The Fiber Technology Used in Space Development:

Making Braids and Taking Thread from Cocoons

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Armor, Swords, and Women's and Men`s Traditional Kimonos

Iga ninja

Braiding looms

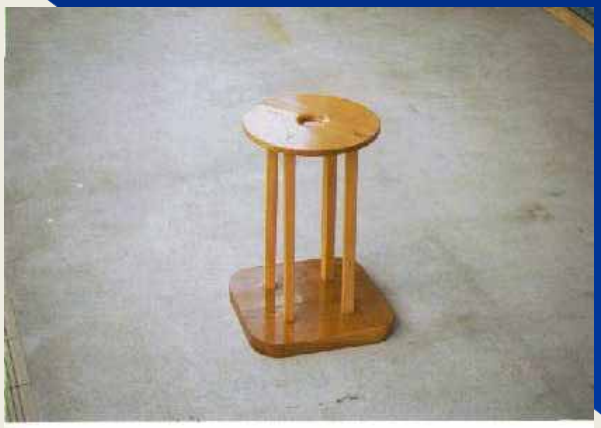
Round

High

Square

Bamboo

The students are making looms in Industrial Arts class.






These are the different shaped looms made by the students.

Bracelet

A Japanese style belt used to tie Kimono.

Small wreath

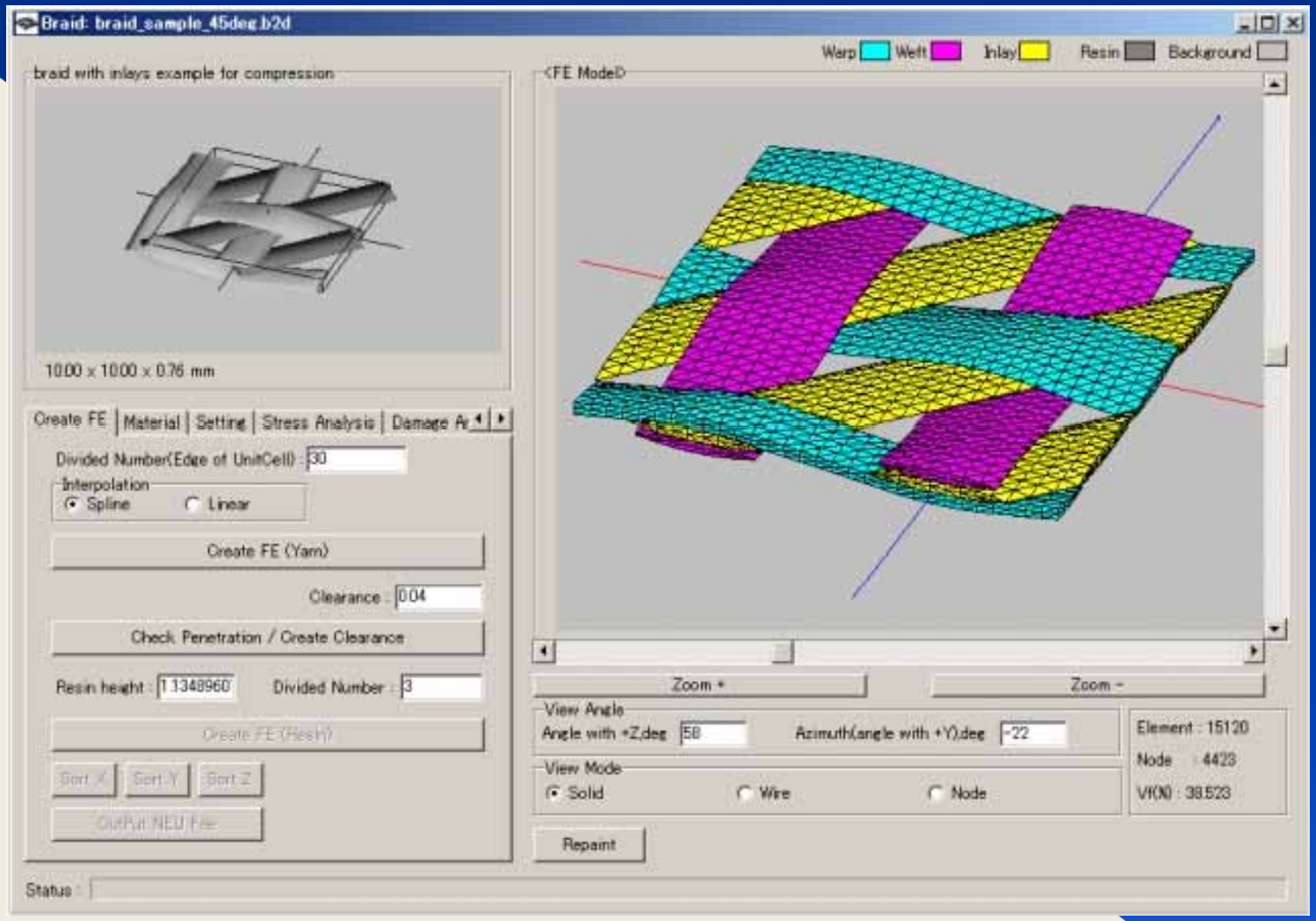
Woman`s hair accessory

Man`s tie

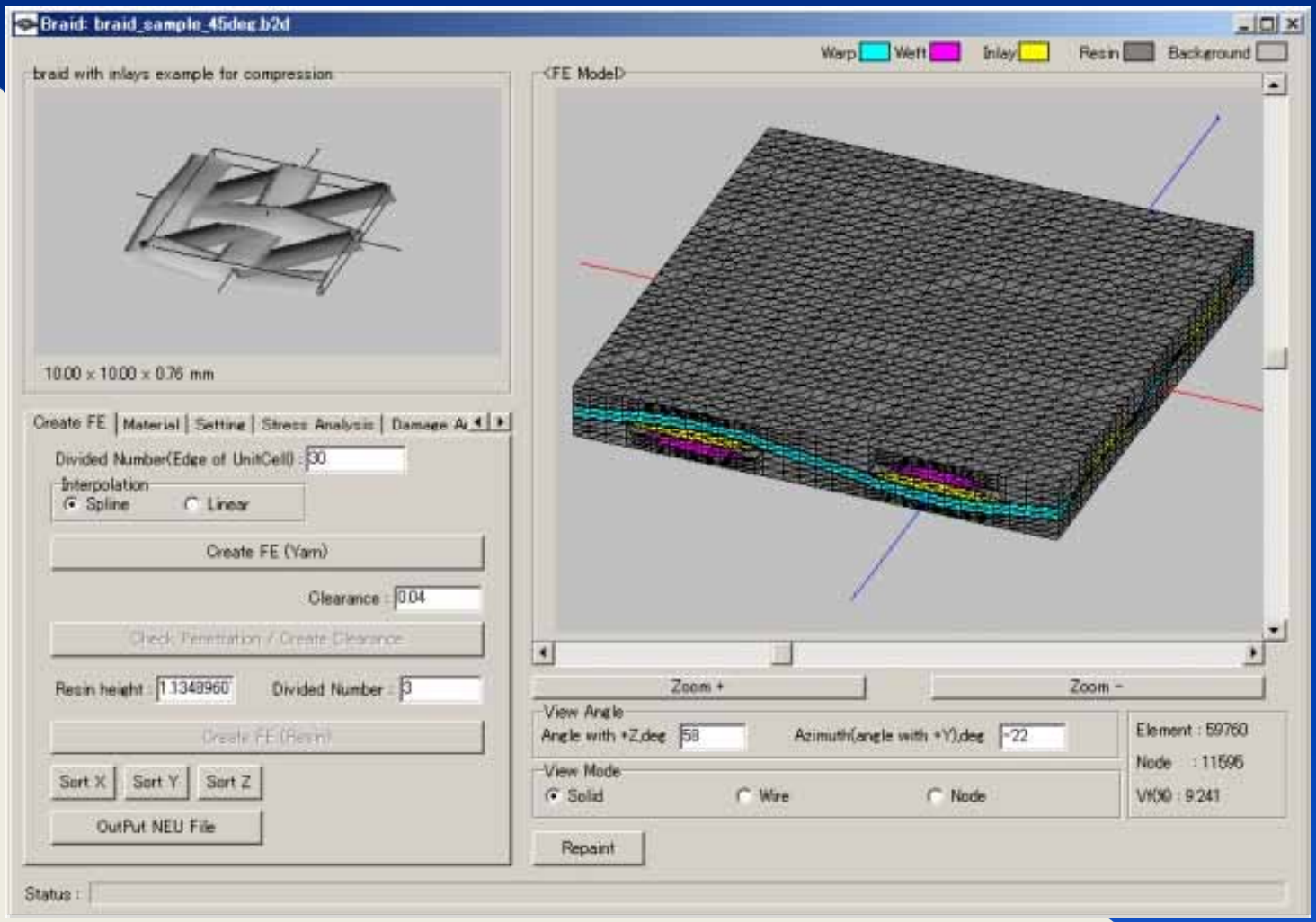
These are braided products made in Iga.

