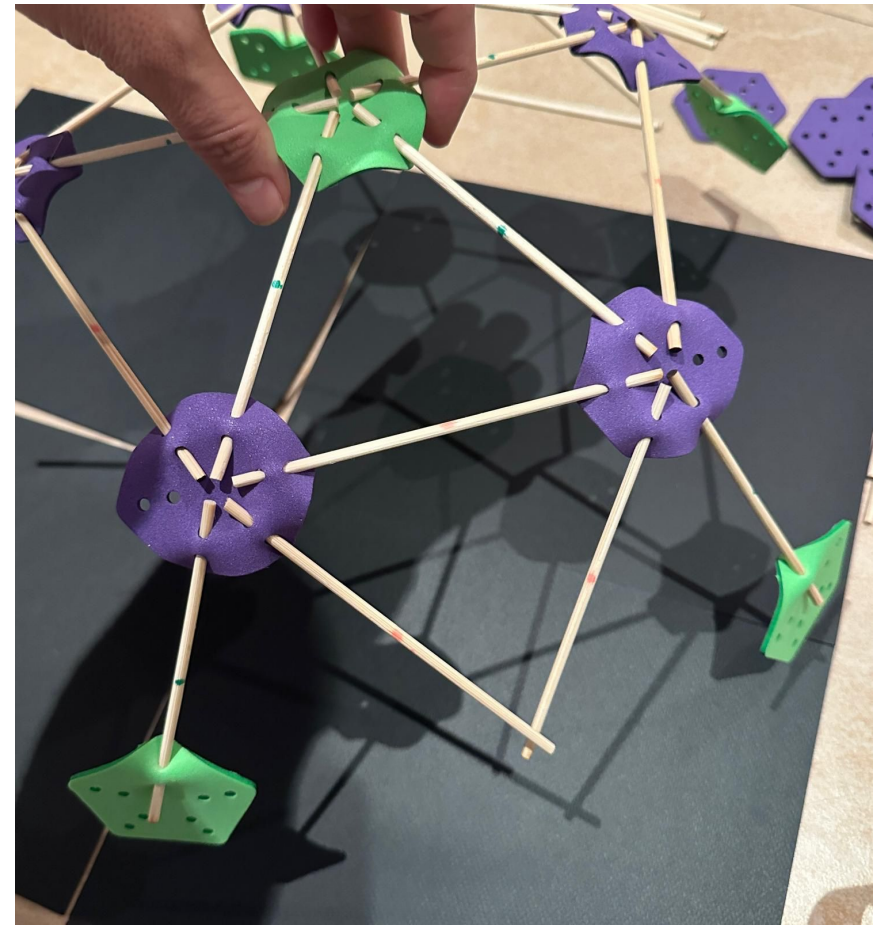
