

Topic	Cell structure and cell division	Level	GCSE (or any course for students aged 11-16)
Outcomes	<ul style="list-style-type: none"> To know that organism size is determined by cell number and not cell size To measure the size of a cell using an eyepiece graticule and a stage micrometer To consider the importance of sampling when carrying out an investigation by considering: <ul style="list-style-type: none"> biological replicates (different onions) technical replicates (different cells from same onion) 		
Information for teachers	Students take cells from a large and small onion. They then look at these cells under the microscope and then, using a stage micrometer and eyepiece graticule, measure the length of some cells. Students will need to consider how many cells they need to measure and from how many onions in order for them to be able to reach a conclusion. You may want to use red onions instead.		
Pedagogy focus	Students will need to have already learnt how to use a micrometer and eyepiece graticule before carrying out this practical. The purpose of the practical is for students to apply their knowledge of microscopy to answer a question and to think about the importance of sampling.		
Other resources	Other resources on cells are here: https://thescienceteacher.co.uk/cell-structure/		



**Do bigger onions have
bigger cells?**

Time to investigate