Strength Analysis of Braids by Computer-Aided Engineering

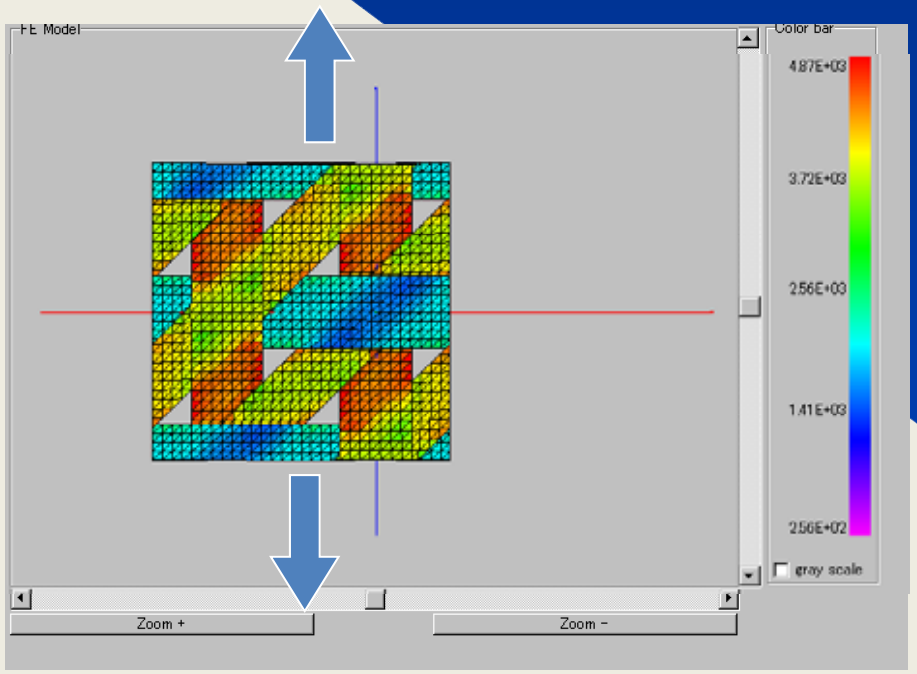
Analyzing software: Mesh Tech

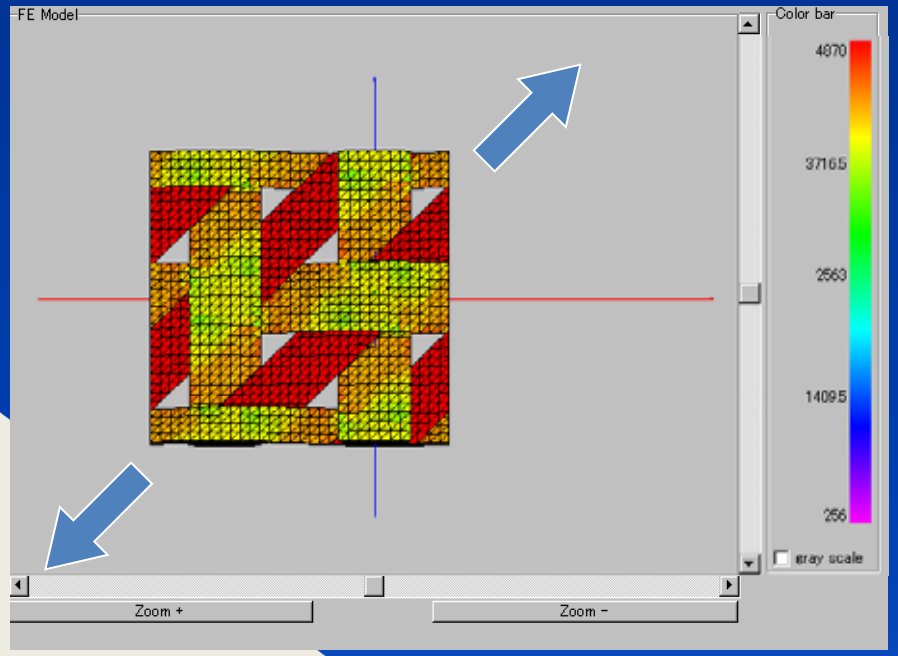


Stress and strain are distributed on the triaxial braided structure.

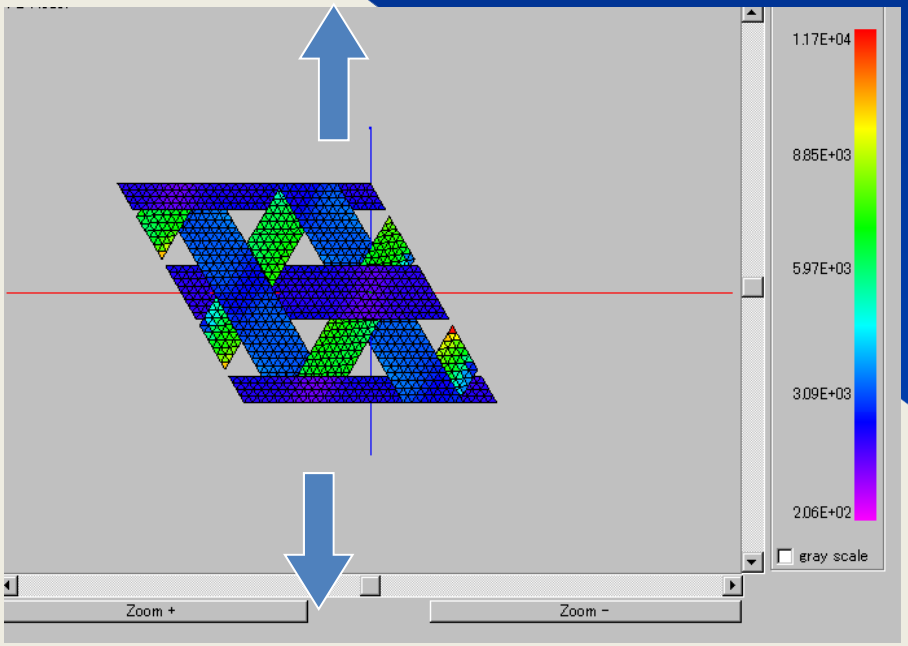


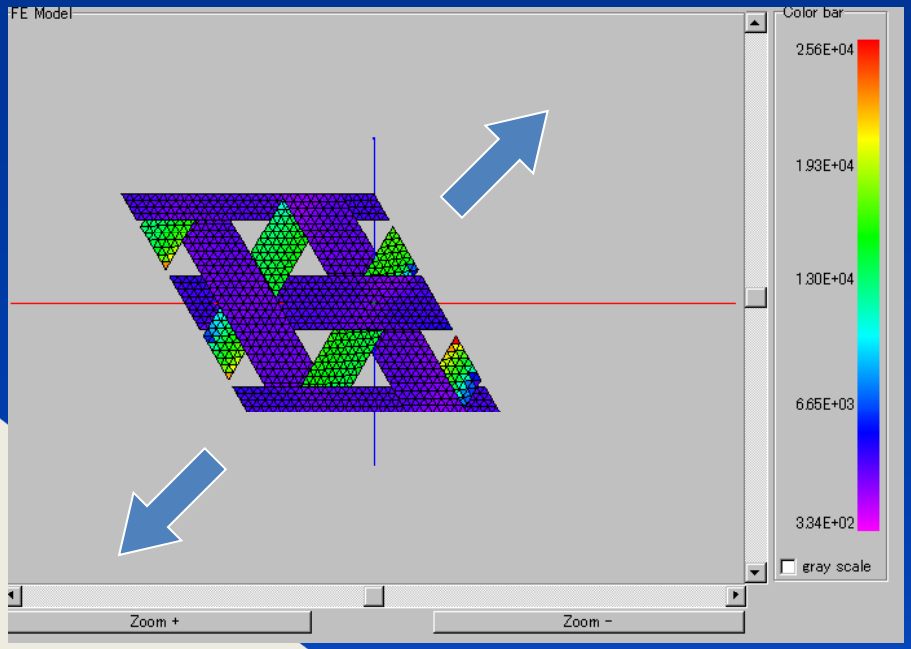
Triaxial layer fortified by Fiber Reinforced Plastic (FRP)



