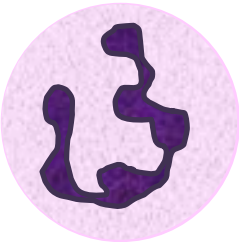
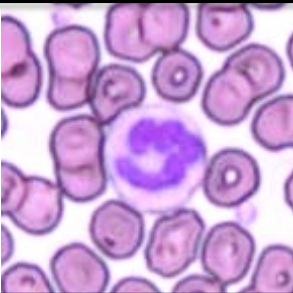
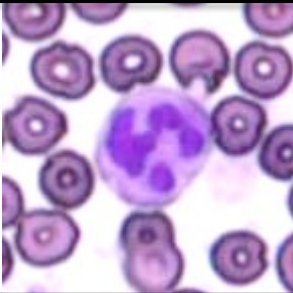
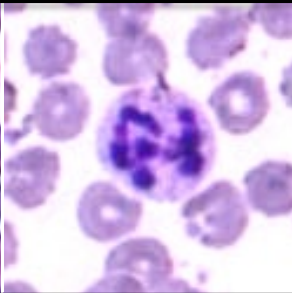
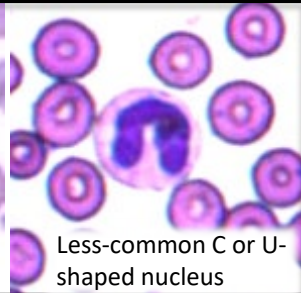

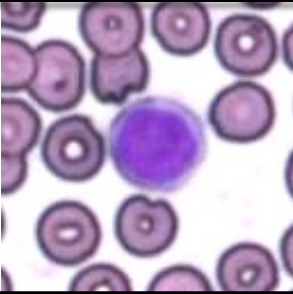
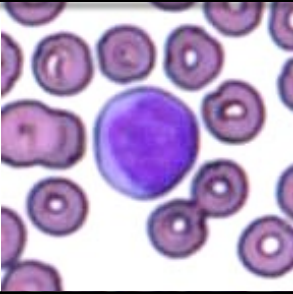

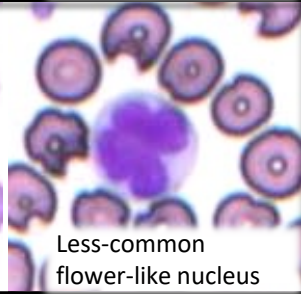

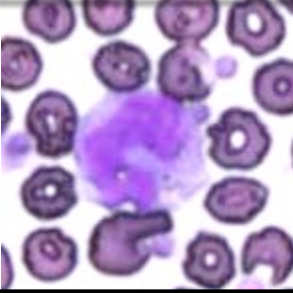
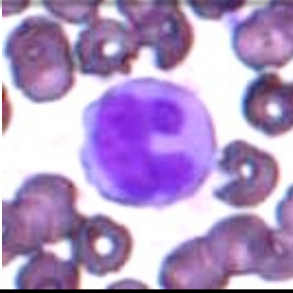
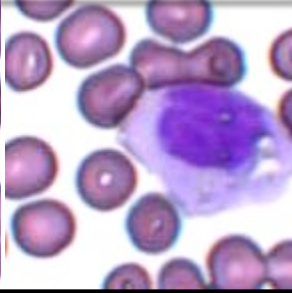