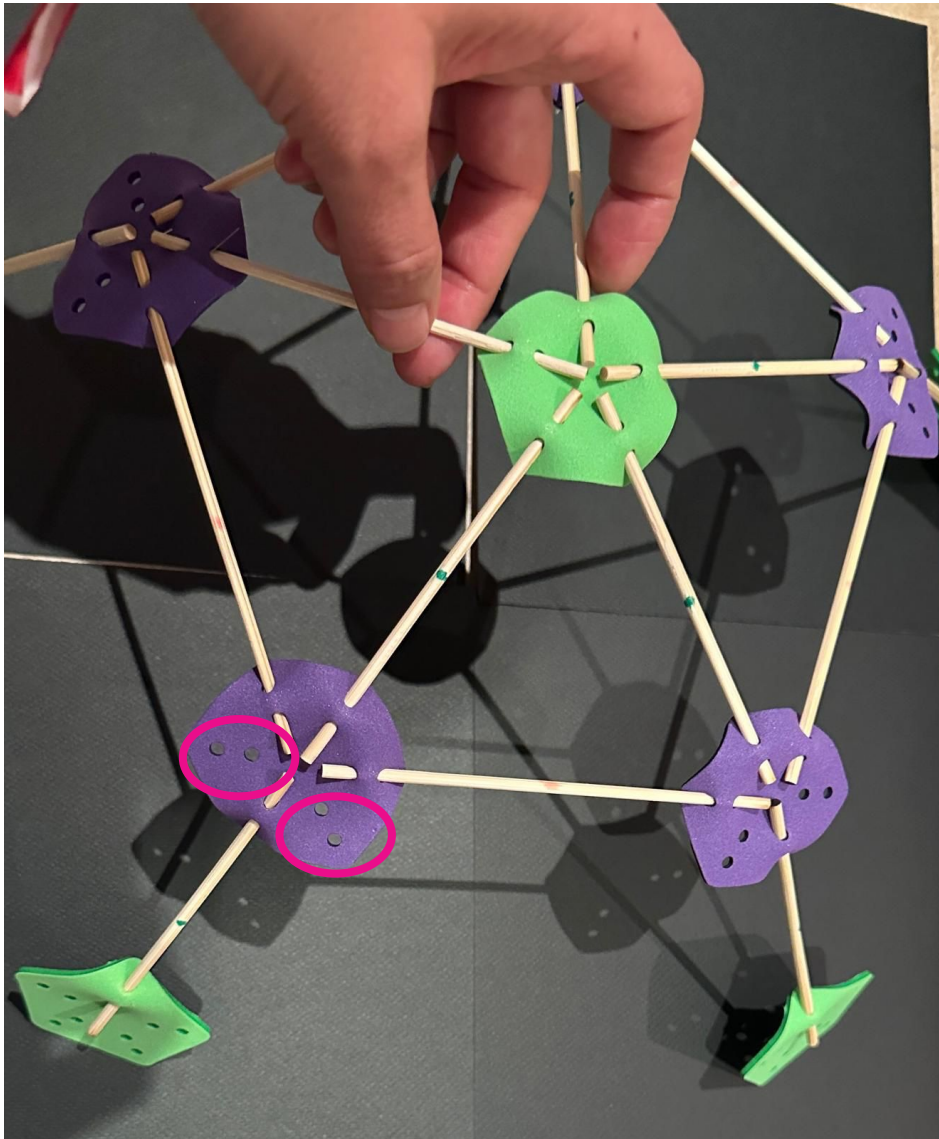
DOMO