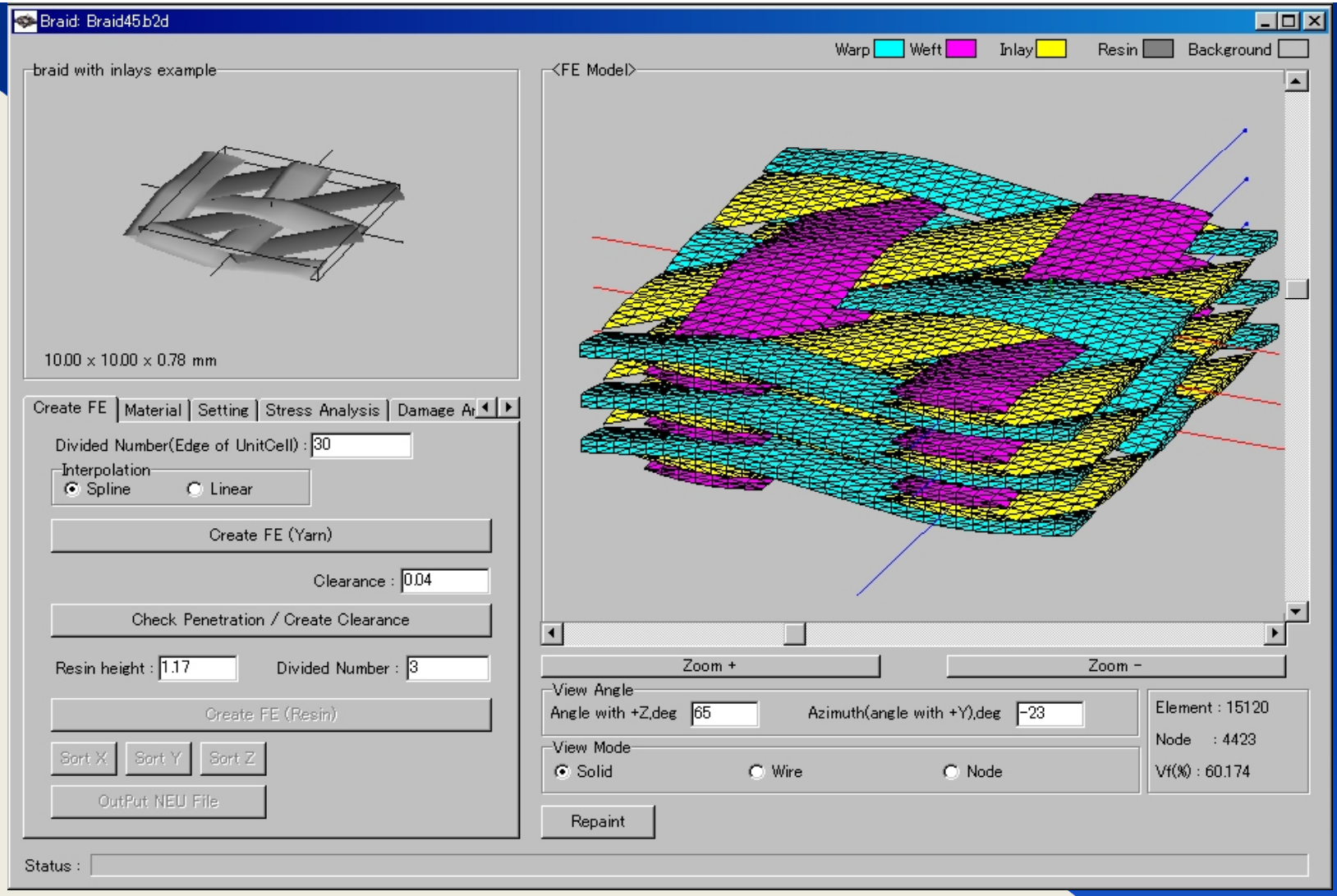


Triaxial braid structure interwoven at 45-degree angles

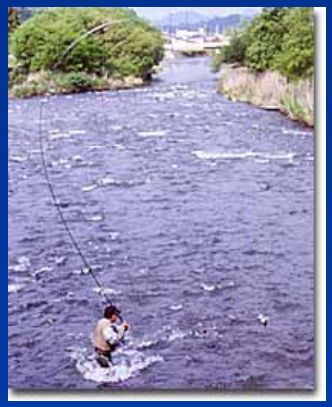




Triaxial braid structure interwoven at 60-degree angles.



Each triaxial structure is stacked to create a product that is resistant to pulls from every direction.



These everyday products were created using fiber technology.

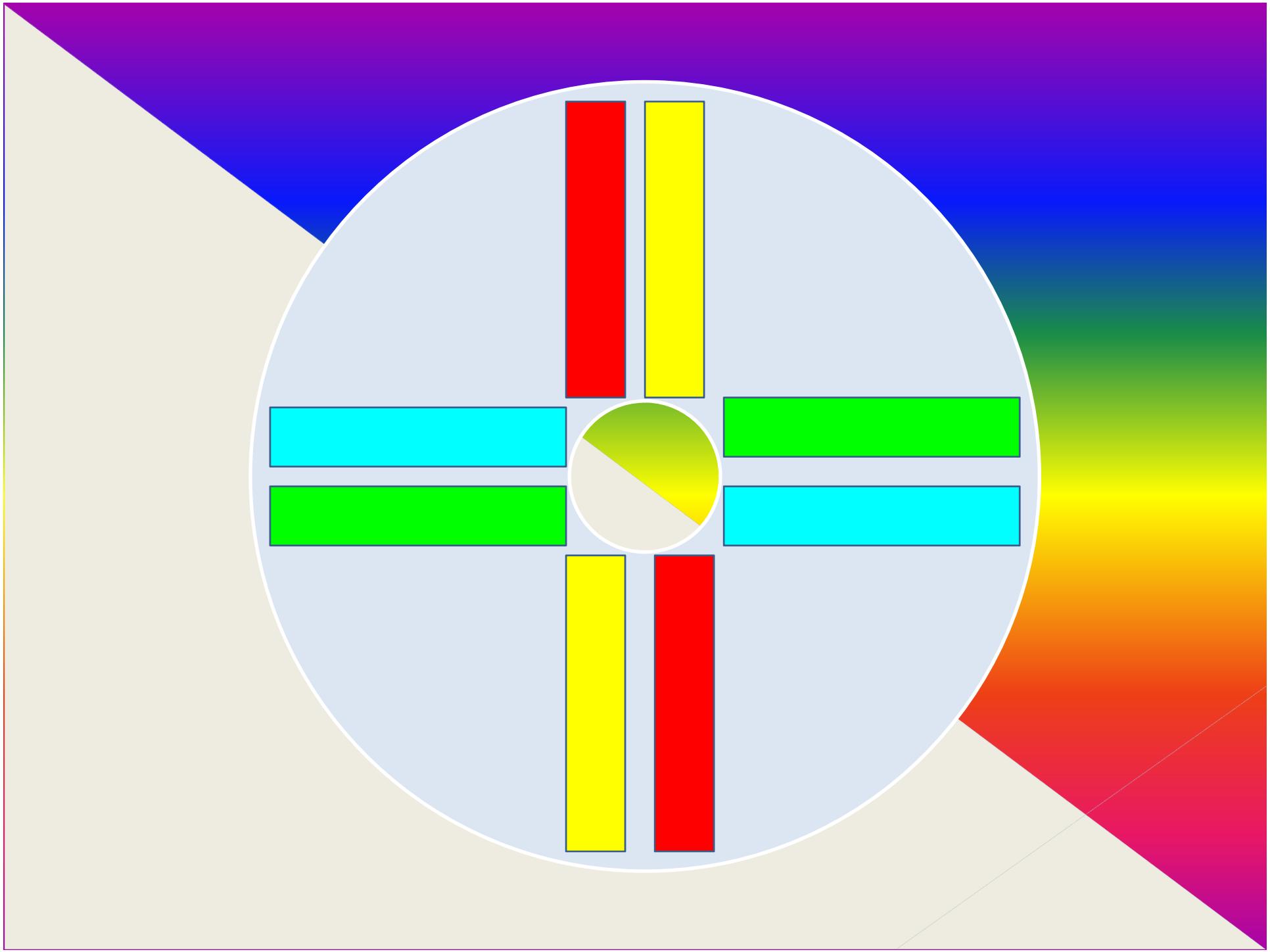
These are a few examples of how fiber technology is used in space development.

