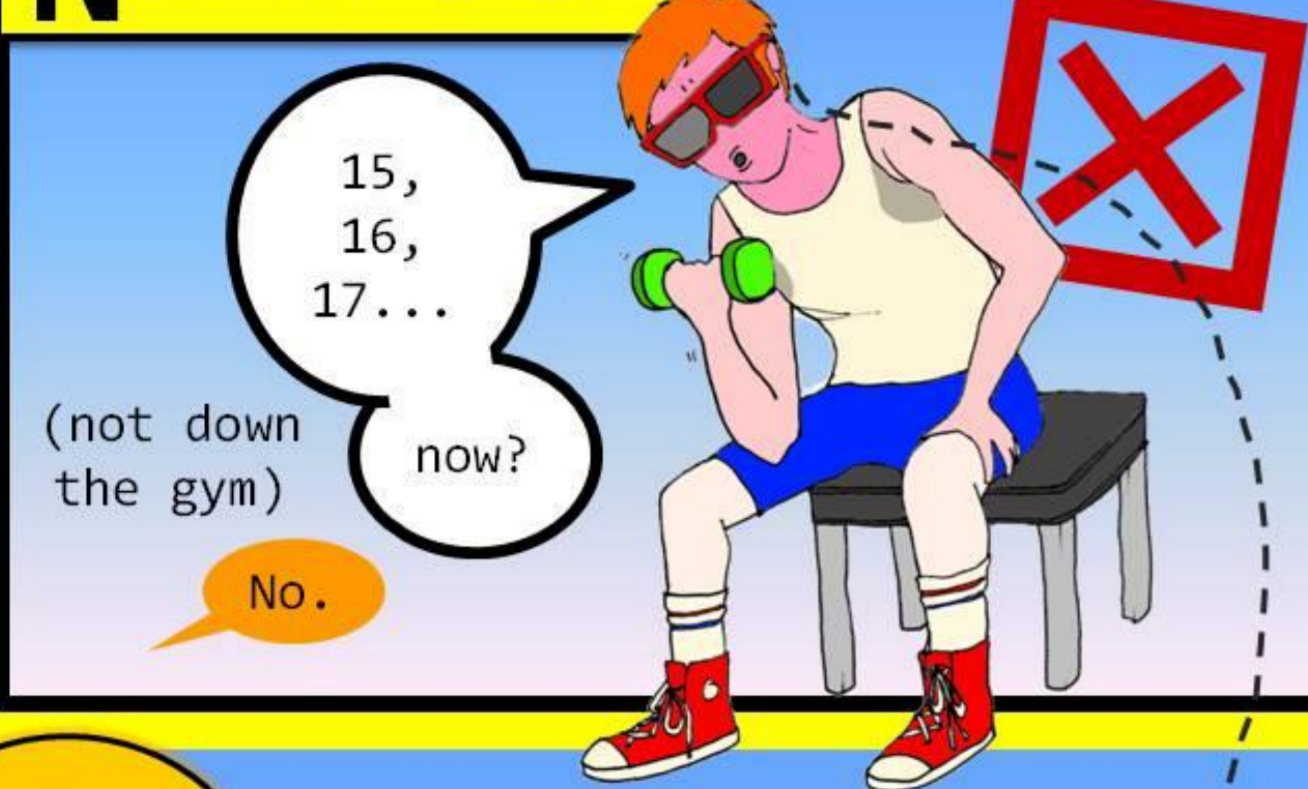
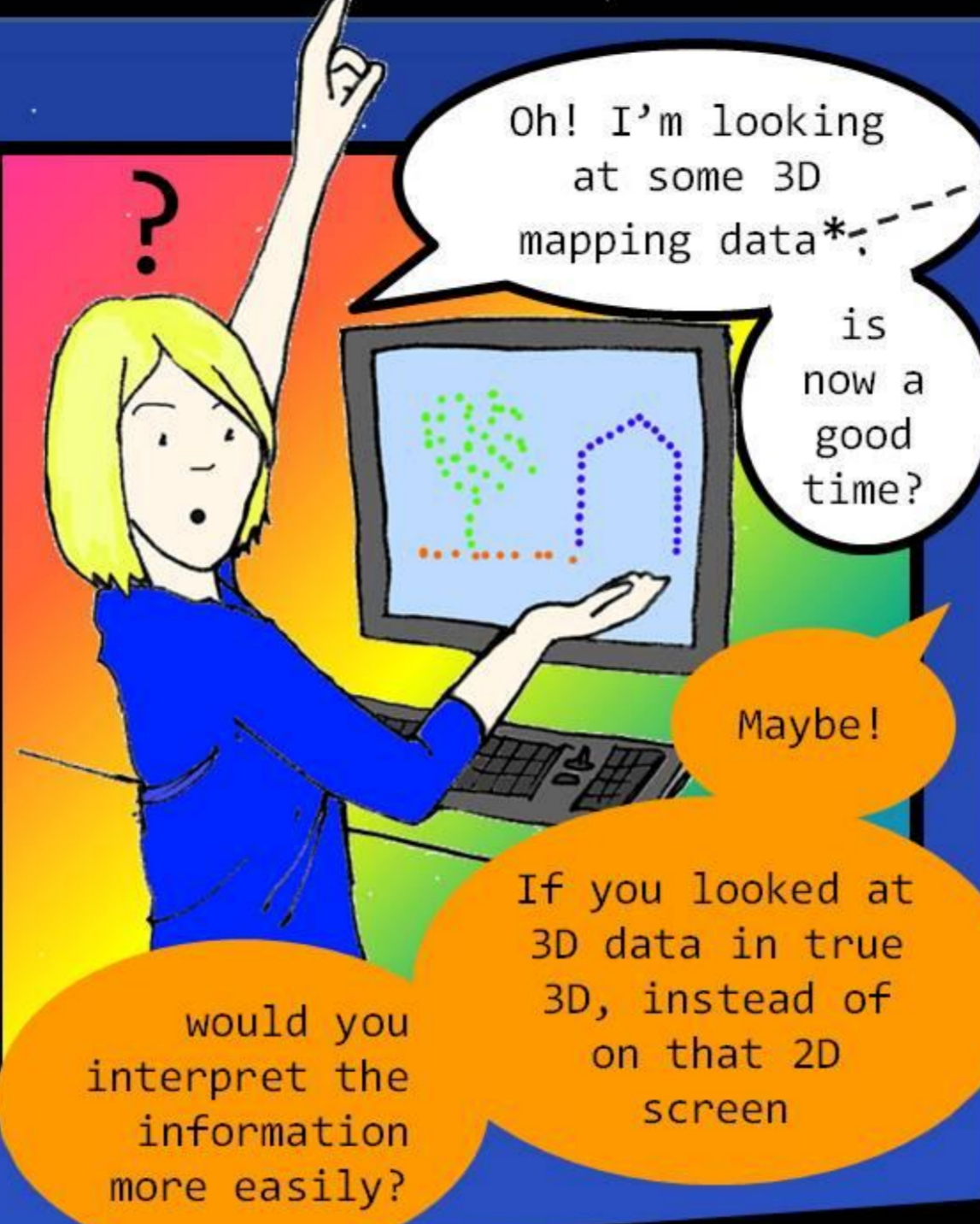
