

# Why Is Blood Red?

LIFE SCIENCES, HEALTH

## Get ready

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Before the class, make a simple model of blood and its components.

### 1. Models of blood components:

#### Materials:

- oil (approx. 50 ml/ 1.8 fl. Oz.),
- a small bottle/test tube,
- modelling clay, plasticine (red, white, yellow),
- rubber/synthetic rubber ball with "bristles" (see photo) - optional

#### Plasma

Pour oil into a small bottle or a test tube closed at one end.

#### Red blood cell (erythrocyte)

Knead the red modelling clay/plasticine into a flattened ball approximately 3 cm in diameter. Form shallow indentations in the middle of the blood cell on both sides.

#### White blood cell (leukocyte)

Use the white modelling clay to make a ball approximately 3 cm in diameter, as well as little cylindrical "spikes" approximately 1 cm in diameter and stick them all over the surface of the ball (as if they were "bristles"). You can also buy a rubber or synthetic rubber ball with "bristles".

#### Blood platelets:

Use the yellow plasticine to make a small ball, and then make irregular shaped "handles" and "hooks" out of it with your thumb and index finger.

### 2. A model of blood (taking into account the proportions of its different components)

#### Materials:

- a 250 ml/9 fl. oz. jar,
- modelling clay (red, white, yellow),
- oil (approx. 150 ml/ 5 fl. Oz.),

#### Instructions:

Pour oil into the jar. Use the modelling clay to make smaller models of blood cells, both white and red, as well as platelets. They don't have to be as accurate as the different models of the blood components - what is more important is to show their color and the proportions they have in real life. Red blood cells should predominate in the model, as it is thanks to them that blood appears red in color. There should be far fewer blood platelets than red blood cells, while white blood cells should be the fewest of all.

Blood is made up of the following components in percentage terms:

plasma - approximately 55%

erythrocytes - approximately 45%

leukocytes - approximately 0.15%

thrombocytes - approximately 4.85%

## GET GOING

Movement game: How do red blood cells function?

- several sheets of black and blue paper/or black and blue plasticine

Movement game: Leukocytes: scouts and commandos

- We provide:** Tags - template - print and cut out

- construction paper (several sheets)