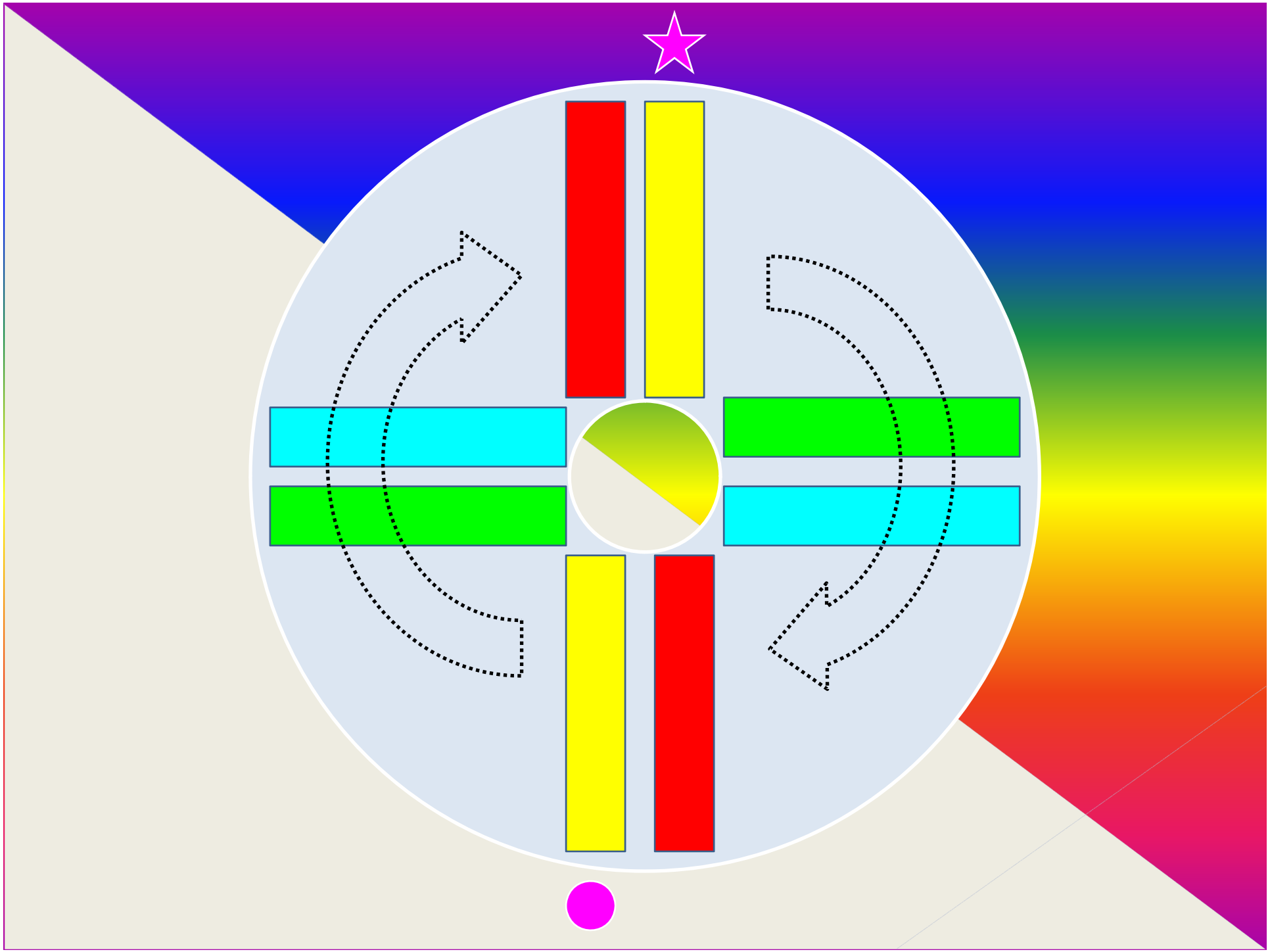
Making Iga Braids

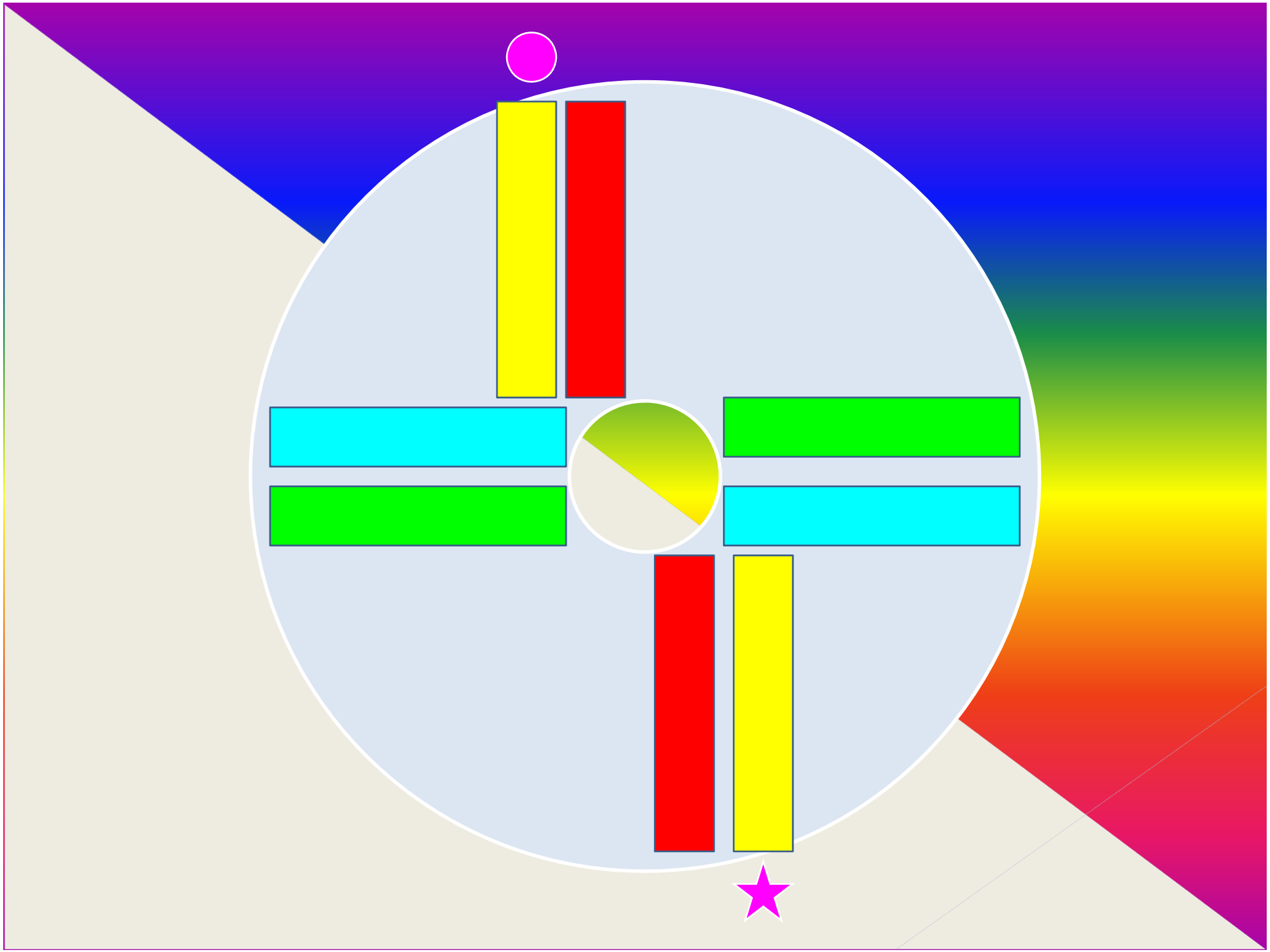
