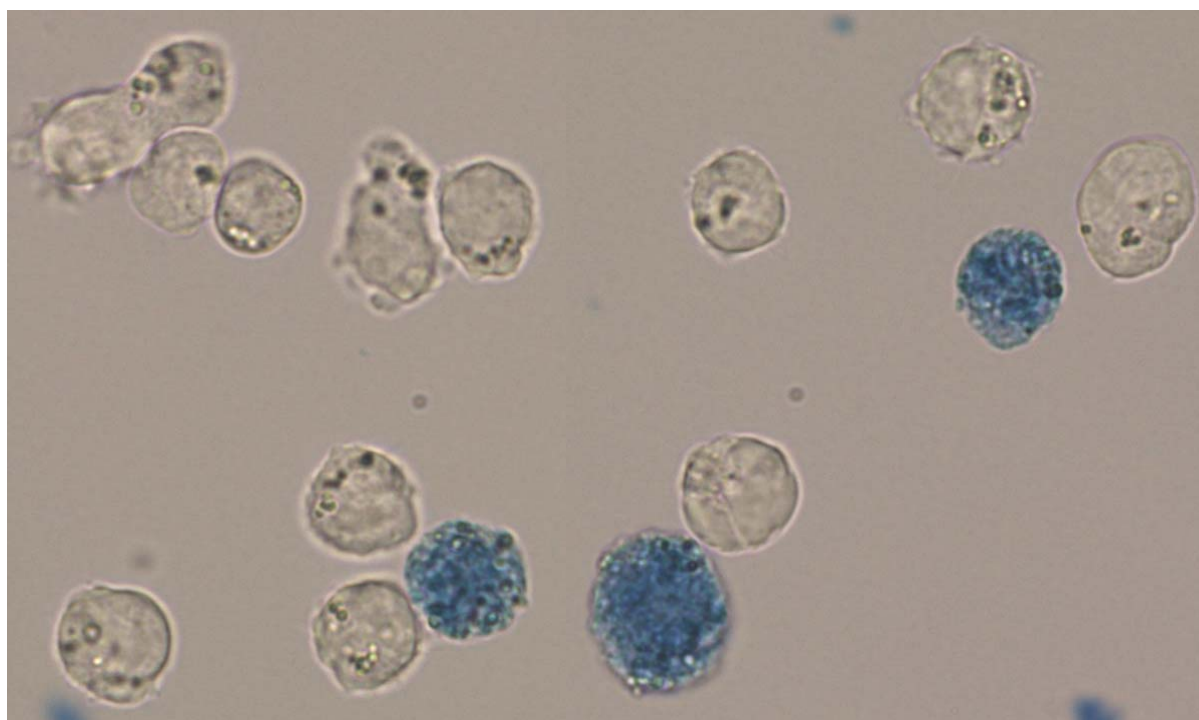


 BENE TECHNOLOGY ACCESS CENTRE	<h1>CELLS ONLINE WORKSHEET</h1>
<b>TOPIC</b>	<b>TRYPAN BLUE STAINING OF LIVE OR DEAD CELLS</b>

The plasma membrane is an essential structure for cell survival. Maintaining a cell membrane requires energy for building and replacing membrane lipids and proteins. The integrity (intactness) of the plasma membrane can be tested with 'vital stains' which indicate whether a dye is able to penetrate across the membrane to find out whether the cells have a healthy intact membrane (called a viable cell). This type of test is called a cell viability test. A common vital stain is **trypan blue**. This stain cannot pass across an intact plasma membrane of a healthy cell, but if the cell cannot maintain the integrity of the plasma membrane, trypan blue gets into the cell. After staining, viable cells are unstained (colourless) while dead cells are blue. The photo shows a slide with trypan blue staining of cultured animal cells.



Photographed at 600x magnification. Scale bar:  $10\mu\text{m}$

Q1: How many live cells are present? How many dead cells are present?

Q2: Calculate the % viability of the cells counted in this photo.  $\% \text{viability} = \frac{\text{live cells}}{\text{total cells}} \times \frac{100}{1}$

Q3: Use the scale bar to measure the range of cell sizes on the slide; record the smallest, largest and a mid-sized cell.

**Download this page, place in your notebook and answer the questions.**