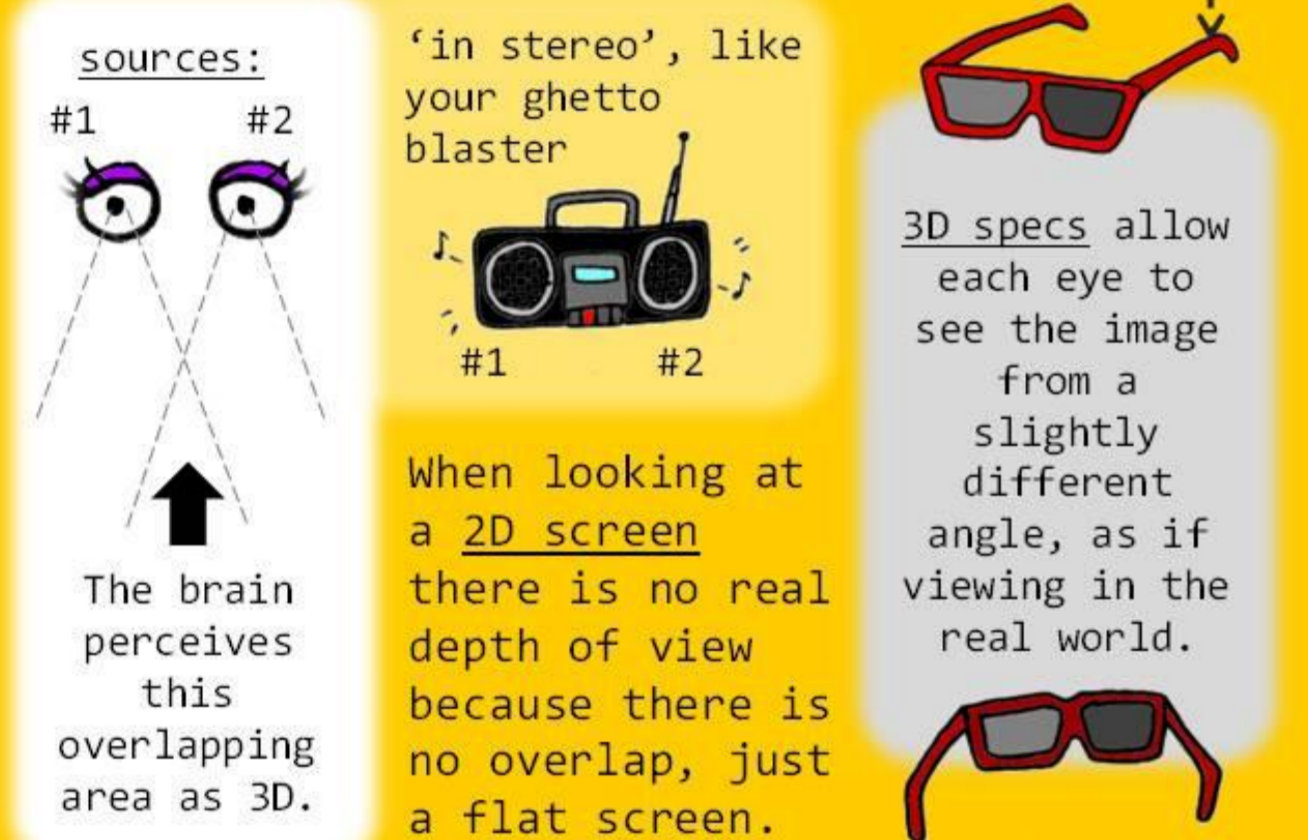