Taking Thread from Cocoons

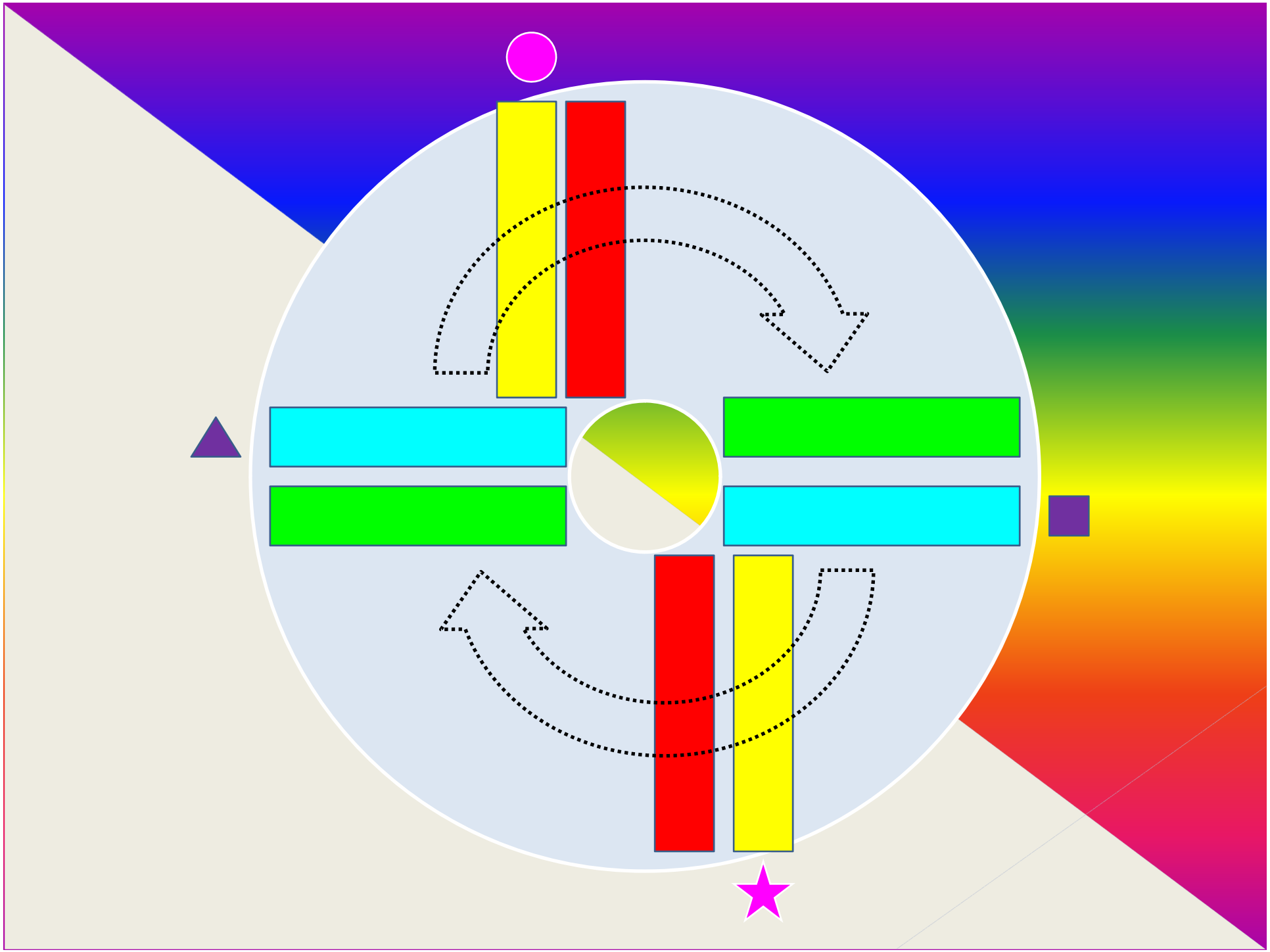
“Kon-gou Gumi”

