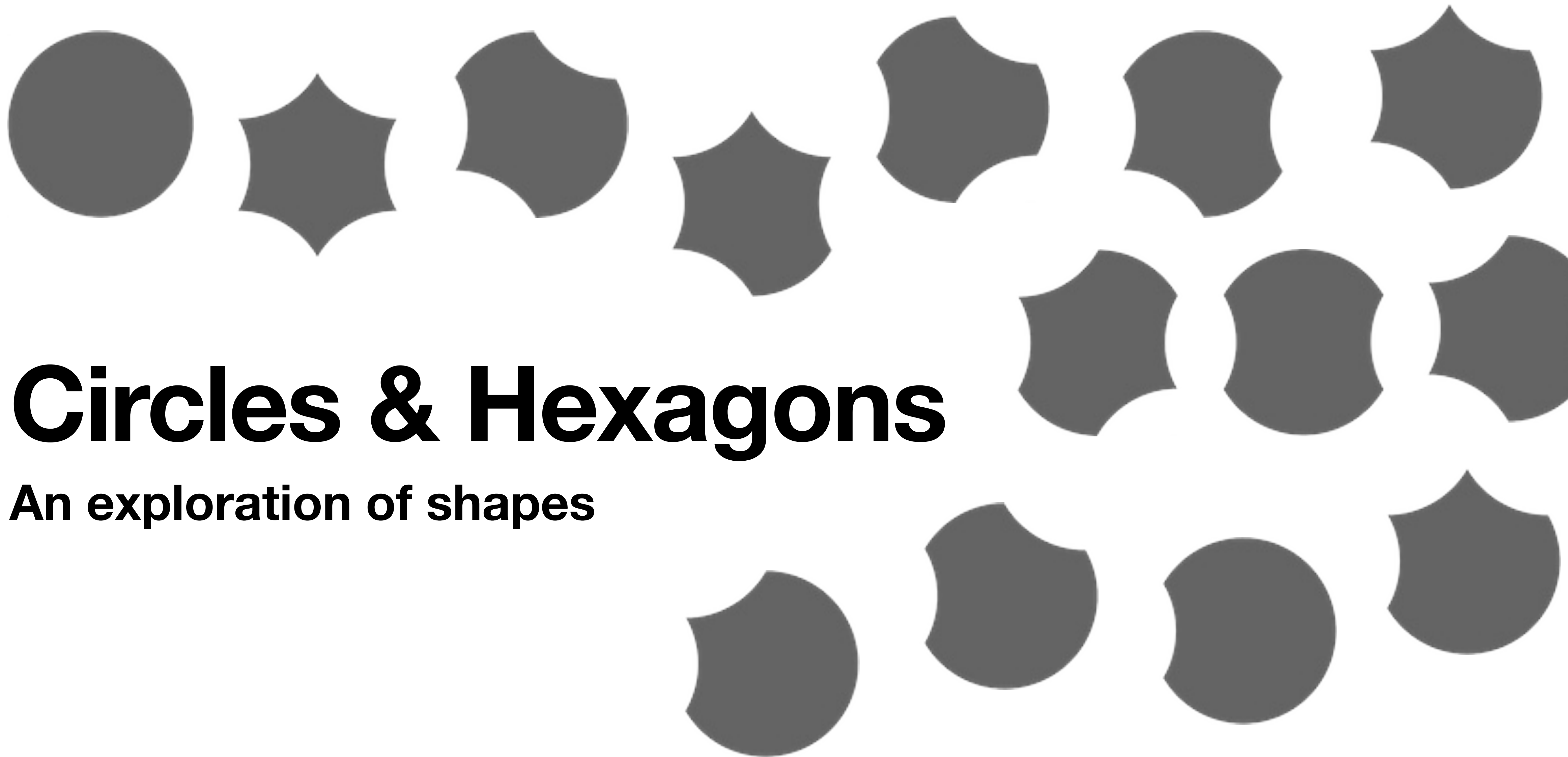




Circles & Hexagons

An exploration of shapes

It all began...
...last year when I saw this
post.

Obviously, I wanted to make
a game with them.



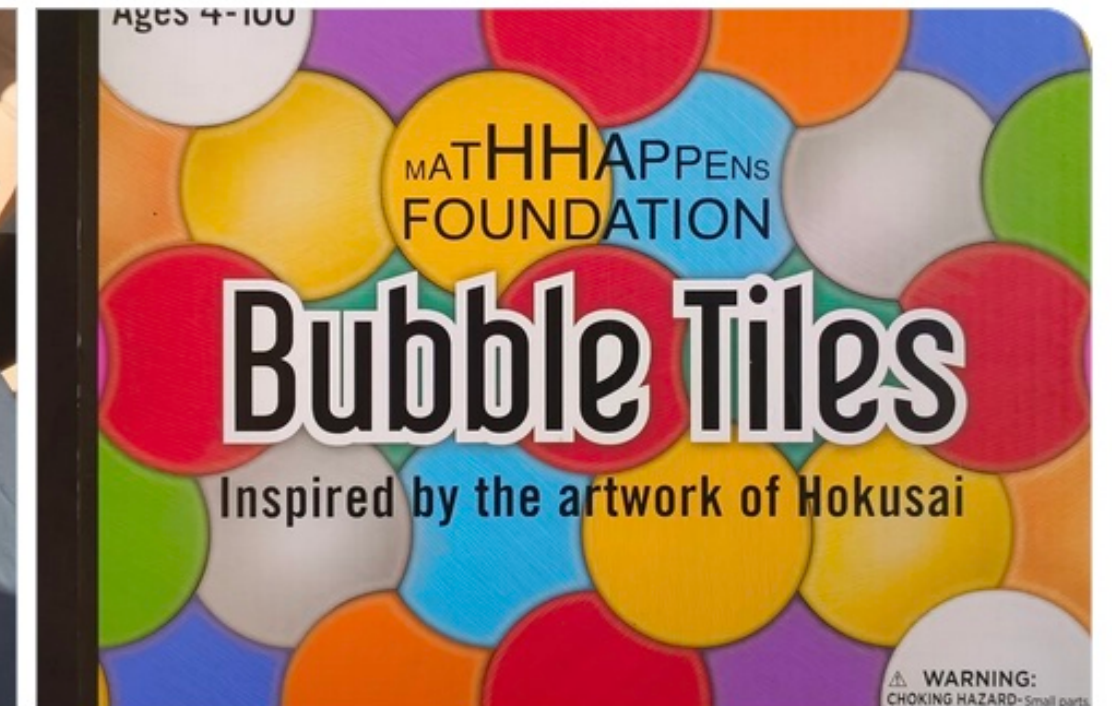
MathHappens Foundation @mathhappens.bsky.social · Feb 2, 2025

Happy Anniversary @mmacacat.bsky.social we are so happy to see Bubble Tiles at the party!