Should Geographers wear 3D specs?

Not all the time...



Why wear 3D specs?
We humans view the world in 3D because we have stereo vision; we see from two slightly offset sources:

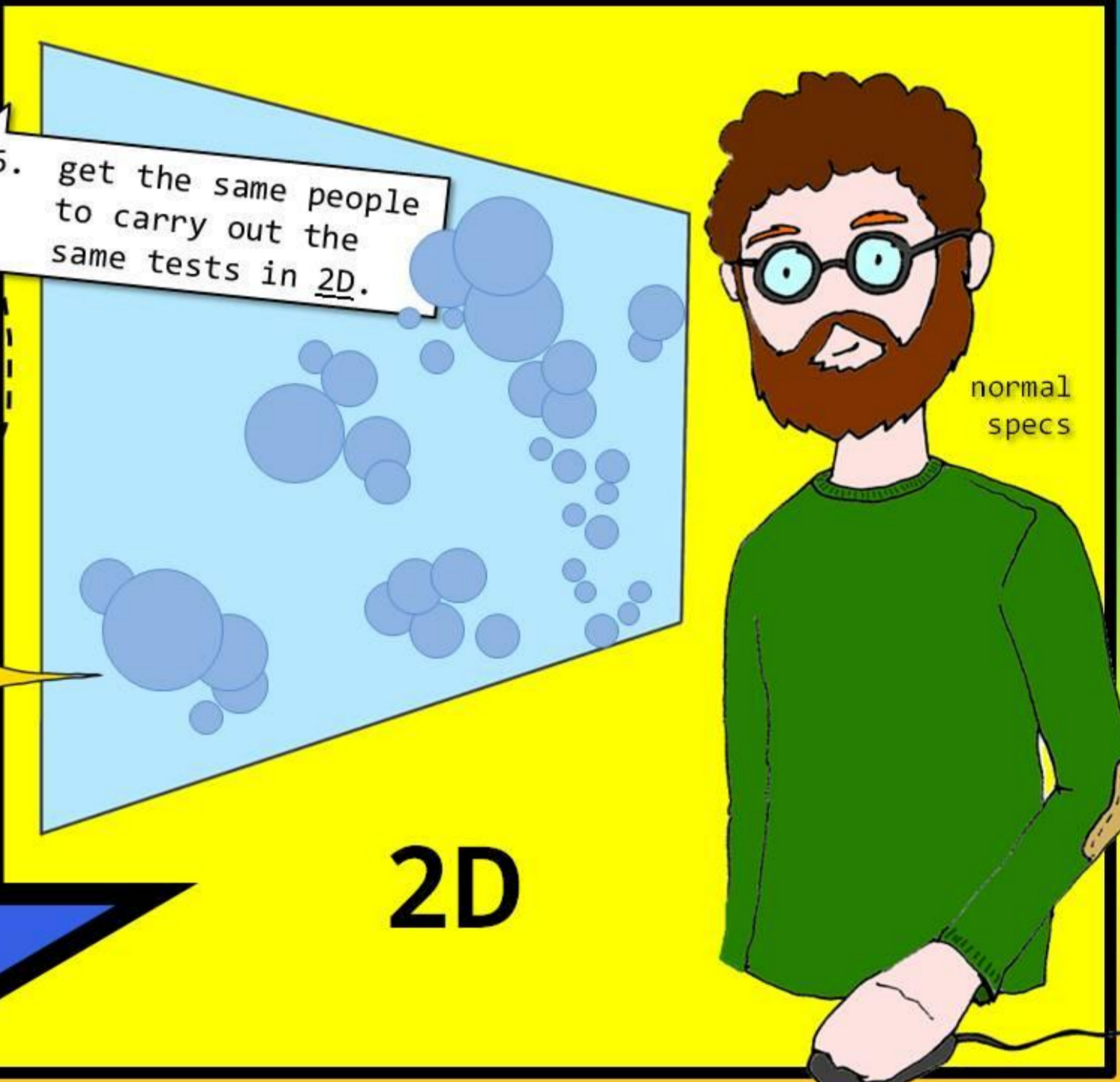
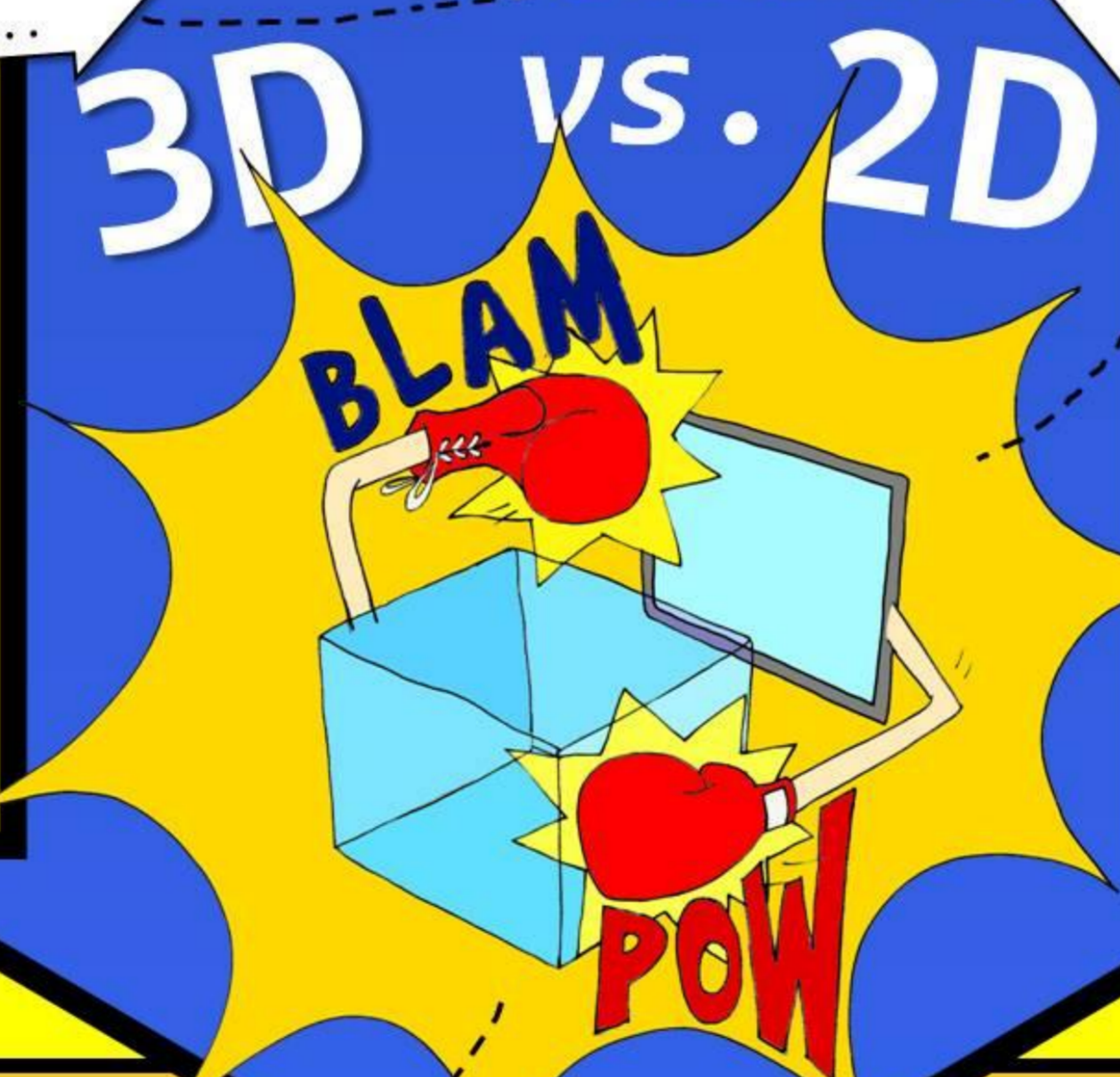