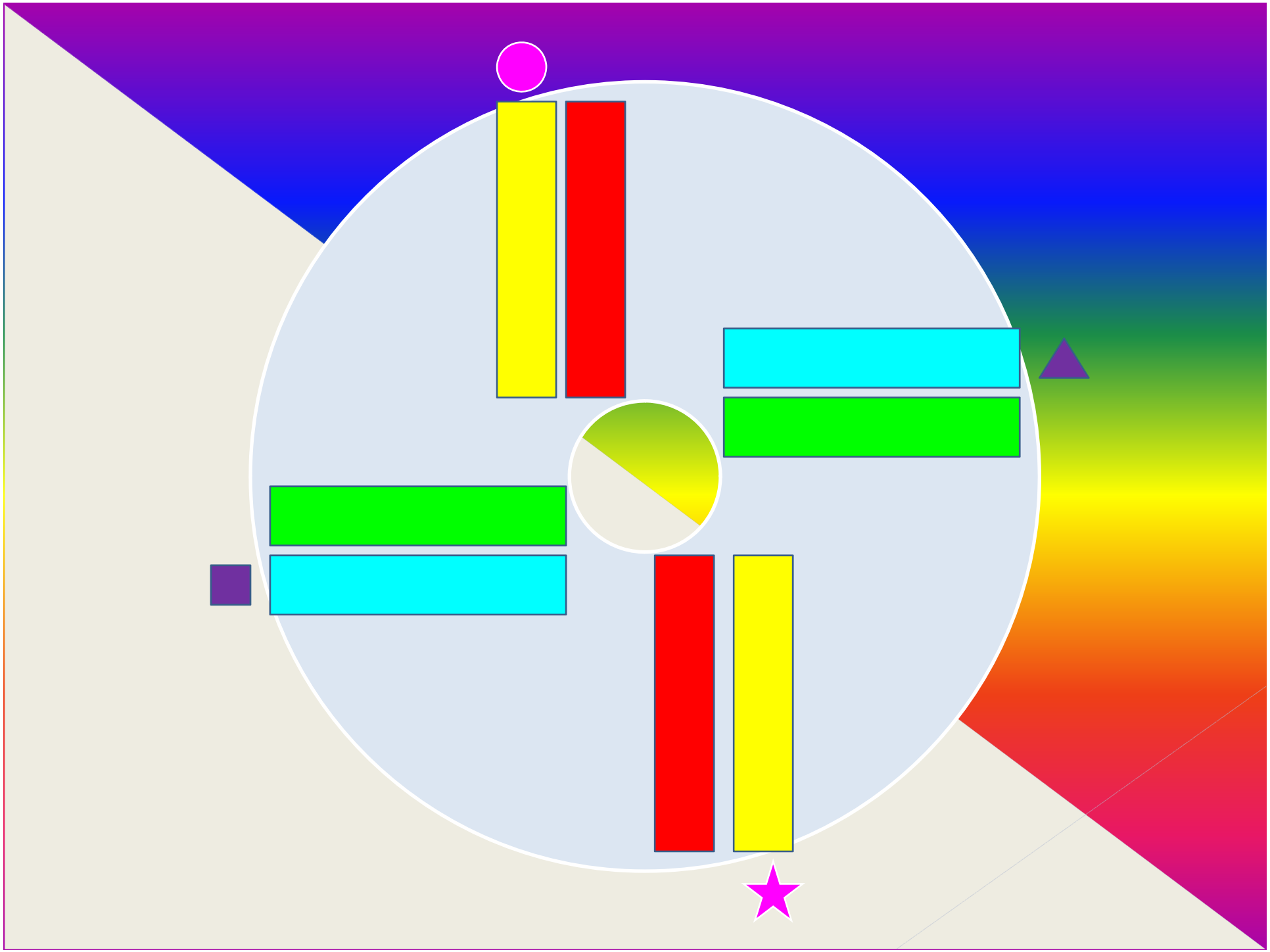
The process of weaving thread



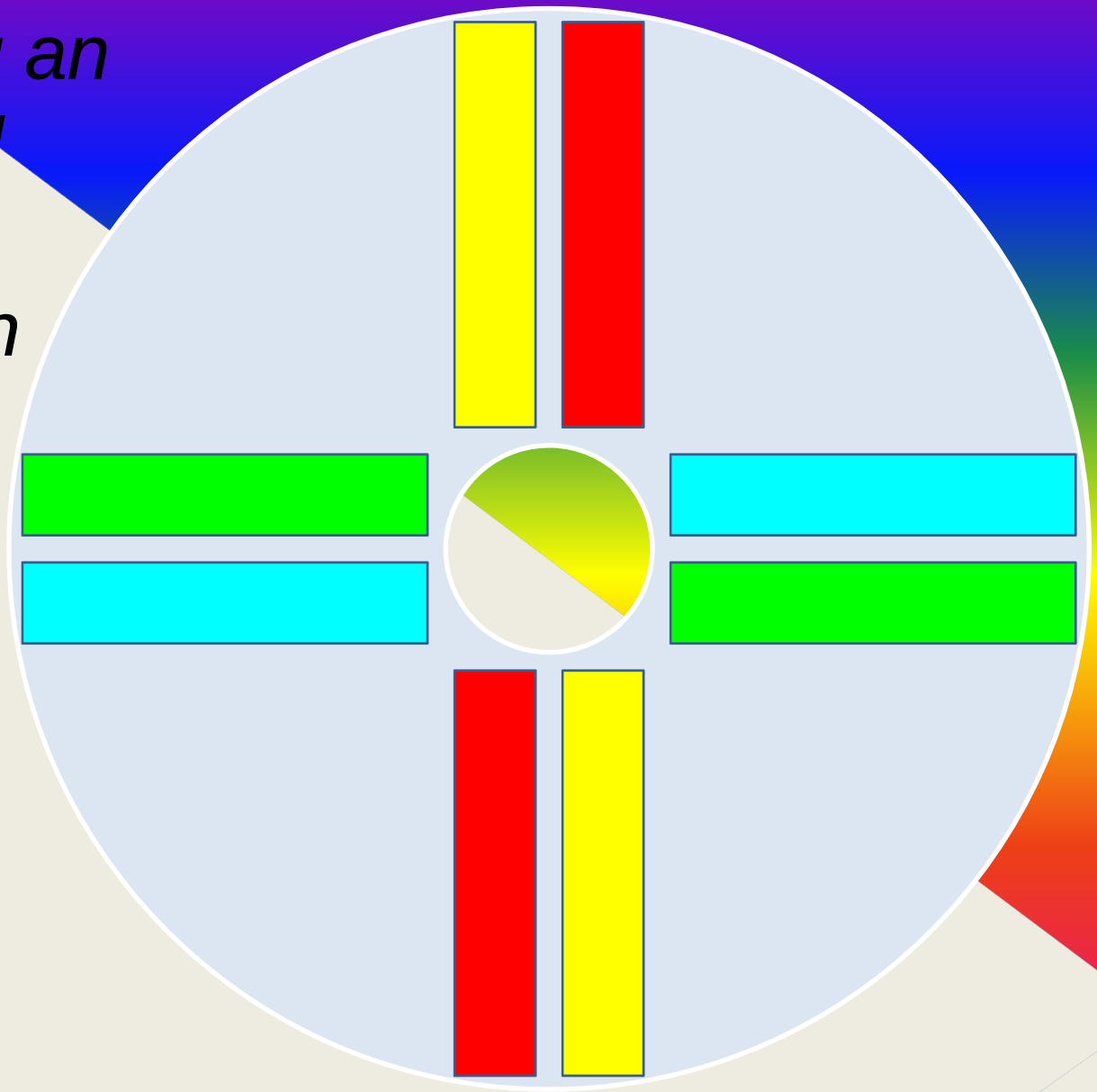


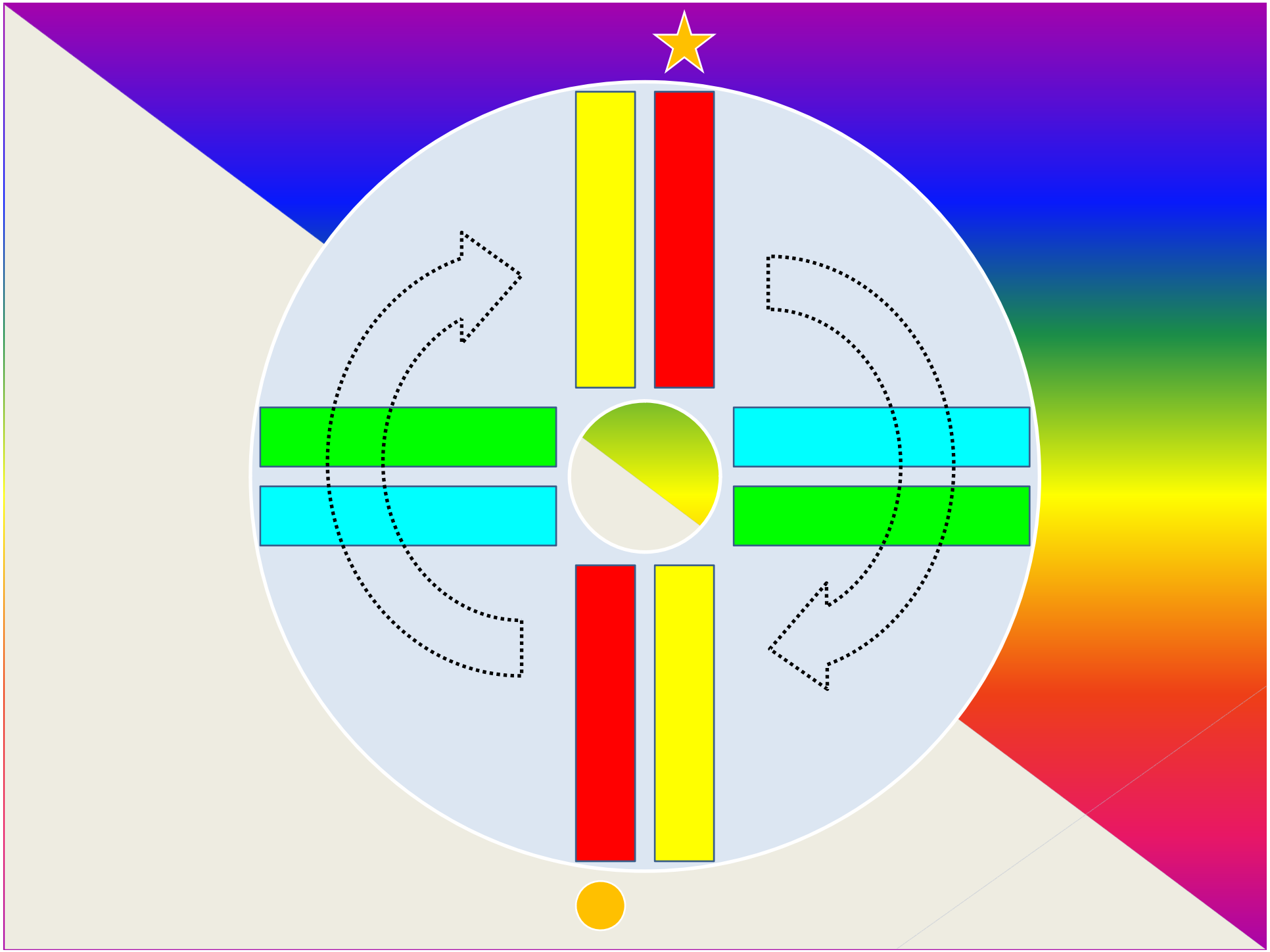


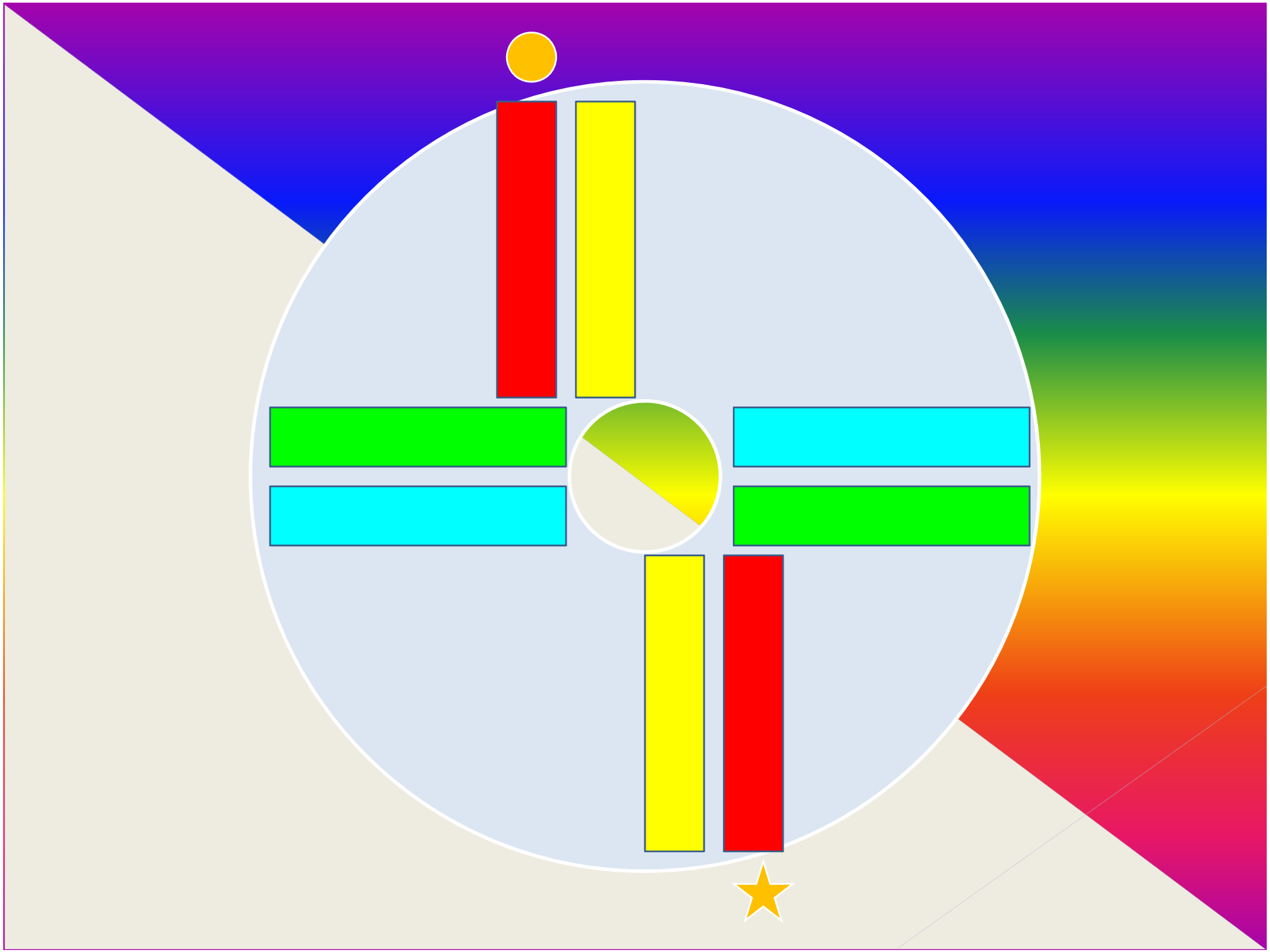


