

Space and Time / The Earth in Space

God is a Powerful Protector God is Lord and King

Spiritual Awareness: God sends angels to protect us from harm and evil

God has provided a special home for us in the Cosmos, with time to order our lives and relationships.

Our special planet has built-in protection. The Earth is the only planet in our solar System that is suitable for living things. It is just the right temperature, has air, flowing water and gravity. God designed Earth for human life. He also designed the Earth with a special protective layer, the atmosphere. The atmosphere protects the Earth from extreme heat and cold, from radiation and from harmful meteors.

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, (Powerful)- God is great strong and mighty
Themes for Christian Studies 5, (Protector) - God protects us from harm and evil

Biblical references

Bible stories and passages

Psalm 91 - Angels protect us

2 Kings 6 - Elisha and God's army of angels

Acts 12:1-9 - An angel saves Peter

Joshua 10 – The day the sun stood still

Matthew 24:42-51 – Jesus will return at the time God the Father chooses. Be ready for His coming.

Memory verses

Psalm 4:8 - God makes us dwell in safety

Isaiah 41:10 – Do not be afraid. I am with You! I am your God.

Proverbs 3:5-6 - Trust in the Lord with all your heart.

Isaiah 54:10 - Though the mountains be shaken and the hills be removed, yet my unfailing love for you will not be shaken.

Psalm 31: 14-15 – My trust is in You O Lord; You are my God. I am always in Your care.

Ecclesiastes 3:1 – Everything that happens in this world happens at the time God chooses (GNB).

Key Questions

What makes our planet more special than any other planet?

What protection has God given to our planet?

Does God always protect when people act foolishly?

What does the Bible tell us about trusting God, even when there are troubles and even disasters?

What does God say about the future?

Outcomes

Students will

Knowledge

- understand the properties of the atmosphere
- explain the position of the earth in space
- compare the special features of earth with other planets: the earth is one of the eight planets in our solar system, but it is unique in that it is the only planet with living creatures
- understand how the relationship between the earth, sun and moon, and the rotation of the earth on its axis give us time, seasons, day, night, years, months

Skills

- measure time
- observe moon changes over a month
- observe movement of shadows
- compare weather conditions around the world
- question and predict, based on prior knowledge
- plan and conduct investigations to find answers to questions
- safely use appropriate materials, tools or equipment to make and record observations
- use formal measurements and digital technologies as appropriate
- process and analyze data and information, using a range of methods including tables and simple column graphs to represent data and to identify patterns and trends
- compare results with predictions, suggesting possible reasons for findings
- evaluate by reflecting on the investigation and deciding whether a test was fair or not
- communicate through a variety of methods and media

Values

- use the time God has given us wisely and responsibly

- appreciate God's love for us in providing a special planet for us to live on
- show environmental responsibility
- trust in God, believing that He has a plan for our life, and knows the future

Activities

- Describe the earth's atmosphere.
- Discuss the importance of the atmosphere for protection from a) meteors, b) ultra-violet rays, c) extreme heat and cold.
- Define the ozone layer: part of the upper atmosphere - the air from about 10 km. to 50 km. above the Earth. This layer, the stratosphere, contains ozone. Ozone protects the Earth from ultra violet rays.
- Discuss the importance of the ozone layer. (Without the ozone shield, the sun's rays would damage our health, including skin and eyes. It would also affect plants and animals.)
- Discuss the damage to the ozone layer. (Are man-made gases such as chlorofluorocarbons (CFC's) destroying the ozone layer? CFC's are gases used in aerosol spray cans, refrigerators, fire extinguishers, cleaning fluids and in making insulation and some types of foam packaging.
- Draw a diagram of the solar system to show the earth's place in space.
- Compare conditions on earth to those of other planets and discuss suitability to life.
- Record local temperatures. Make a list of highest, lowest and average temperatures around the world. Establish the temperature range that best supports life.
- Discuss the relationship of the earth to the sun by using two different size balls and demonstrate how the earth moves around the sun.
- Make a sundial and observe movement of shadows.
- Discuss the relationship between the earth, the sun and the moon.
- Observe how the relationship between the earth, sun and moon gives us time, seasons, months, day and night.
- Draw the changing shape of the moon over a month.
- Discuss the relationship between the phases of the moon and our months.
- Discuss differences in seasons in Northern and Southern hemispheres.
- Research the north and south poles and observe daylight.
- Watch a DVD of the night sky or visit a planetarium and observe patterns of stars.
- Draw and name star patterns.
- Make various clocks and measure time.
- Make a sun dial.

Assessment

1. Present a project on the solar system. Include drawings or models, plus information.
2. Make a table to show the seasons in the Northern Hemisphere compared to the months and seasons in the Southern Hemisphere.
3. What have I learned from the study of space and time...

- about God?
- about doing what God wants me to do?
- about the Bible?

Additional Beacon Media Resource

'Our Special Planet' – See Units of Study, Student workbooks

Link with Australian curriculum

Science Year 3: Earth and space sciences

Learning connections

English: Writing about past, present and future events, or imaginary narratives about life in the future; making a timeline to sequence events in a story or biography.

Mathematics: activities to do with time

Art: Make paper mache planets of our solar system.

Health: Discuss the importance of adequate sleep, and the importance of sleeping when it is dark. Discuss the body's "body clock".

Social Studies: clothing and preparations for different seasons; surveys and graphs on how different members of the community use their time

History: timelines; biographies of people who lived in the past; how society changes over time

Thinking Skills: See *Creative Thinking Skills – "Space and time"*.