**How do you think data can be used to solve problems in materials?**

* Data can be used to draw patterns about materials
* Patterns can be used to draw conclusions / improve the material / understand it better
  + Eg: using data about microstructures to determine macro properties of the material
* Collecting data as a reference to compare other materials to (data library)
* Compare different experimental results (reproducibility across projects)
* Use data of small groups of materials to help predict properties of all materials (we can’t do experiments on all materials)
* Example on XRD: huge library of data 🡪 used to identify materials
* Help draw conclusions on experimental phenomena using the data we have from computations for example
  + Computations can tell us what experiments should be done.
* Publicly accessible data sets help reduce variances on computational work (eg: monte Carlo experiments) 🡪 cheaper for many lab groups
  + Example: Materials project website
  + Example: proteins dataset website