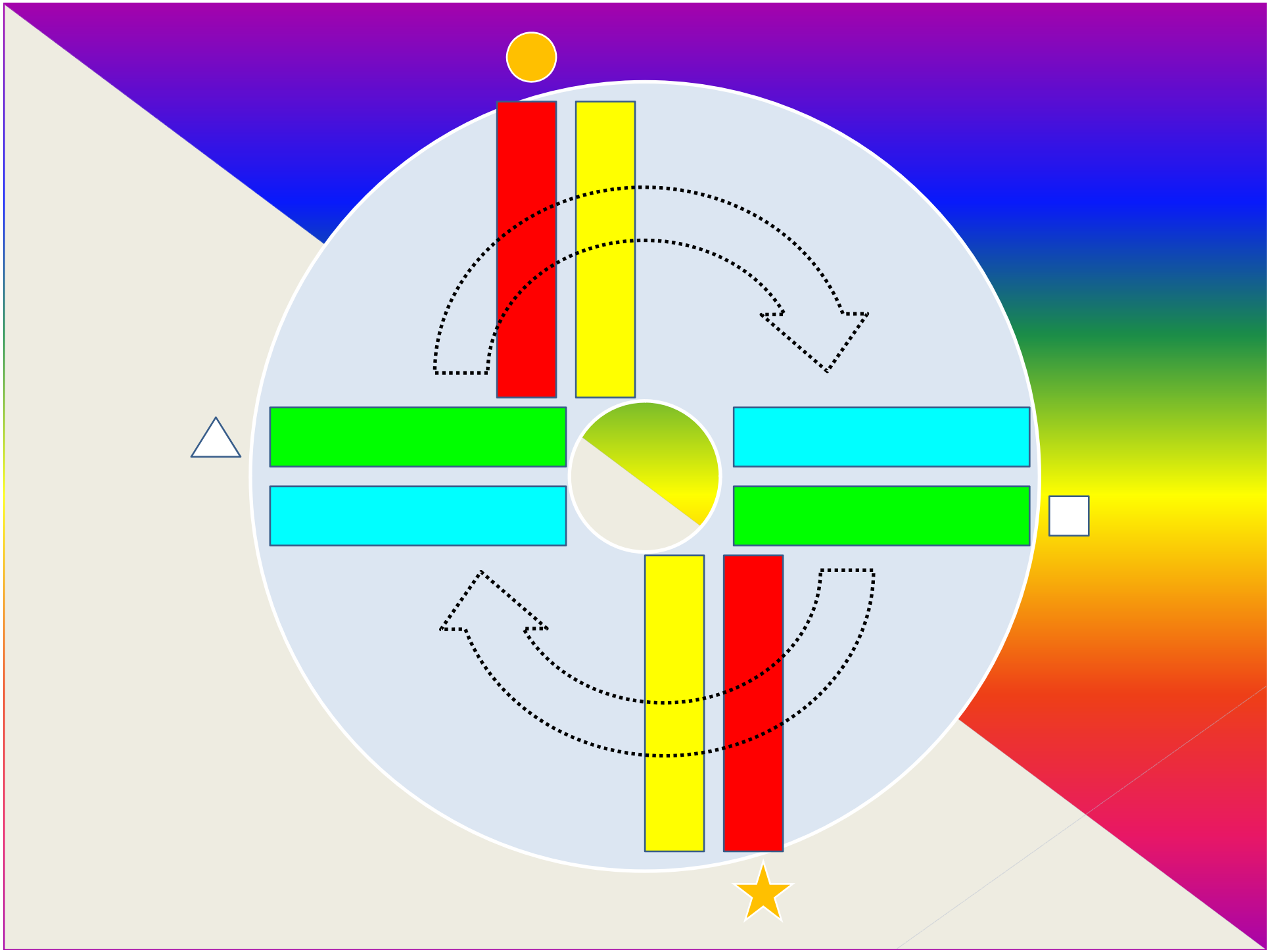


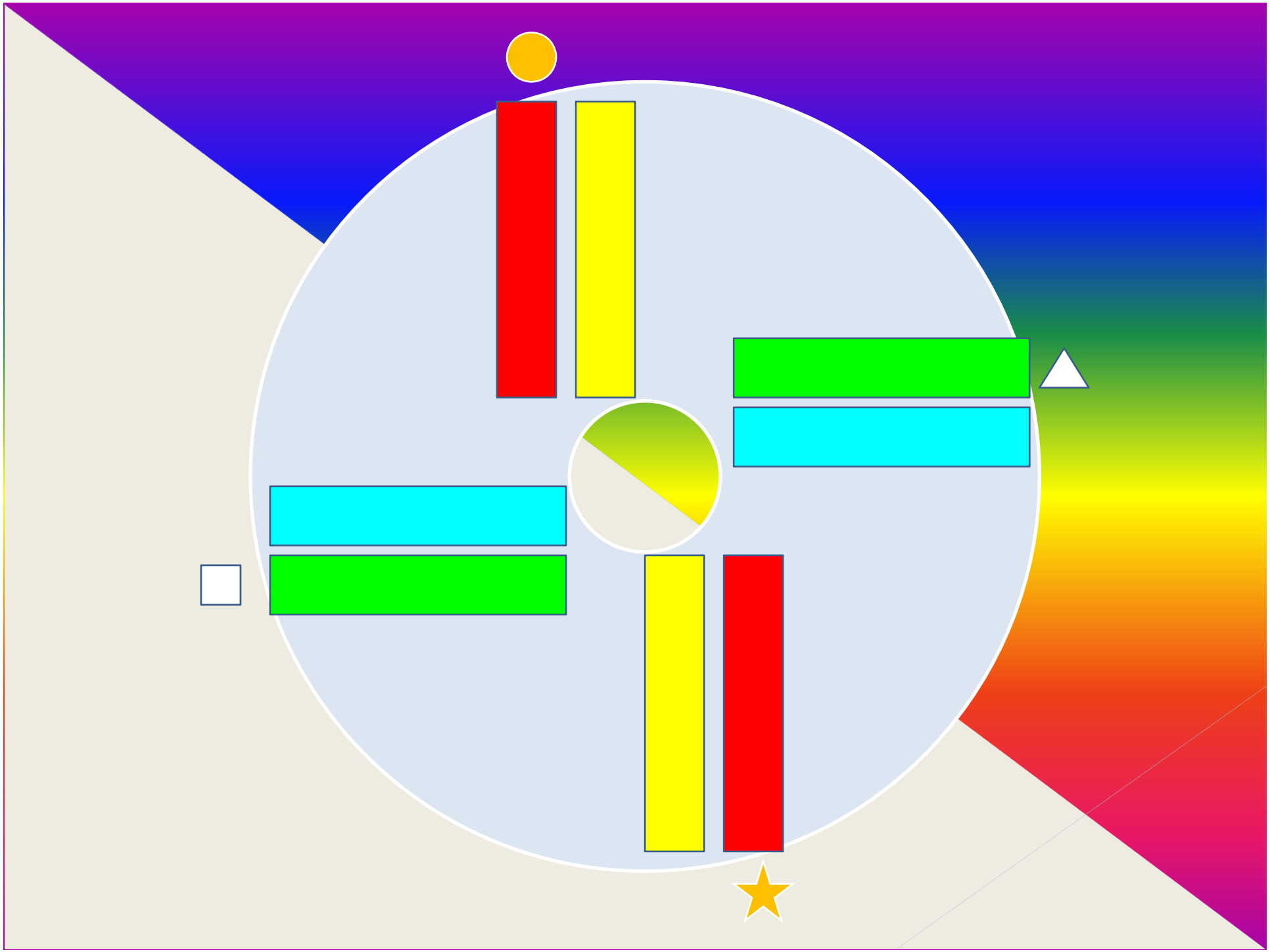
Making an original thread position











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