

Quiz 1 : Erythrocytes & Granulocytes

Erythrocytes consume some of the oxygen
they transport for ATP production

Answer streak 9
+ 901

Kahoot!

True

False

The main difference between basophils and mast cells is

Answer streak 10
+ 932

Kahoot!

▲ the shape of
nucleus ✓

◆ the density*
of their
granules

● the content*
of their
granules

■ the staining*
reaction of
their
granules

Which of the following cells function in the formation of pus at the wound site?

Answer streak 8
+ 694



▲ Cells with spherical nuclei ✖

◆ Cell-like elements with no nuclei ✖

● Biconcave cells with no nuclei ✖

■ Cells with polymorphic nuclei ✔

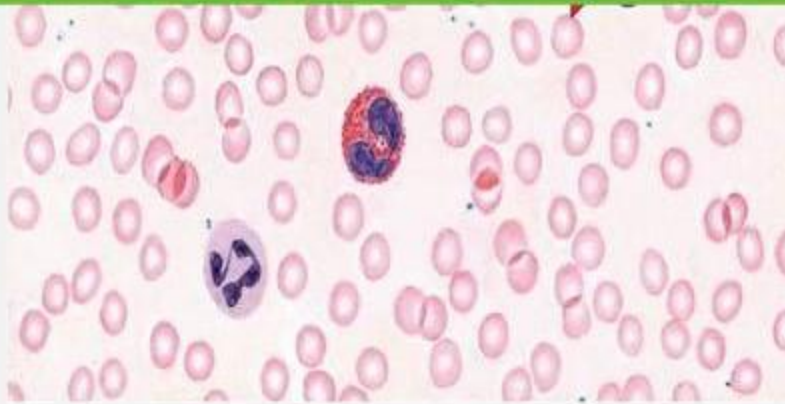
Eosinophils are cells with bilobed nuclei and many crystalloid cytoplasmic granules

Answer streak 5
+ 800



Estimate the diameter of the labeled cell

Answer streak 2
+ 937



▲ about 5 μm ✕

◆ about 15 μm ✕

● about 11 μm ✕

■ about 7 μm ✓

Which cell type has cytoplasmic granules that contain heparin and histamine?

Answer streak 3
+ 957

Kahoot!

▲ ✕
Eosinophil

◆ ✓
Basophil

● ✕
Neutrophil

■ ✕
Lymphocyte

What is the approximate life span of a circulating erythrocyte?

Answer streak 2
+ 932

Kahoot!

▲ ✓
4 months

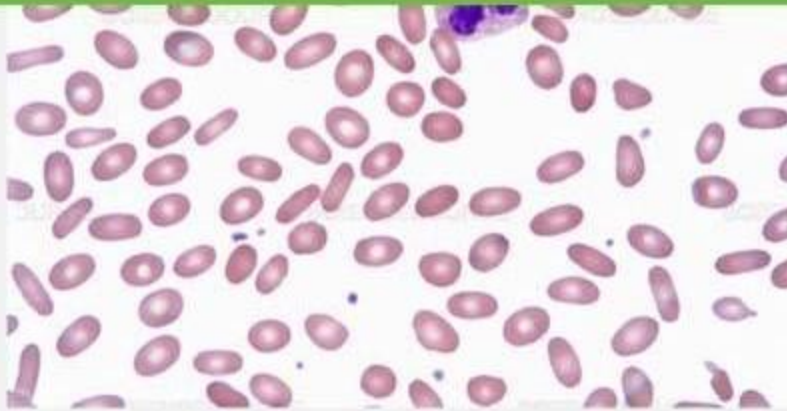
◆ ✕
120 weeks

● ✕
20 days

■ ✕
14-28 days

The erythrocytes in this section are abnormal because

Correct
+ 935



- ▲ they are rounded in shape indicating they are spherocytes ✖
- ◆ they lack pale areas centrally indicating spherocytes ✖
- they are oval in shape indicating ovalocytosis ✔
- they have pointed edges indicating poikilocytosis ✖

A differential cell count of a blood smear from a patient with a parasitic infection is likely to reveal an increase in

Answer streak 4
+ 951



 Eosinophils 	 Basophils 
 Neutrophils 	 T lymphocytes 

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 Eosinophils 	 Basophils 
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Erythrocytes are very small, cell-like elements with no nuclei but many granules

Answer streak 6
+ 804



Which biochemical component of the erythrocyte cell surface is primarily responsible for determining blood group (ABO)

Kahoot!