Carlos Luna-Mota @cluna.bsky.social · Feb 2, 2025

Today, at the 11th anniversary of @mmacacat.bsky.social exhibit at Cornellà de Llobregat, you can play with this lovely material from @mathhappens.bsky.social





1 1 3

Martin Grider @grd.bsky.social · Feb 4, 2025
When can I buy my own Bubble Tiles box?

1

MathHappens Foundation
@mathhappens.bsky.social

We don't sell them but we are still giving them away. Send in a request here. app.smartsheet.com/b/form/7bcc9...

Smartsheet Forms

app.smartsheet.com

8:17 PM · Feb 4, 2025



Martin Grider @grd.bsky.social · Mar 30, 2025

Awesome, thanks for these! First idea playtested this afternoon!

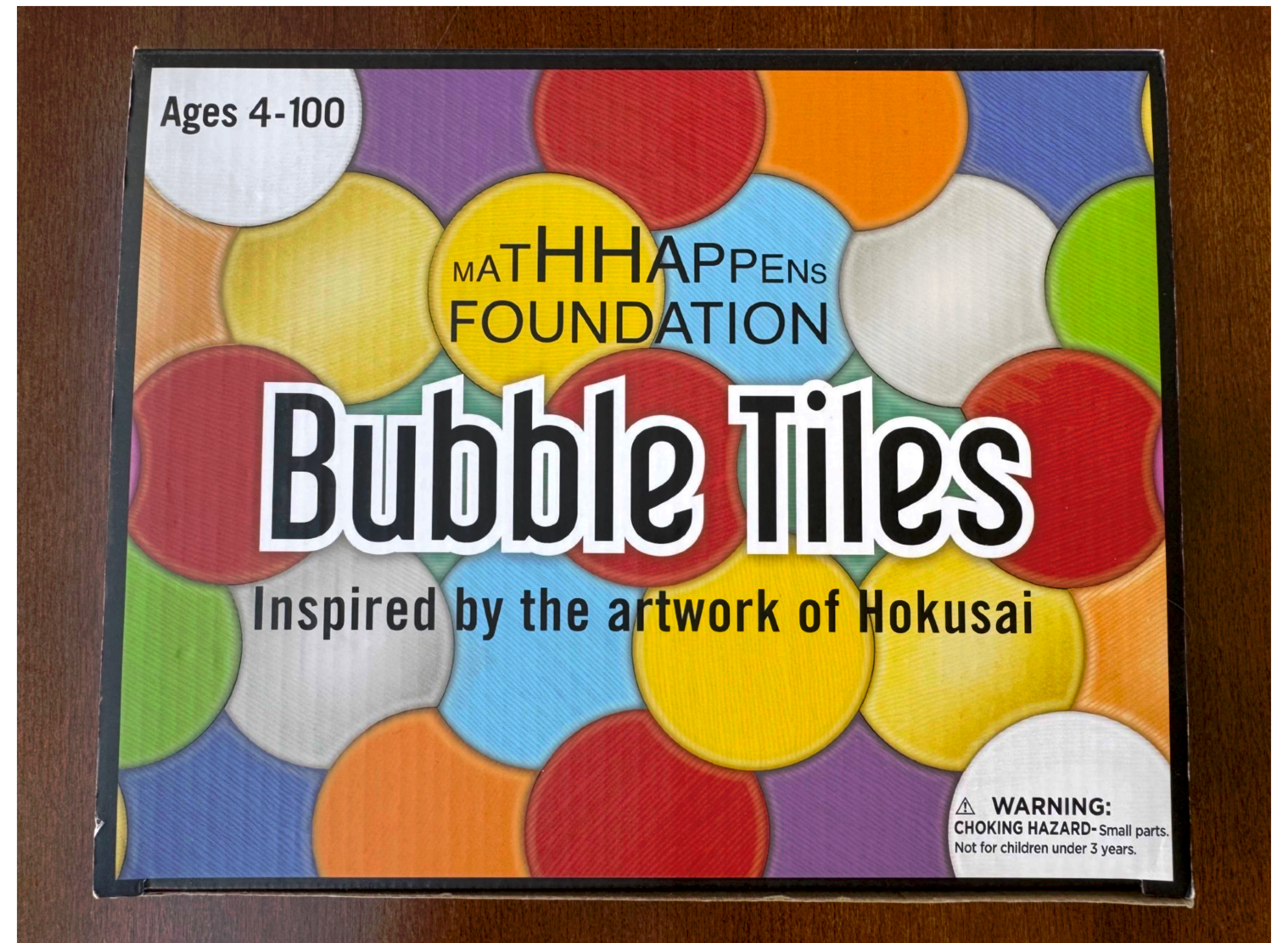


ALT

Bubble Tiles

(The Math Happens “playset”)