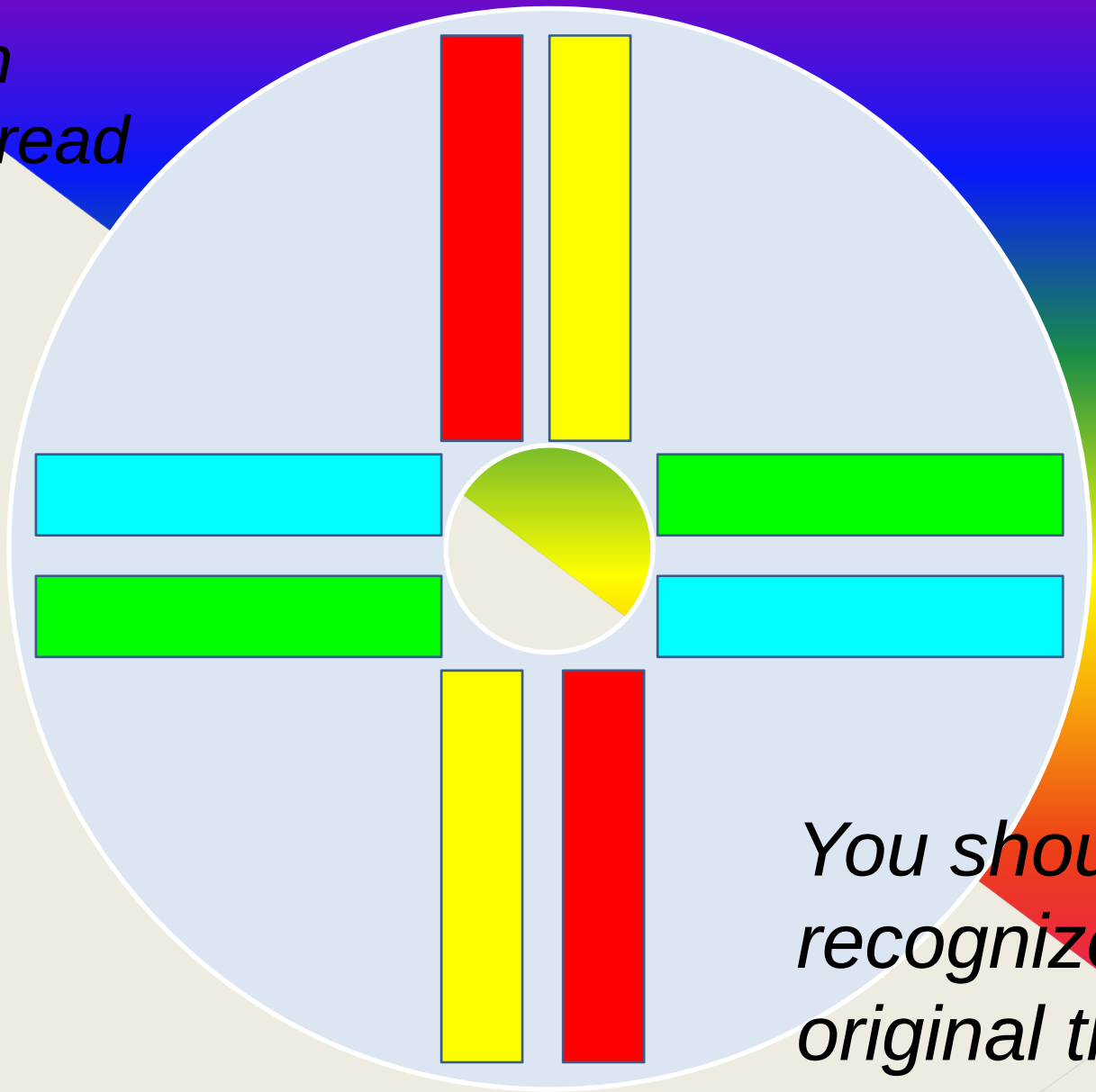

You should now recognize the original thread position.

Please repeat the process!

This concludes my presentation.

Thank you very much