

How can you visualize higher dimensions?

We live in a 3-dimensional world.

Maybe by analogy?

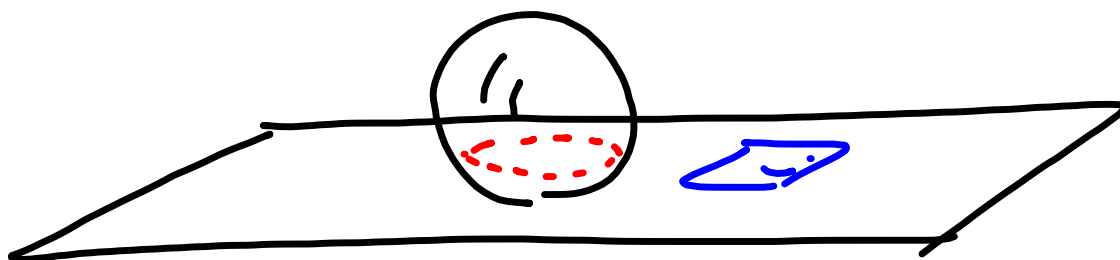
original:

Flatland, Edwin Abbott (1884)

recommended:

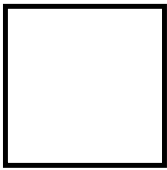
Geometry, Relativity & the Fourth
Dimension, Rudy v.b. Rucker (1977)

Flatland (2D)

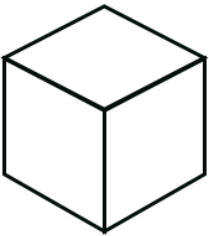


- point: 0 dimensions (nothing)

— line: 1 dimension (length)



square: 2 dimensions (area)



cube: 3 dimensions (volume)



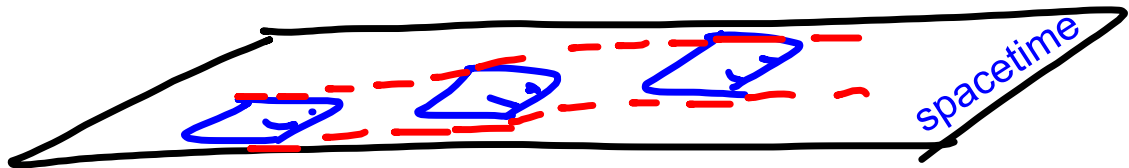
hypercube: 4 dimensions (hypervolume)

**Our Spacetime has 3
Dimensions + Time**

**If you could get outside of
Spacetime, what would you see?**

All space at all times.

"the bulk"



"the bulk"