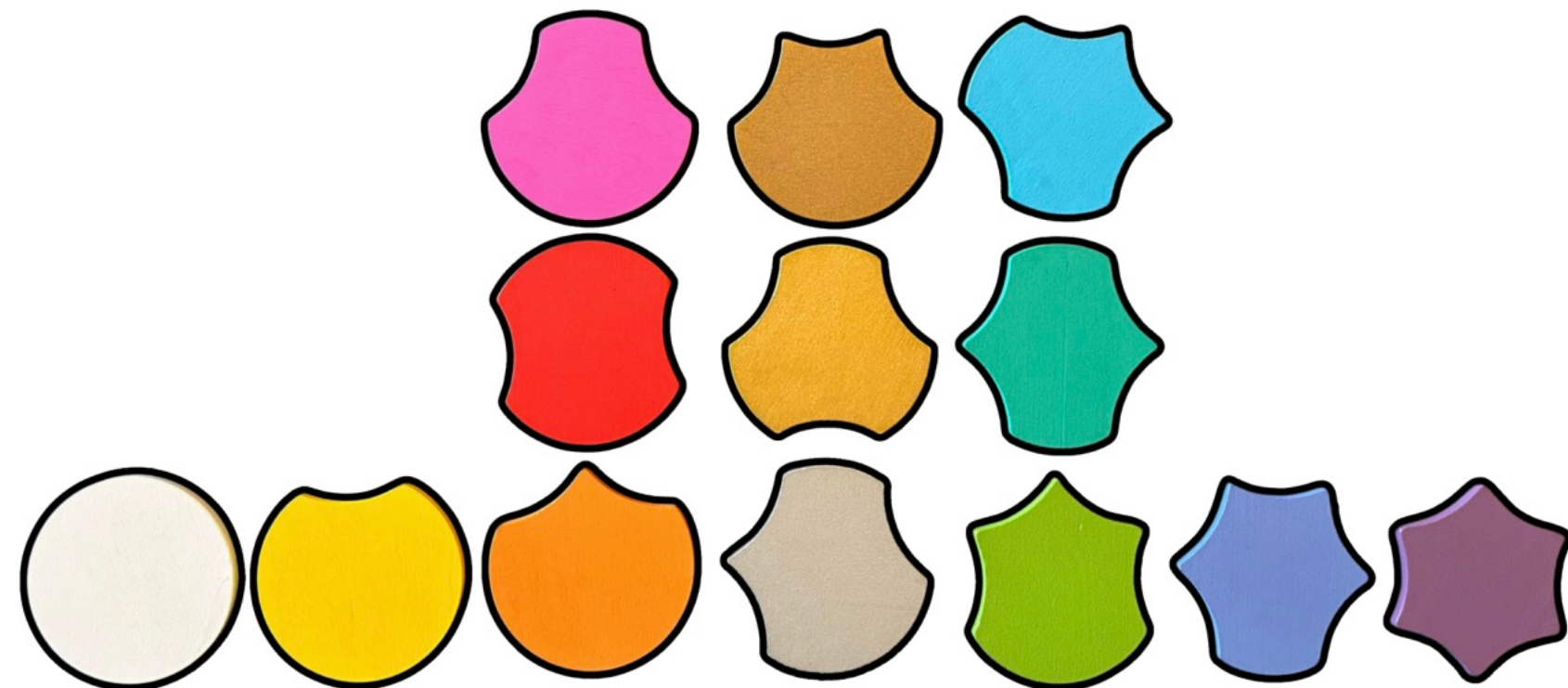
- Comes in this gorgeous box



Bubble Tiles

(The Math Happens “playset”)

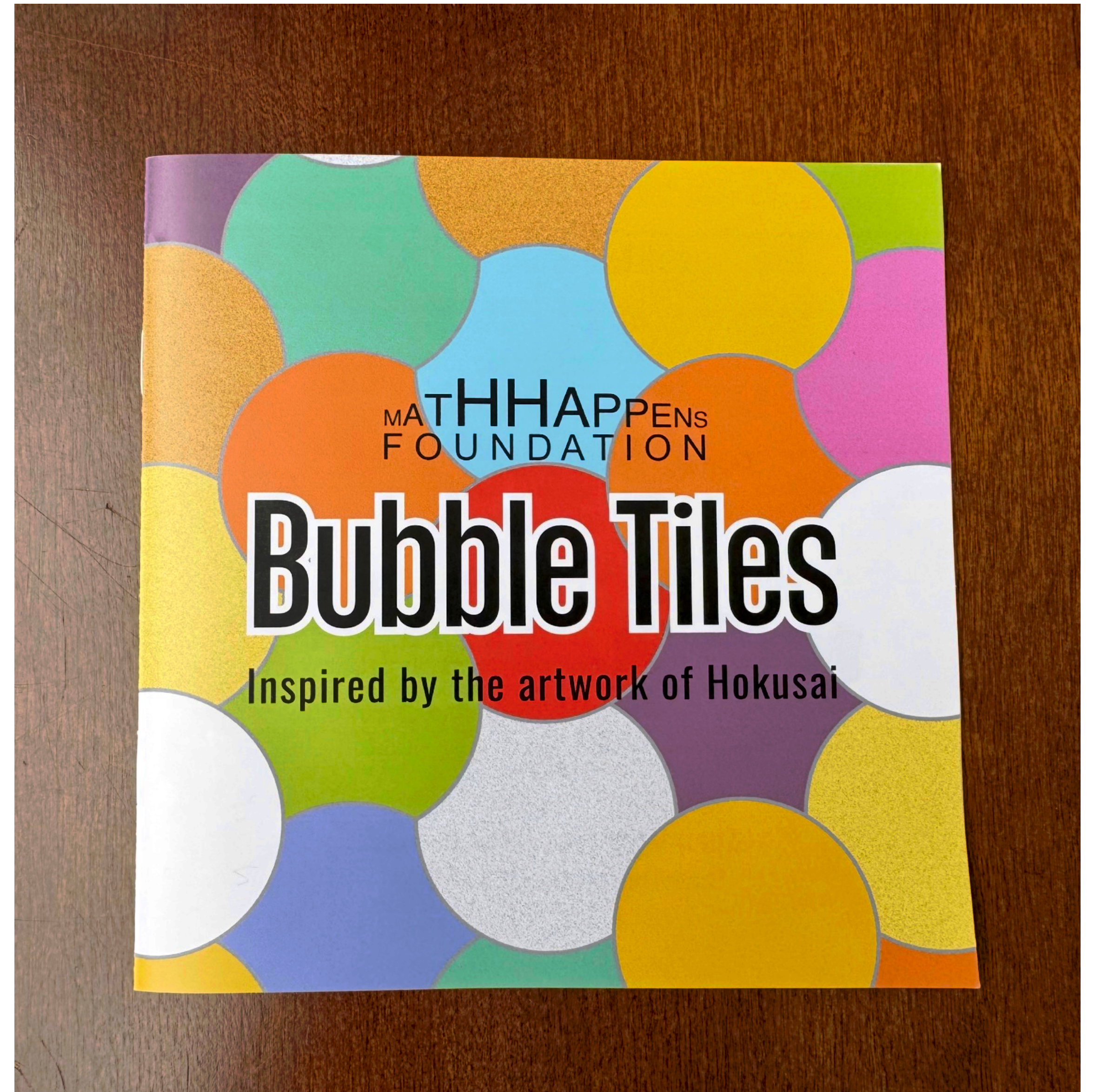
- Comes in this gorgeous box
- Includes 4 sets of “all”
13 different shapes:



Bubble Tiles

(The Math Happens “playset”)

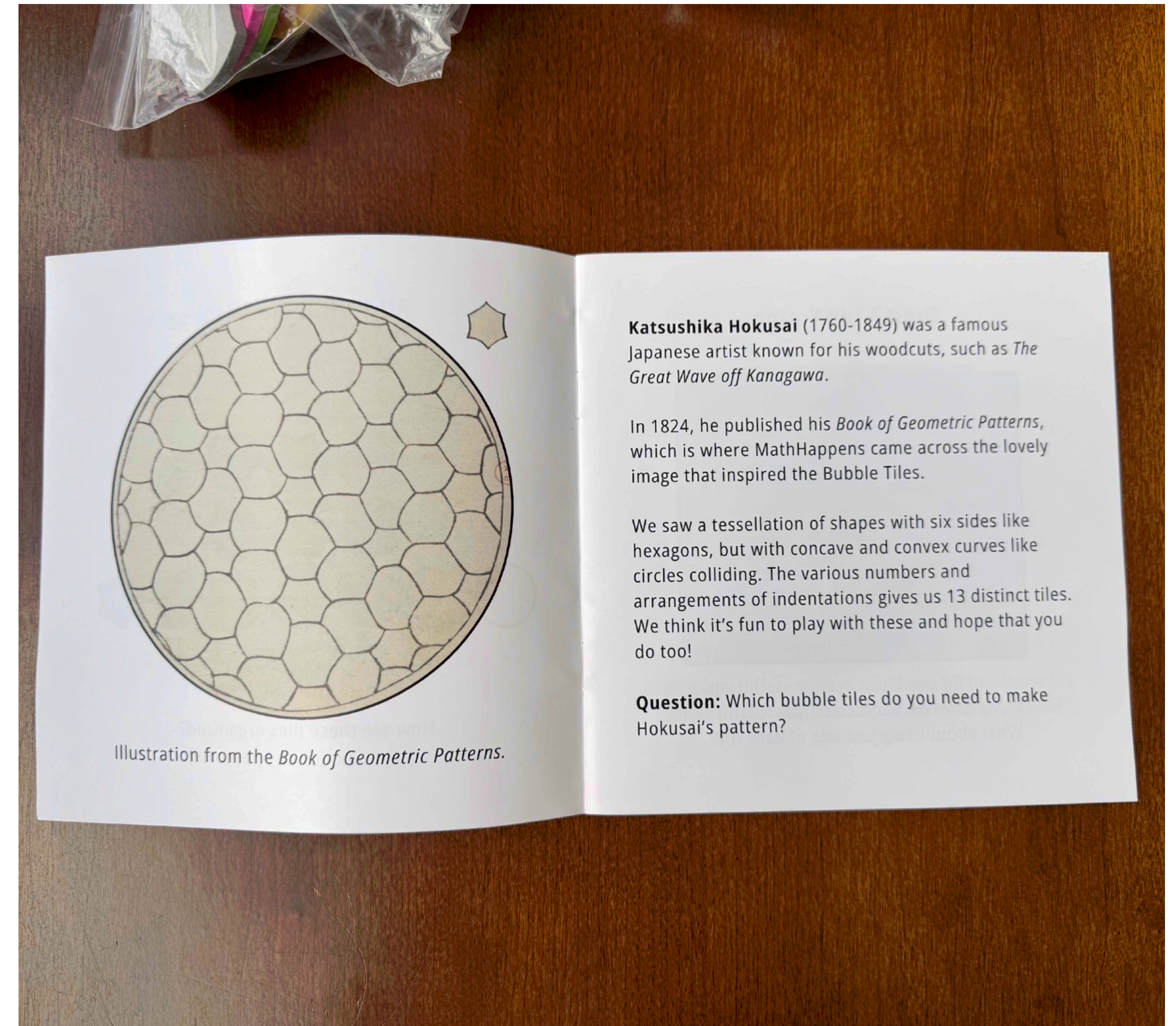
- Comes in this gorgeous box
- Includes 4 sets of “all”
13 different shapes
- And a very nice little booklet with
educational questions



Bubble Tiles

(The Math Happens “playset”)