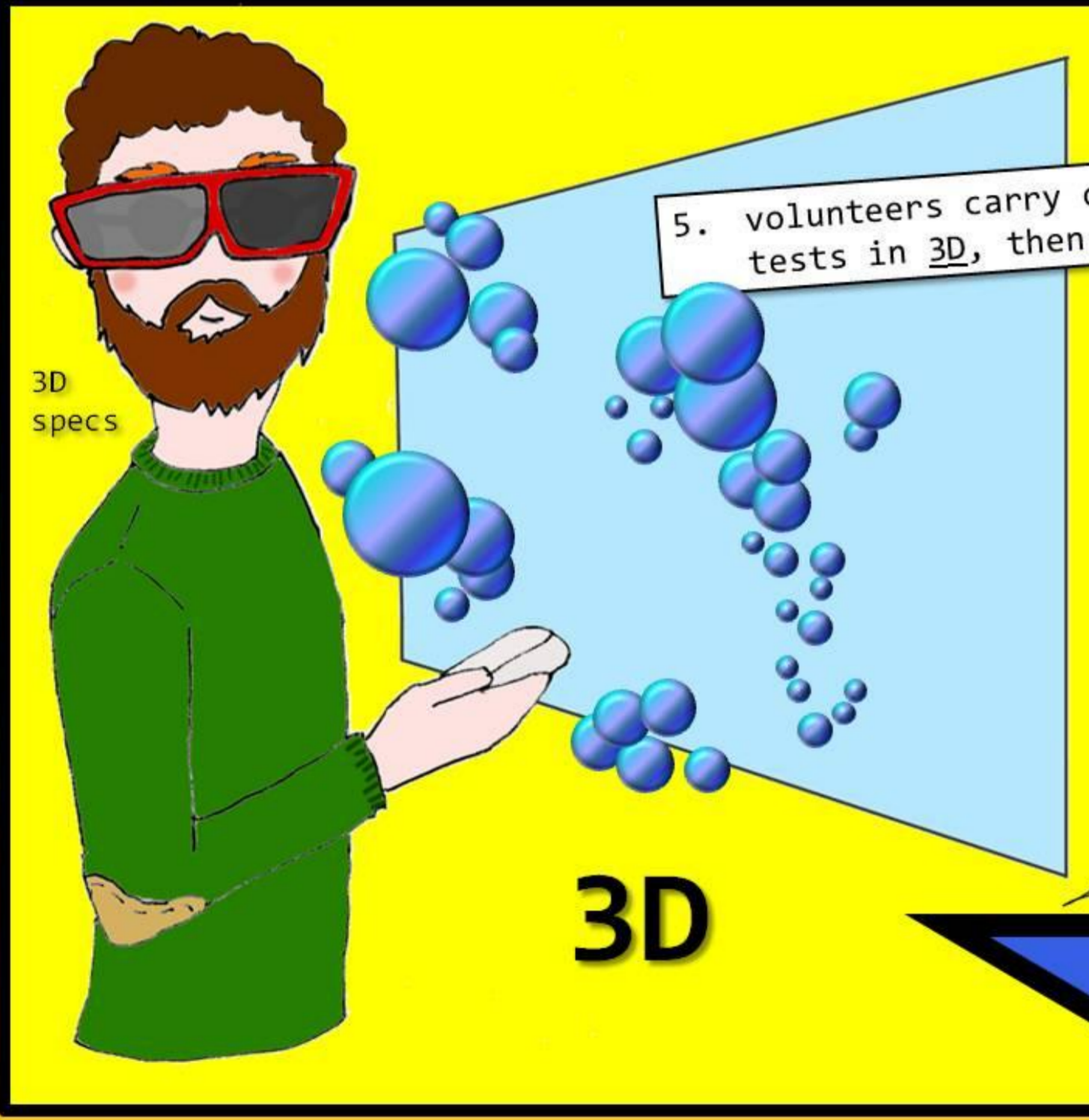
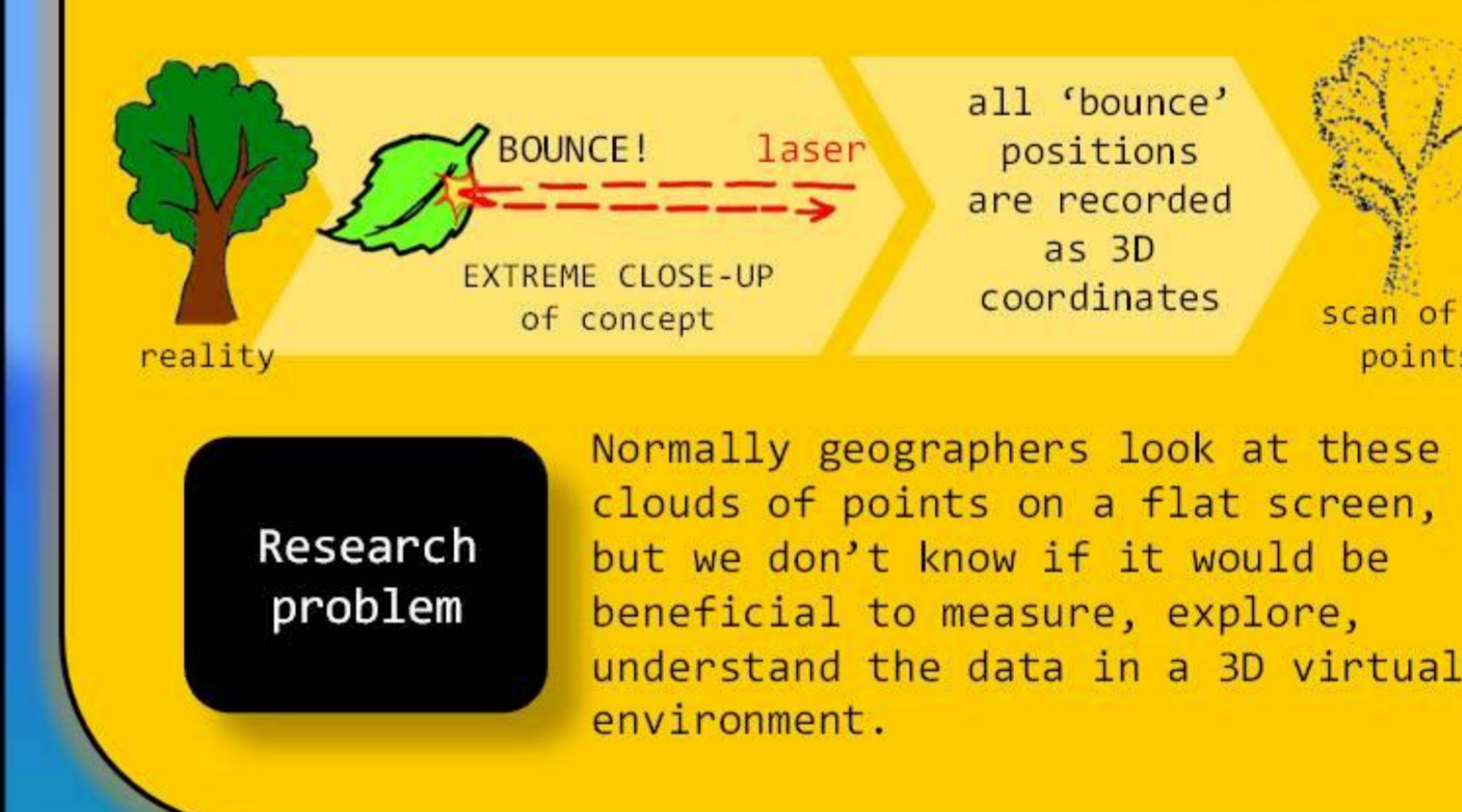