▲ Fatty acid

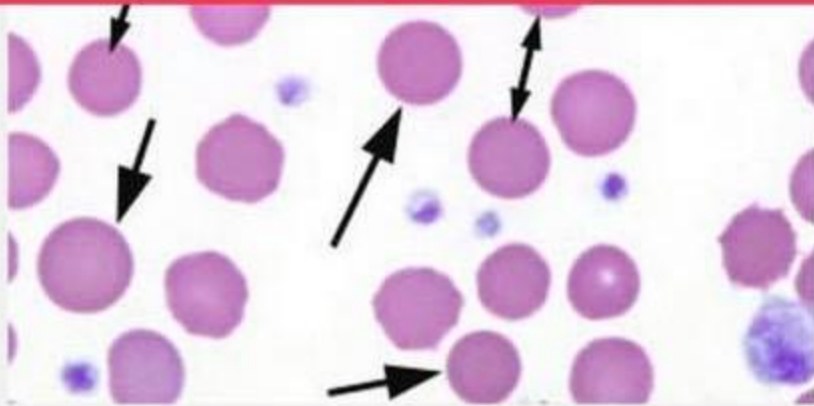
◆ ✓ Carbohydrate

● Protein

■ Cholesterol

The labeled erythrocytes are abnormal because

Answer streak lost
Dust yourself off. Greatness awaits!



▲ they are rounded in shape indicating they are

● elliptical in shape indicating

(ov)alloxevitosis

◆ they lack pale areas centrally indicating

■ they have pointed edges indicating poikilocytosis

Quiz 2: Lymphocytes




Kahoot!

Monocytes move from systemic circulatory system into connective tissues, where they differentiate into what cell

 <p>Macrophage</p>	 <p>T cell</p>
 <p>B cell</p>	 <p>Neutrophil</p>

Kahoot!

What cell in circulating blood is the precursor to microglia and antigen-presenting cells

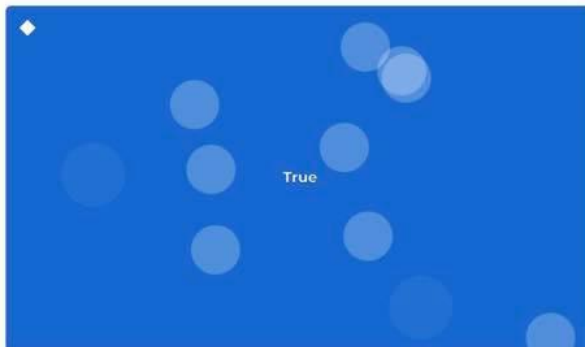
 Macrophage	 Mast cell
 Monocyte	 Lymphocyte



Edit

Kahoot!

Most circulating lymphocytes are small inactive B cells



19



Kahoot!

Which of the following blood cells differentiate outside of the bone marrow?

 Megakaryocytes	 T lymphocytes
 Granulocytes	 Erythrocytes

Kahoot!

To what does the TCR of a helper T cell bind in healthy individuals?



foreign antigens presented with MHC I molecules



foreign antigens presented with MHC II molecules



free antigens in a soluble form



self antigens presented with MHC II molecules

Kahoot!

MHC II molecules present



processed self-antigens from proteasomes



processed foreign antigens from phagolysosomes

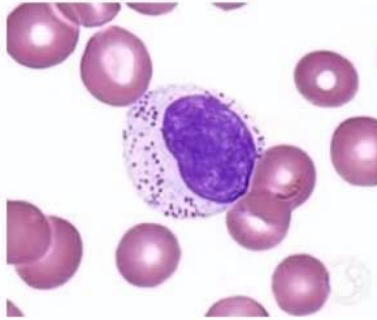


antibodies



T cell receptors

30



Identify the cell

Tap here to answer

Submit

Kahoot!