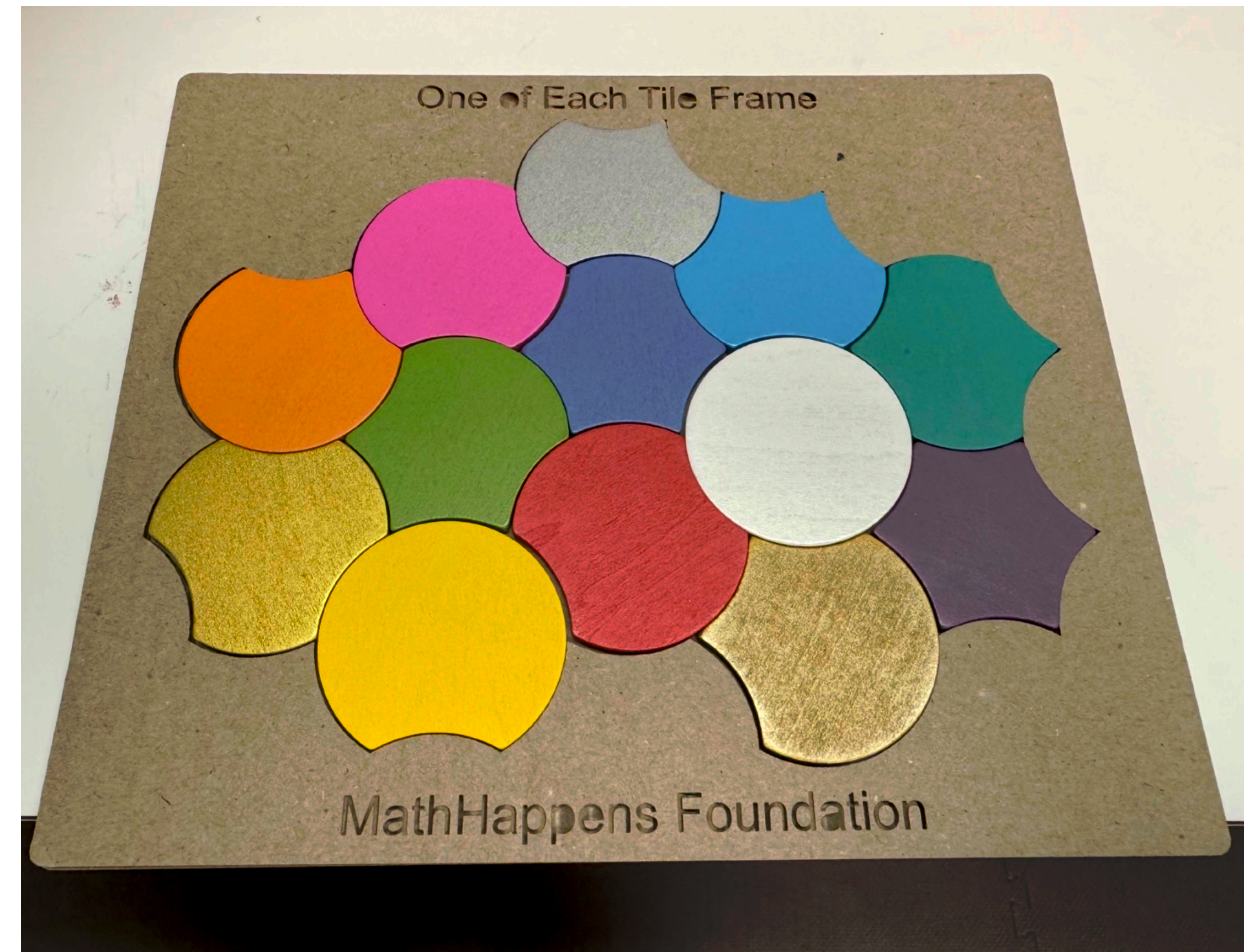
- Comes in this gorgeous box
- Includes 4 sets of “all 13” different shapes
- Includes a very nice little booklet with educational questions
- ...and some historical details



Bubble Tiles

(The Math Happens “playset”)

- They actually sent me 2 boxes!
- And a few cardboard “frames”



Bubble Tiles

(“The geometric shapes”, or Hex Circles, as I now call them)

...are **hexagons**

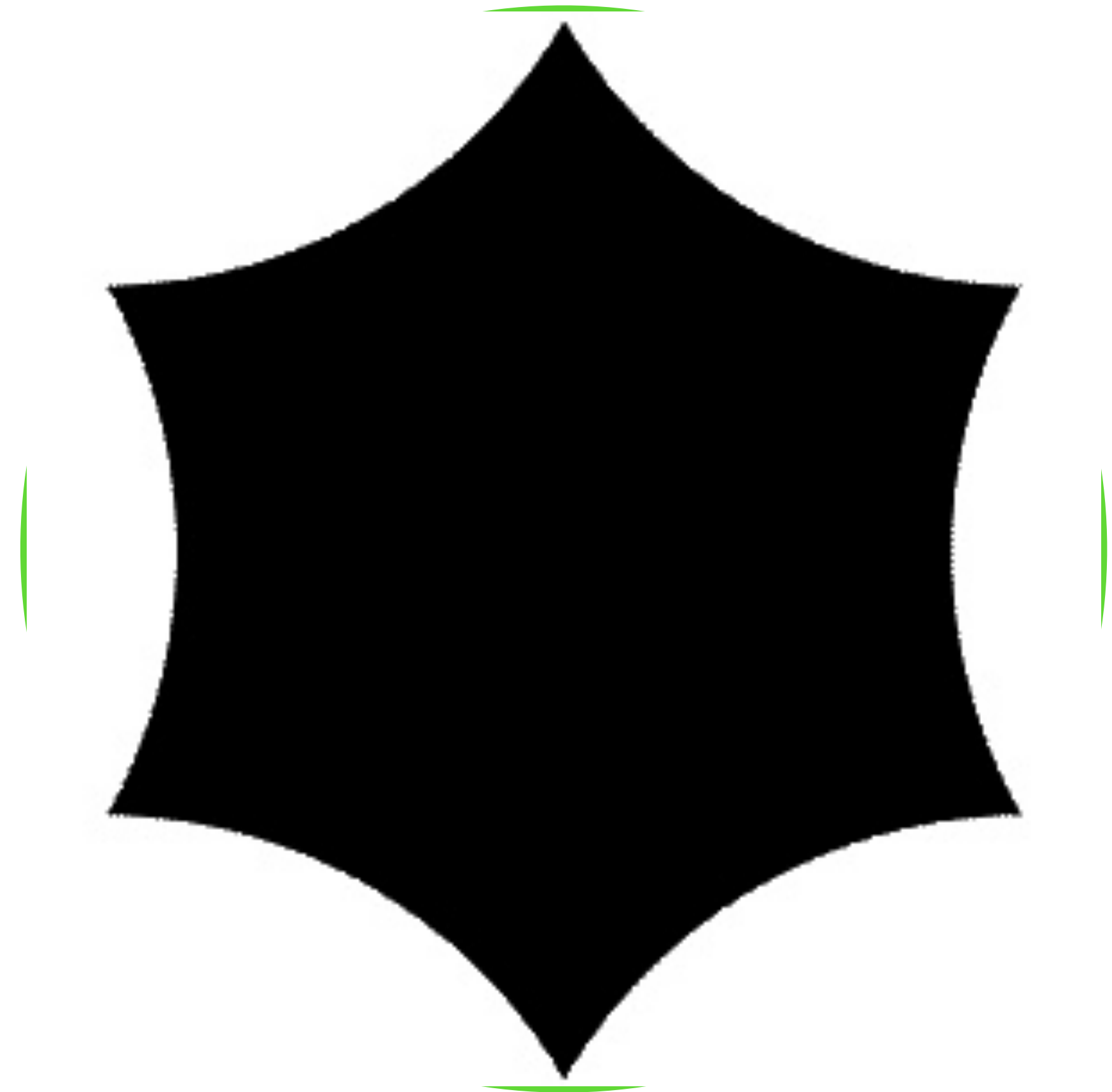
Where each side is either:

- **CONVEX**

or

- **CONCAVE**

(Interesting for all the same reasons
hexagons are interesting!)