Let's find out by taking the following steps:

1. Develop software that allows people to view & interact with laser-scanning data in 2D and 3D. **Method**
2. Get appropriate laser-scanning data that shows geographical features. **Research problem**
3. Recruit people to take part in experiments.
4. Record their feedback and how they react when carrying out 5 & 6.



Laser-scanning is a way of mapping 3D objects. This is done by firing an object of interest with laser beams:



Why is this relevant?
If we interpret a map inaccurately, we might get lost.
Our interpretation of 3D mapping information, like this data, can also have knock-on effects, e.g.:

- 3D mapping of forests > fed into scientific models > statistics form basis of environmental policies.
- 3D mapping of the ground > flood risk maps > cost of your home insurance.

Results

7. Compare results from 2D and 3D tests, i.e.:

- How long it took people to complete the tests
- How well they completed them

What people actually did, as recorded by the computer + What people thought about the two techniques.

Conclusion

What's the verdict?
Watch this space! In a previous study (Burwell et al., 2012), volunteers said that 3D gave extra depth and texture. This current research will help determine if these 3D characteristics are actually beneficial when interpreting the 3D data. Ultimately, this will help reveal whether it would be worthwhile for geographers to wear 3D specs.

Related published work: Burwell, C., Jarvis, C., & Tansey, K. (2012): The potential for using 3D visualization for data exploration, error correction and analysis of LiDAR point clouds, Remote Sensing Letters, 3:6, 481-490