B cells will bind with their BCR to which of the following in healthy individuals?



foreign antigens presented with MHC I molecules



foreign antigens presented with MHC II molecules



free antigen in a soluble form



self antigens presented with MHC I molecules





Kahoot!

Which of the following would be a BCR?

 <p>MHC II</p>	 <p>MHC I</p>
 <p>IgD</p>	 <p>CD4</p>







Kahoot!

Which of the following is not one of the three main antigen-presenting cell types?

 Natural killer cells	 Macrophages
 Dendritic Cells	 B cells


4:34 PM Thu 15 Oct

Today
8:13 AM




Kahoot!


Myelogenous leukemias are caused by cancerous production of innate immune cells, in which tissue such production occurs




Thymus



Lymph nodes

























Spleen



Bone marrow

19



Kahoot!

MHC refers to a large group of genes that code for proteins that play an essential role in which of the following?



Phagocytosis by macrophages



Antigen presentation to T lymphocytes



Phagocytosis by neutrophils



Antigen presentation to B lymphocytes

Kahoot!

To what does the TCR of a cytotoxic T cell bind in autoimmune diseases?



foreign antigens presented with MHC I molecules



foreign antigens presented with MHC II molecules



self antigens presented with MHC I molecule



self antigens presented with MHC II molecules

Quiz 3: Hematopoiesis

What fate may await granulocytes that have entered the marginating compartment?

Answer streak 2
+ 624

Kahoot!

Next

▲ Crossing the wall of a venule to enter connective tissue ✓	◆ Differentiate into functional macrophages ✗
● Undergo mitosis ✗	■ Cannot reenter the circulation ✗

Which cell type is capable of further mitosis after leaving the hemopoietic organ in which it is formed?

Correct
+ 804

Kahoot!

Next

▲ Neutrophil ✗	◆ Lymphocyte ✓
● Monocyte ✗	■ Reticulocyte ✗

Which process occurs during granulopoiesis but not during erythropoiesis?

Answer streak lost
Great try.



Next

▲ Cells lose their capacity for mitosis



Nucleus becomes

● increasingly lobulated



◆ Euchromatin content increases



■ Overall cell diameter decreases



What is the earliest stage at which specific granulocyte types can be distinguished from one another?

Answer streak lost
Great try.



Next

Myelocyte



◆ Promyelocyte



and form



■ Metamyelocyte



Which process occurs during erythropoiesis but not during granulopoiesis?

Correct
+ 673

Kahoot!

Next

▲ Segmentation of the nucleus



◆ Heterohromatin content increases



● Persistence of few organelles



■ Progressive increase in acidophilic content



Erythroid nuclear expulsion occurs at the end of which of the following stages?

Answer streak lost

Dust yourself off. Greatness awaits!

Kahoot!

Next

▲ orthochromatic erythroblast



◆ polychromatic erythroblast



● reticulocyte



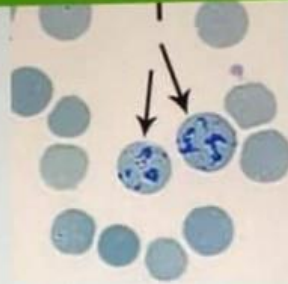
■ basophilic erythroblast



The main constituents of the dark precipitate that forms in the labeled cells upon staining with the dye cresyl blue are

Correct

+ 824



▲ Hemoglobin



◆ Polyribosomes

● Nuclear fragments



■ Nucleoli

Bone marrow macrophages engulf expelled nuclei of erythrocytes

Correct

+ 756



Next

▶ True



▲ False



In which of the following cells involved in erythropoiesis does hemoglobin synthesis begin?

Wrong
Great try.

Next



Orthochromatophilic erythroblast



Polychromatophilic erythroblast



Basophilic erythroblast



Proerythroblast



Quiz 4: Lymph nodes