GAME IDEAS

#1 Area control game

(first idea)

- Each player started with a set of cubes in their color and a full set of 13 tiles
- Take turns placing a tile and moving cubes to control more of the board by having more of your cubes on a tile than someone else's
- Scoring / Capturing / Moving (ideas were all flexible/negotiable)



Area control game

What was interesting

- Validation! Placing the tiles is fun!
- Moving cubes around the tiles was novel, but never quite as fun as I wanted it to be. (Movement was from convex-edged tiles to neighboring concave-edged tiles.)
- Scoring needed more consideration



#2 Abstract Strategy

Painted some tiles Black and White

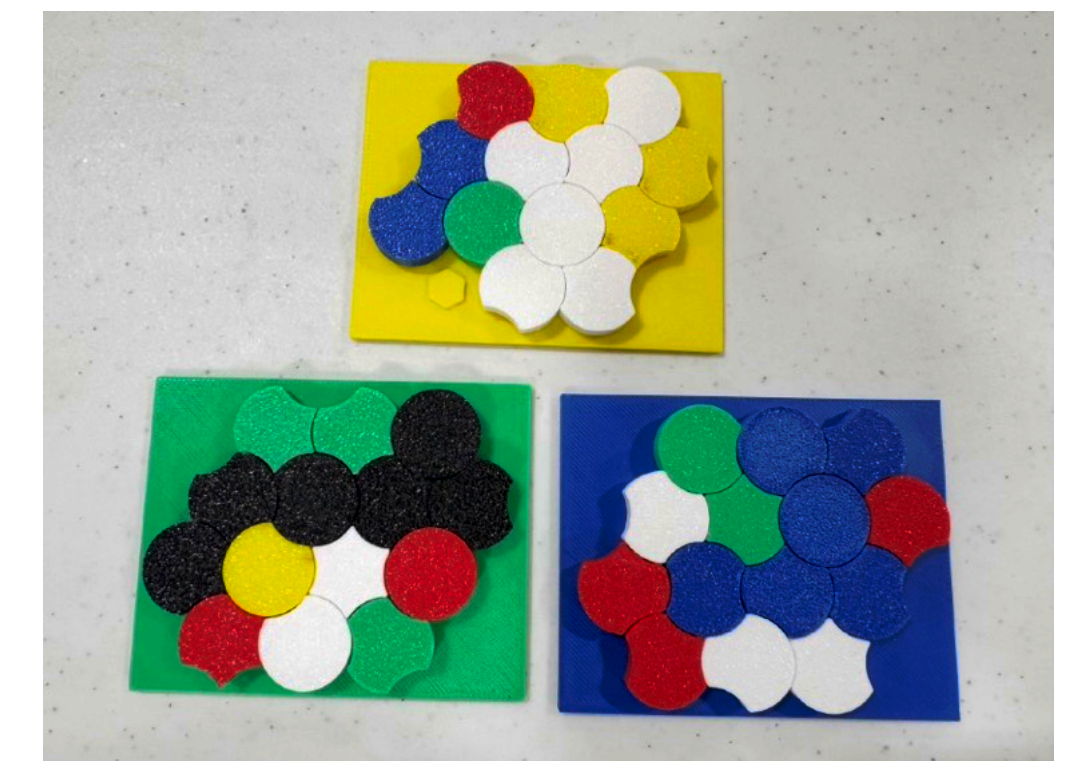
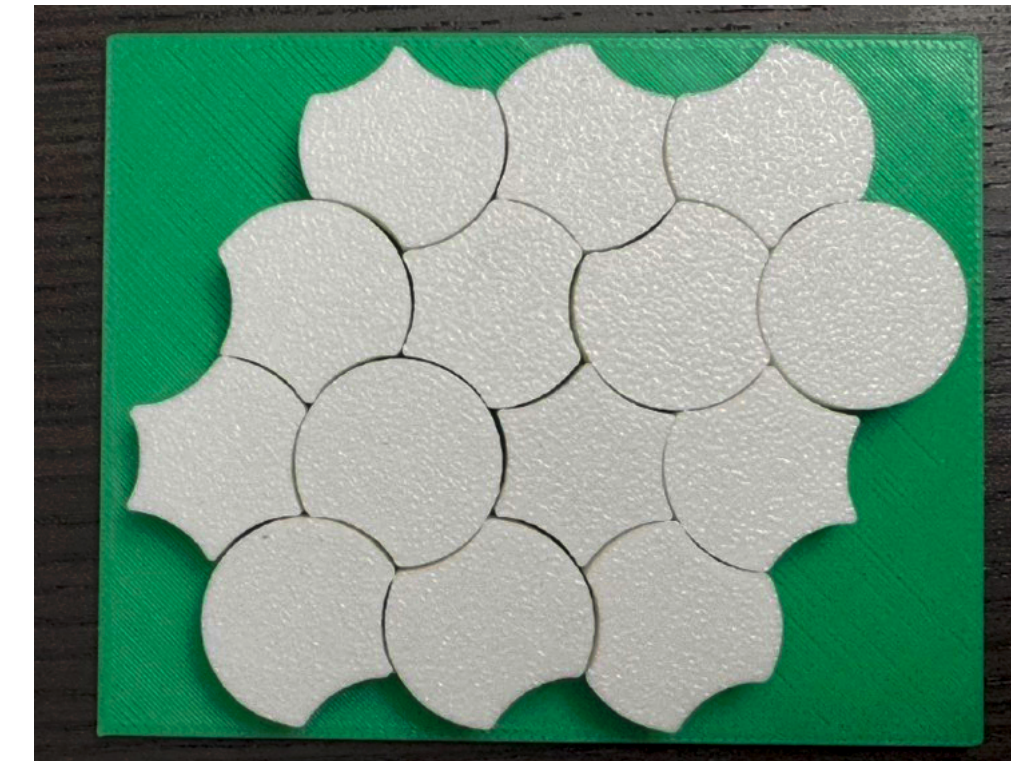
- On a grid or no grid? (Like Hive.)
- What do you *do on your turn?* (Movement could be based on corners or edges. Placement also has obvious and interesting constraints.)
- What is the goal? (Capture? Territory?)
- I have a couple of playable ideas, in my notes, but so far no playtests.