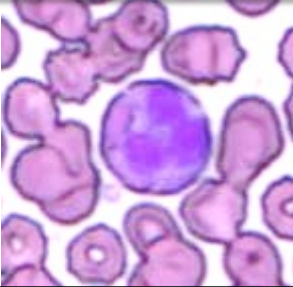
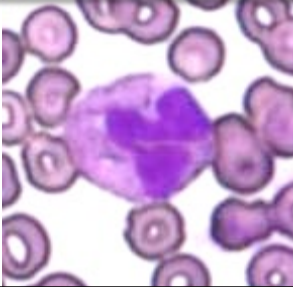
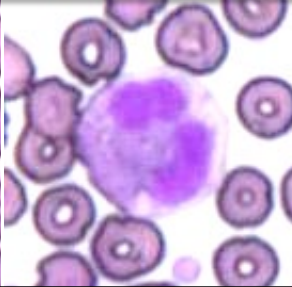
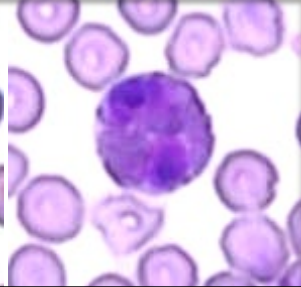
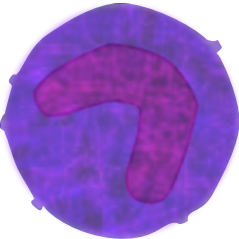
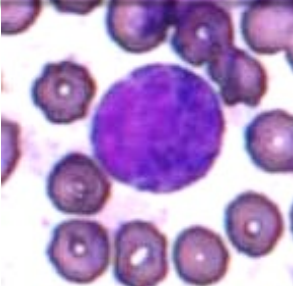
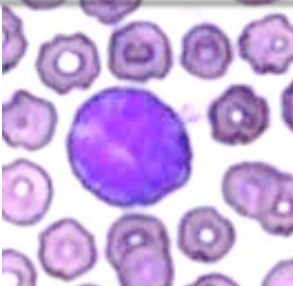
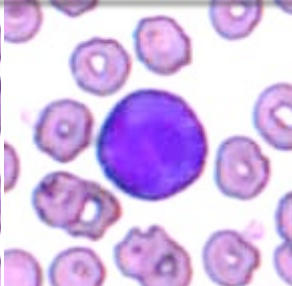


<p>Neutrophil</p> <p>Most common (40-60%)*</p> <p><i>Cytoplasm</i> – Light pinkish with small granules, occasional vacuole.</p> <p><i>Nucleus</i> – Dark purple with multiple connected shapes.</p> <p>2-3x larger than RBC</p>					 <p>Less-common C or U-shaped nucleus</p>
<p>Lymphocyte</p> <p>Common (20-40%)*</p> <p><i>Cytoplasm</i> – Light (typically bluish), clear with no granules.</p> <p><i>Nucleus</i> – Dark purple, rounded, fills up most of cell.</p> <p>Nucleus slightly larger than RBC</p>				 <p>Stain variation can give pinker cytoplasm</p>	 <p>Less-common flower-like nucleus</p>
<p>Monocyte</p> <p>Less common (2-8%)*</p> <p><i>Cytoplasm</i> – Light (typically bluish), clear, no granules, some vacuoles.</p> <p><i>Nucleus</i> – Dark purple, irregularly-shaped, (Some C or Bean-shaped).</p> <p>2-3x larger than RBC</p>				 <p>Stain variation can give pinker cytoplasm</p>	
<p>Eosinophil</p> <p>Less common (1-4%)*</p> <p><i>Cytoplasm</i> – Darker red or purplish with medium-sized granules.</p> <p><i>Nucleus</i> – Dark purple with 2-3 round, connected shapes.</p> <p>2-3x larger than RBC</p>					
<p>Basophil</p> <p>Rare (<1%)*</p> <p><i>Cytoplasm</i> – Filled with large, dark purple granules.</p> <p><i>Nucleus</i> – Dark purple, bean-shaped, mostly hidden by granules.</p> <p>2-3x larger than RBC</p>					<p><i>The variation in coloring is due to changes in staining methods.</i></p> <p><i>All images are from our project slides.</i></p> <p><i>*% range for humans</i></p> <p>Updated 4/2024 MB</p>

Neutrophil: Most common (40-60%)*
Cytoplasm – Light pinkish with small granules, occasional vacuole.
Nucleus – Dark purple with multiple connected shapes.
2-3x larger than RBC

