Work on the following alone or in groups today.

1. Sierpinski Triangle challenges
   (a) Rewrite the Sierpinski Triangle code in such a way that it adds a specifically-colored point to an existing plot each step of the calculation.
   (b) Modify that code to only plot the point if the step number is beyond a certain value.
   (c) Experiment with the calculations performed at each step to generate warped versions of the triangle that are visually interesting.
   (d) Experiment with the calculations by using matrices and vectors to perform the calculation at each step.
2. Line art challenges[1] Use the following code template to generate digital "string art".

```
plot(NULL, xlim = c(-1, 2), ylim = c(-1, 2), xlab = "", ylab = "", axes=F)
n <- 100
for(i in 1:n){
x0 <- cos(2*pi*(1 * i/n))
x1 <- 1 - cos(2*pi*(1 * i/n))
y0 <- sin(2*pi*(1 * i/n))
y1 <- 1 - sin(2*pi*(1 * i/n))
segments(x0, y0, x1, y1, lwd = 0.1)
}
```

[1] Visit `https://bit.ly/TPMS-math-art` for more context.