#3 Tile placement

Enter the 3D printer...

- What's fun is placing tiles, so lets remove the cubes and focus on that!
- Main 3D printing impetus is that "tile-shape == tile color" is too limiting for scoring options.
- Small tiles meant they could fit in a bag for drawing randomly.



#3 Tile placement

How to obtain the tiles?

- I wanted a game (like Azul or Sagrada) where you had to think about which tiles would be best for you in a given situation.
- How do you obtain tiles? It would be interesting to be forced to take some tiles you might not want along with the ones you do want.
- Came up with the idea of “trays” that are shaped like the tiles themselves.

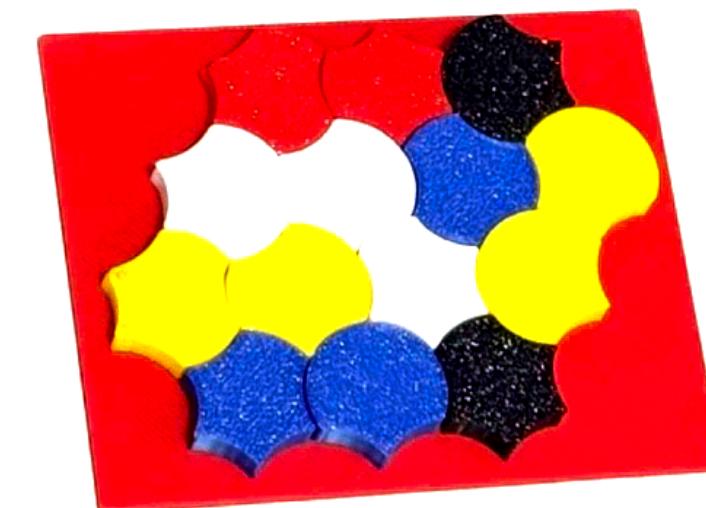
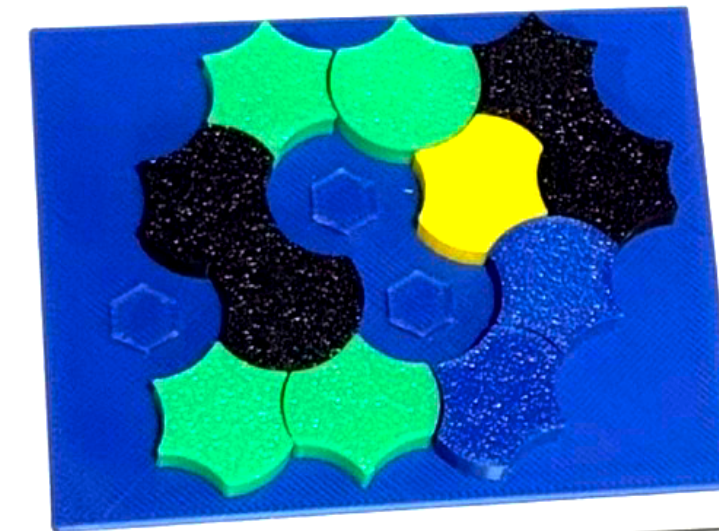


#3 Tile placement

How do you win?

- Scoring / Goal Cards – an easy way to try different ideas.
- Adds replayability

				25				30
				35				40
				45				50
				55				60
				65				70
				75				80
				85				90
				95				100



3 points per
edge of your board
(from corner to corner)
that has the same
type of tile-edge
(convex or concave)
the entire length.

Score 2 points
for each tile
in the largest group
of any color
on your board.

28 points if you have
all 13 shapes
on your board.

You only need to have one of the two
asymmetric shapes.

4 points for
every group of
exactly two tiles
of the same color
on your board.

(Larger groups do not count.)

#3 Tile Placement

Iteration TWO

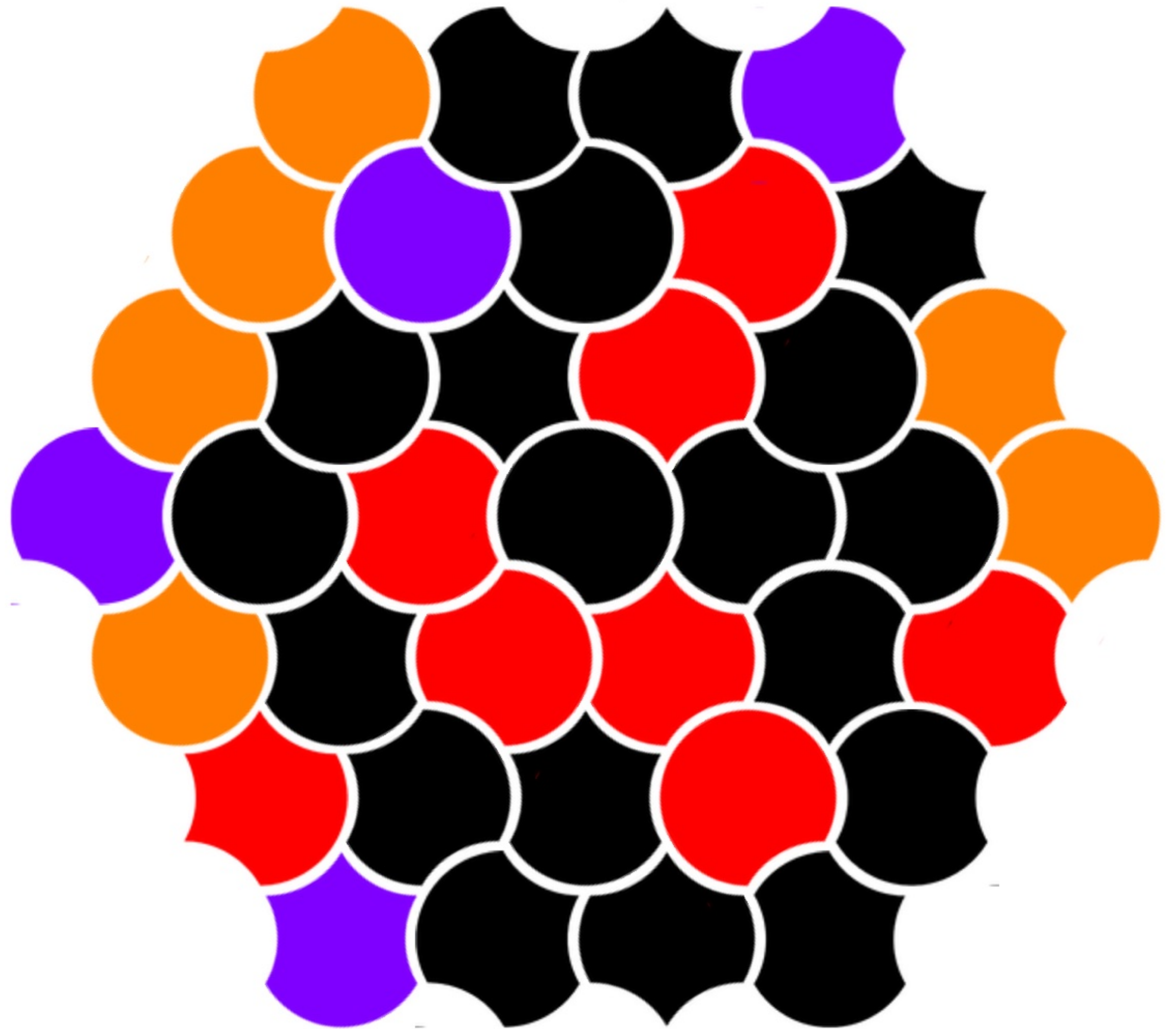
- In addition to lots of rules changes, I have also iterated on the 3D printed design.
- Trays and Tiles were too small
- Tiles were too hard to get back off the board (fixed, but now it's too easy!)



