

Human Biology 2

Blood and the immune system

God is a Powerful Protector

Spiritual Awareness: The blood of Jesus provides healing and protection

Faith in the shed blood of Jesus protects the Christian from all spiritual adversaries. Blood is a powerful symbol of life and protection. Blood serves a number of functions in the human body. One of its principle roles is protection. The human body has many built-in designs to protect its well-being. God has designed our body with an incredible capacity for self-healing, given the right care.

Our response to 'God is a Powerful Protector'

- Because God is a Powerful Protector I will...
- trust God
- have faith
- have peace
- not be afraid because He is with me
- give my worries to God
- do what God asks me to do
- believe that God will do as He says
- put on the armour of God to protect me against the enemy

Supporting devotional resource

Themes for Christian Studies 3, (Servant): Jesus, the healing servant

Themes for Christian Studies Level 4, (Protector): God rescues His people and protects them from sickness

Themes for Christian Studies Level 5, (Powerful): God's power is the greatest

Biblical references

Bible stories and passages:

Exodus chapters 7-12 God rescues His people from slavery; the blood over the door posts gave protection from the angel of death.

Luke 22:7-20 Cup of the new covenant in Jesus' blood poured out for us; protection from sin, Satan and eternal alienation from God.

Psalms 91 No plague shall come near your dwelling.

Leviticus 22:4 - 8 Ceremonial health laws concerning infectious skin disease, touching a dead body, eating of meat torn by wild animals. These laws were given for the protection of the Jews, long before other cultures knew that disease was passed on by germs, carried by blood, and transferred from animal to man.

Ephesians 1:19-22 The power in Christ's death. He put all things under His feet.

Verses:

Leviticus 17:11 The life of every living thing is in the blood.

Hebrews 13:20 God raised from death our Lord Jesus, who is the Great Shepherd of the sheep as a result of His sacrificial, by which the eternal covenant is sealed. (The blood of Jesus began the agreement that God made with His people.)

Ephesians 1:7 In Him we have redemption through His blood, the forgiveness of our sins, according to the riches of His grace.

John 3:16 For God so loved the world...(God's rescue plan for us).

Exodus 15:26 If you pay attention to my commands I will put none of these diseases upon you. I am the Lord who heals you.

Key Questions

How does our body protect itself?

How important is blood to life?

What examples of the shedding of blood can we find in the Old Testament?

How was this a symbol of what was to come?

Why do you think God chose blood as a symbol of protection from evil?

Outcomes

Students will

Knowledge

- demonstrate that God protects our health by the defensive action of our blood
- understand the functions of the blood
- understand that living a healthy lifestyle can build a strong immune system and protect us against disease

Skills

- research and present data
- identify and draw different types of blood cells
- compare and contrast types of blood cells
- work co-operatively with a partner in first-aid exercises

Values

- appreciate the body's remarkable ability to repair itself and fight against disease
- appreciate the need to practice hygiene rules
- appreciate the work of organizations such as the Red Cross, and the need for blood donors
- appreciate God's provision of the body's protective structures and processes

Activities

- Describe and draw different types of blood cells.
- Report on blood types if known.
- Research the functions fulfilled by the blood: transport of food, waste, oxygen, hormones and chemical messengers; anti-bacterial action of white blood cells, clotting capacity to prevent bleeding, role in body temperature-control.
- Use a microscope to identify different blood cells. Prick fingers and examine blood smear.
- Compare human blood with that of other organisms.

- Revise the circulatory system, (covered in 'Human Biology 1')
- Invite a blood bank representative to speak.
- Research the effects of living in a high altitude on human blood.
- Define the immune system.
- List the functions of the immune system.
- Investigate the role diet plays in building the immune system.
- Discuss the impact of bacteria and viruses on the human body.
- Construct a list of rules for health and hygiene.
- Investigate health rules of the Old Testament, particularly Leviticus 22: 4-8, and compare them to the hygiene knowledge of today.
- Discuss the function of the Red Cross organization.
- Write a detailed biography on the life and achievements of Henry Dunant. Students can write to local Red Cross for data.
- Research the work of Florence Nightingale who is famous for her work in sterilization of the hospital wards.
- Outline some basic first-aid procedures and practice these with a partner.
- Revise the skeletal system, and its role in protecting vital organs, (Human Biology 1)

Assessment

1. Make a poster to explain the function of the blood.
2. What have I learned from the study of blood and the immune system...
 - about God?
 - about doing what God wants me to do?
 - about the Bible?

Link with Australian Curriculum

Science Year 5 – Biological sciences: living things have structural features that help them to survive in their environment

Learning Connections

English: Read the biographies of Henry Dunant and Florence Nightingale. (*Themes for Christian Studies 3, Servant for Florence Nightingale*). Write a story about the day in the life of a white blood cell as it travels around the body.

Mathematics: Compare percentages of red to white blood cells in the blood.

Social Studies: Study the work of community blood banks.

Health: The role of germs in causing disease; basic hygiene

Art: Design an illustrated poster on the importance of washing hands.

Thinking Skills: See *Creative Thinking Skills* on this web site – “*The Human Body*” (Middle/Upper Primary).

Additional Beacon Media resource

Visual language Units: *Human Biology*