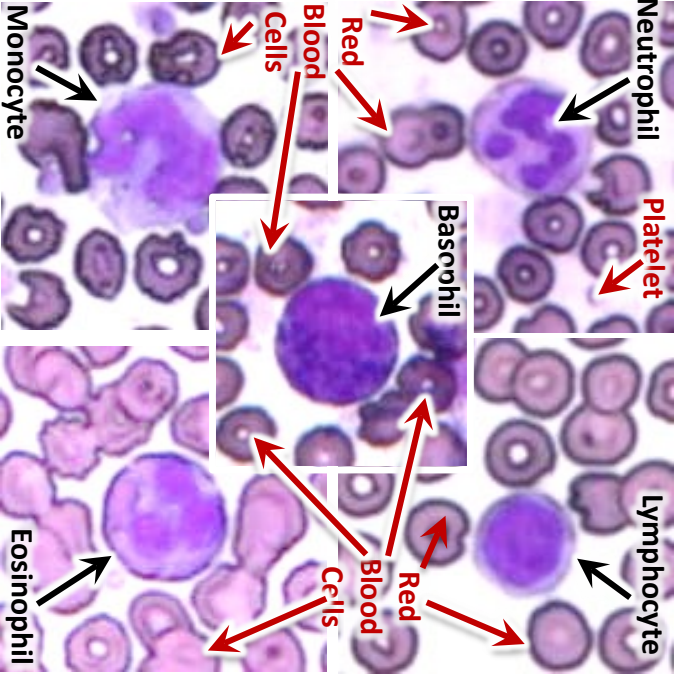
Platelet

Lymphocyte: Common (20-40%)*
Cytoplasm – Light (typically bluish), clear with no granules.
Nucleus – Dark purple, rounded, fills up most of cell.
Nucleus slightly larger than RBC




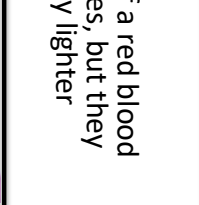
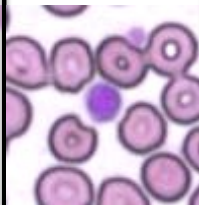
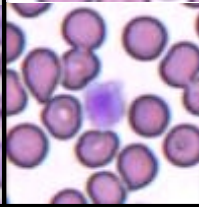



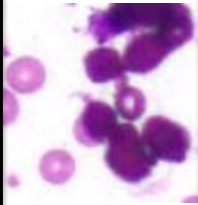

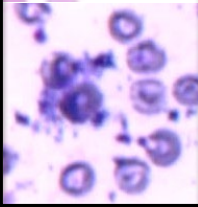

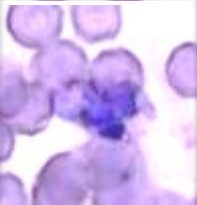

Basophil (center): Rare (<1%)* 2-3x larger than RBC
Cytoplasm – Filled with large, dark purple granules.
Nucleus – Dark purple, bean-shaped, mostly hidden by granules.

Monocyte: Less common (2-8%)*
Cytoplasm – Light (typically bluish), clear, no granules, some vacuoles.
Nucleus – Dark purple, irregularly-shaped, (Some C or Bean-shaped).
2-3x larger than RBC

Eosinophil: Less common (1-4%)*
Cytoplasm – Darker red or purplish with medium-sized granules.
Nucleus – Dark purple with 2-3 round, connected shapes.
2-3x larger than RBC



Not White Blood Cells

<p>Burst Cells</p> <p>Do not mark cells that have burst open, spilling their contents, unless they are still enough intact to clearly identify them.</p>			
<p>Platelets</p> <p>Some platelets are large and can be about the size of a red blood cell. They can sometimes be mistaken for lymphocytes, but they don't have the distinctive dark nucleus surrounded by lighter cytoplasm and a cell membrane..</p>			
<p>Cell Fakes</p> <p>These are red blood cells with platelets or other debris on top – making them look like neutrophils or other white blood cells.</p>			
<p>Strange Reds</p> <p>Red blood cells that get overstained, have debris stuck to them, or otherwise look darker than normal.</p>			
<p>General Debris</p> <p>Do not mark cell-sized debris unless you are sure it is a white blood cell. Do not classify a white blood cell if debris is blocking too much of it to identify it.</p>			

The variation in coloring is due to changes in staining methods. All images are from our slides except for those with a reference.

% range for humans