#4 Digital Game

Solo play

- Initially thought the game was just to keep playing as long as possible.
- Implemented “powerups” (the colored tiles) that appear when you fill a row.
- It was too easy, so now the goal is just to “fill the grid” in as few moves as possible. (Using powers is bad.)
- I might add more game modes.
- Send me an email to join my TestFlight



#5 Triangles

Bonus game(s)?

- I had a different game played with simple triangle pieces.
- I realized you could curve one edge and make Hex Circles.
- But when I printed some, I was genuinely surprised by how much you could do with them.
- My original game is still playable with the curved-edge triangles!

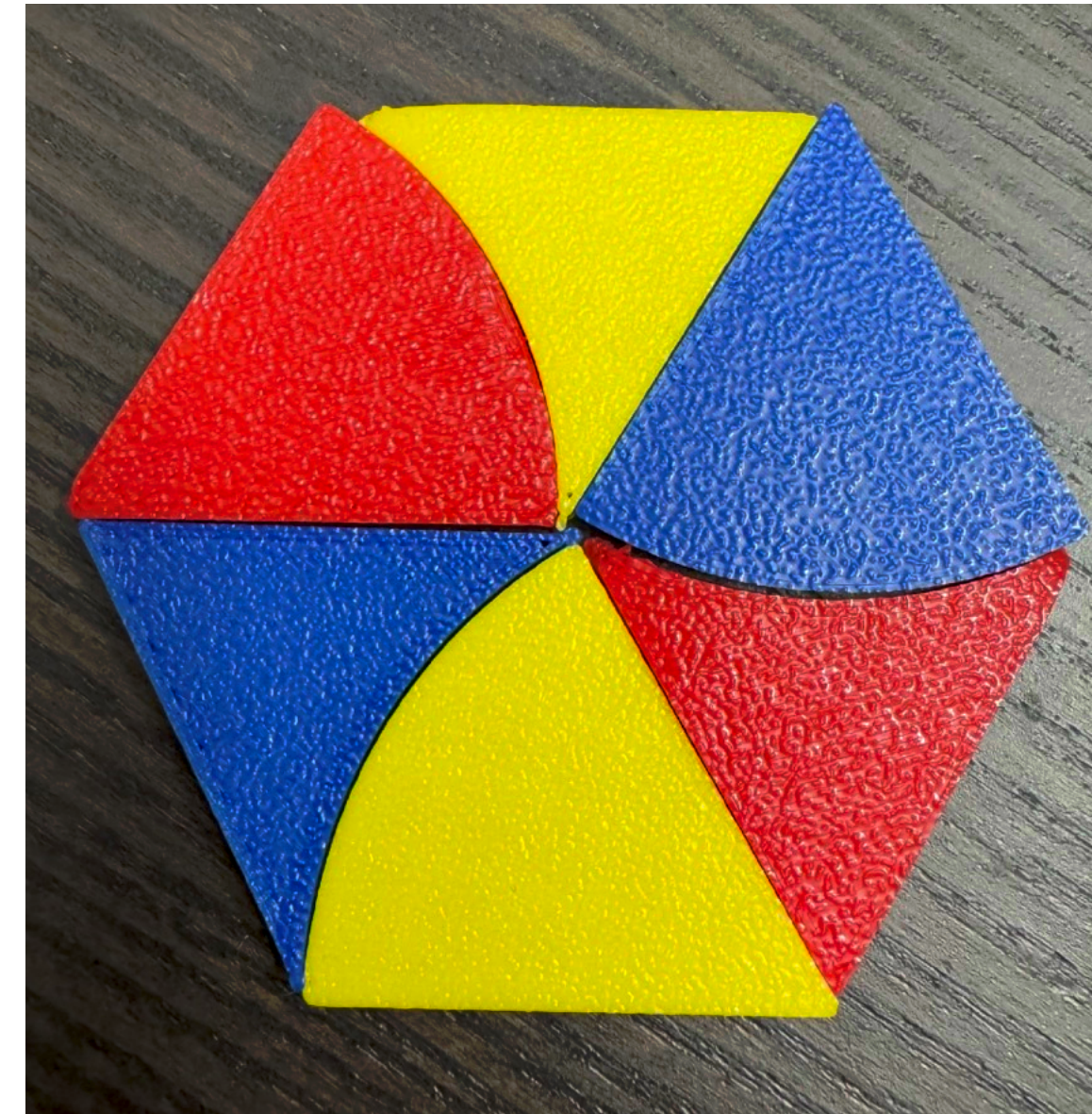


Thank you!

Now let's play some games with weird tiles!

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Join the
iOS Beta for
HexCircles