PASO 5: AÑADIMOS UN PENTÁGONO (**VERDE**) AL EXTREMO DE CADA PATA



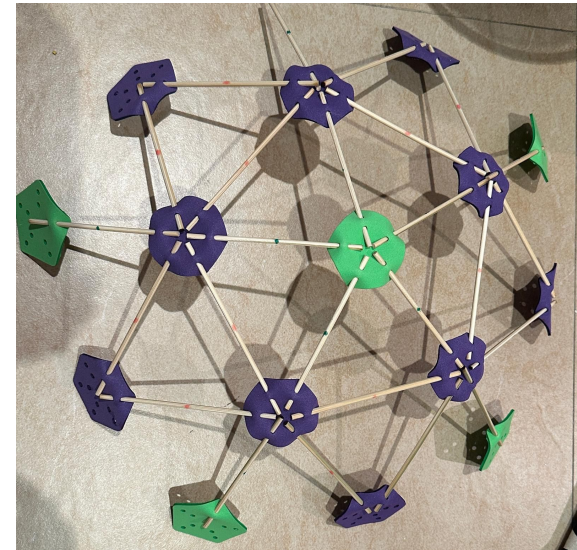
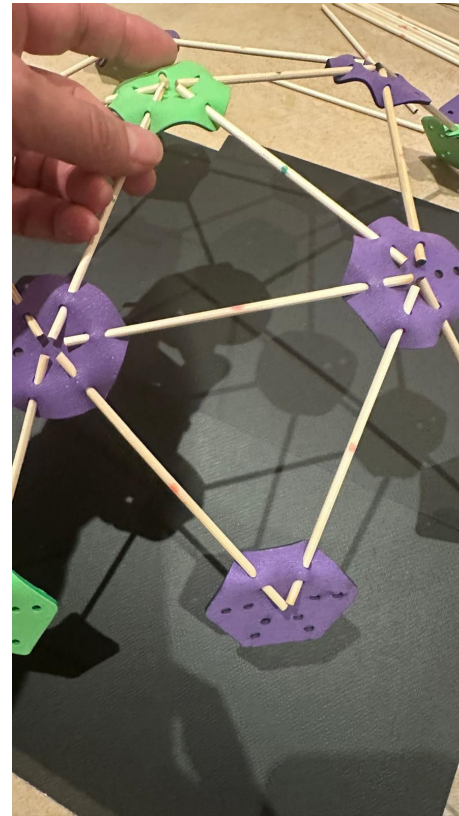
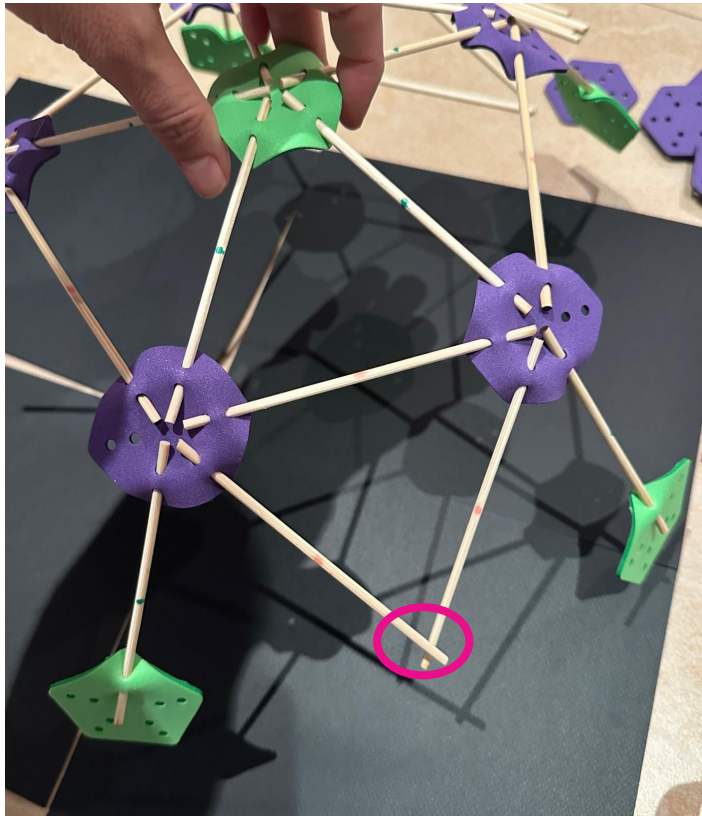
DOMO

