



Pump It Up

What is blood?



The average person has 4.5 to 5.5 litres of blood in their body and all this blood is pumped around by the heart in about 1 minute!

Resources:

- Empty jar
- Water
- Salt
- Red and yellow food colouring
- Cereal
- Mini marshmallows
- Pom poms
- Small bag



What to do:

1. Half fill the jar with water and add some yellow food colouring. This is the plasma.
2. Add some salt to the plasma. This represents the nutrients which blood contains.
3. Put some cereal into your small bag and mix in some red food colouring. This represents your red blood cells.
4. Add this to your plasma in the jar.
5. Add some mini marshmallows to the jar. These represent white blood cells, which fight off viruses, bacteria and pathogens.
6. Finally, add the pom poms to represent your blood platelets. Platelets are really important as when you get a cut these clump together to form a clot and stop you from bleeding.
7. All done!



Pump It Up

Make a heart model



The heart is really important for pumping blood all around your body, supplying oxygen and nutrients while removing carbon dioxide and other wastes.

Resources:

- Jar of 'blood'
- 2 straws
- 2 rubber bands
- Scissors
- Balloon



What to do:

1. Tie a knot, then cut the neck off the balloon.
2. Stretch it over the opening of the jar tightly and secure it with a rubber band.
3. Cut two very small holes in the balloon.
4. Slide the tied neck of the balloon onto the end of one straw and secure it with the other rubber band.
5. Push the straws through the holes in the stretched balloon.
6. Press the centre of the stretched balloon to pump the blood.
7. Your model heart is complete! Before each heartbeat, the heart fills with blood, and when it contracts it squeezes blood into the arteries which carry blood away from the heart. In our model you pump the 'blood' by pressing on the balloon. The balloon end at the top acts as a heart valve, keeping the blood flowing in the right direction.