## How to make your own Sunquake patterns

We can visualise what these sunquakes look like using <u>Turtlestitch</u>. The visualisation shows a the paths the sunquakes trace if you were to get a cross section of the sun, i.e. if you sliced it open down the middle. Although there are thousands happening every second, we're only going to design three.

For each of the 3 sunquakes you can choose values for Bounce, Curve, and Depth. We recommend choosing numbers between 1-15.

- **Bounce**: Number of bounces each sunguake does
- Curve: how curvy you want the sunguake to be. A larger number = a bigger curve
- **Depth**: How deep you want the sunquake to go into the Sun. A larger number goes deeper into the sun

## How to use the Turtlestich program

- 1. Open the Turtlestich program website here
- 2. In the middle section of the screen is where you can change the code. This is where you can change the number of bounces, how curvy it is and the depth of the sunguake

```
when clicked
reset

DrawSun

set color to

set bounces to 0

set depth v to 3.5

set color to

Sunquake
set color to

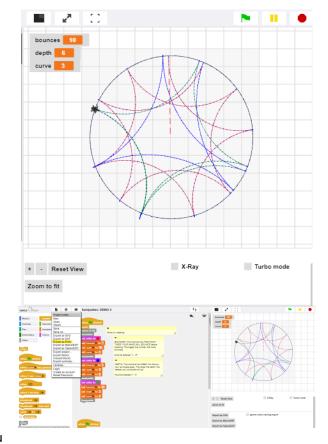
set bounces v to 1

Set bounces v to 1

Sunquake
set color to

Sunquake
```

When you are ready to see your design, press the green flag on the right hand side and watch the sunquake going through the sun



- 4. You can make as many versions as you would like. You can also save a design to print out by clicking on the save button on the left hand side of the screen and choosing export to PNG.
- 5. Change your design. What happens if you use decimals? How could you create a symmetrical pattern?

## To explore this idea further:

- See what happens if you make curve and depth the same, or multiples of each other.
- See what happens if you use integers vs. decimals.
- Can you make a star?