PASO 6: CONECTAMOS 2 BARRAS LARGAS (**ROSAS**) EN LAS CONEXIONES QUE QUEDAN DE LOS HEXÁGONOS



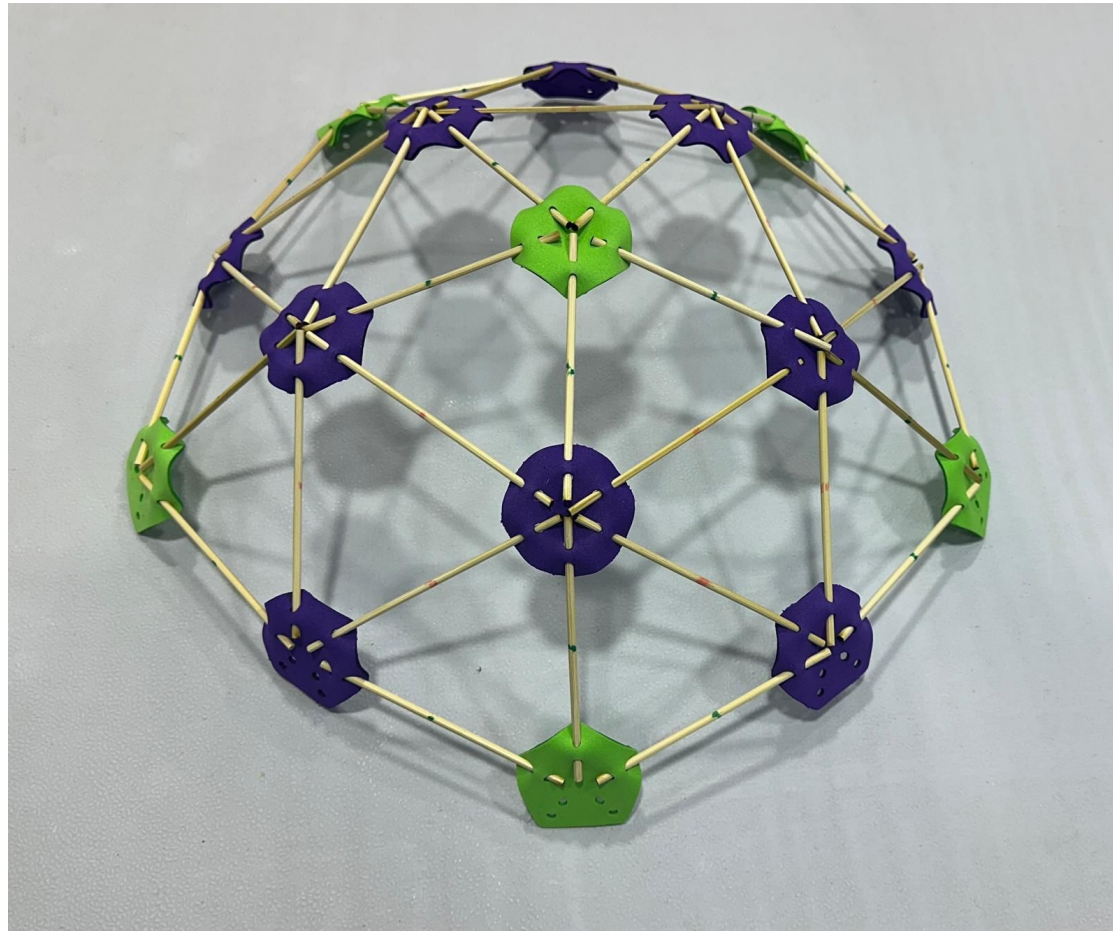
DOMO

PASO 7: CONECTAMOS ESTAS 2 ULTIMAS BARRAS LARGAS CON UN HEXÁGONO Y REPETIMOS PARA TODOS LOS LADOS



DOMO

PASO 8: CONECTAMOS FINALMENTE TODAS LAS FORMAS CON LAS BARRAS QUE QUEDAN (**CORTAS**)



CONCLUSIÓN DE LA SEGUNDA PARTE

¿Qué os ha parecido?

- Rellena la encuesta. Pon tu nombre (sin apellido)

The survey form is titled 'fab CONNECT her' with the tagline 'Future Female Innovators In STEAM' and 'FABLAB León'. It includes a 'Nombre:' field with a placeholder for a name. There are three questions, each with a response area:

- Question 1: '¿Qué te ha parecido esta actividad?' with a response area containing six emoji options: happy, neutral, sad, surprised, sleeping, and angry.
- Question 2: '¿Qué otra cosa te gustaría hacer o inventar?' with a large empty response area.
- Question 3: '¿Tienes algún proyecto que realizar con lo que has aprendido hoy?' with a large empty response area.

A cartoon character of a girl with red hair, wearing a white lab coat and a blue hat, is standing at the bottom right of the form.

fab CONNECT her

Future Female
Innovators In STEAM

¡¡GRACIAS!!

The European Commission support for the production of this publication does not constitute an endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein

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