

# Light and colour

## God is Pure and Holy / God is Light

God is a Powerful Creator (Creation Day 1)

### Spiritual Overview: God is Light

God created light on the first day of creation. This is the first 24-hour day of creation. Light existed before the light of the sun. Light is essential to life. God Himself is light.

Light is a symbol of goodness and purity, as opposed to darkness (a symbol of that which is evil). God wants us to walk in His light and live a life of purity. God is light. To walk in God's light is to walk in purity. To exclude God is to walk in darkness. Before the sun was created, the earth was illuminated by God's own light. From the book of revelation we understand that God's light will not allow any darkness or night in the Kingdom. Jesus Christ is a light to the world. As Christians we should reflect this light so that others may see Him.

### Our response to 'God is Light / Pure and Holy'

Because God is Pure and Holy I will...

- Obey Him.
- Try to do the things He wants me to do.
- Ask God to forgive me when I sin.
- Ask Him to make me clean inside.
- Admit when I make mistakes.
- Remember the fruits of the Spirit and try to show them in my life.
- Have respect for other people.
- Put God first in my life.

### Supporting devotional resource

*Themes for Christian Studies 1, (Creator): God created light; He is light*  
*Themes for Christian Studies Level 4, (Pure), The battle of light and darkness*  
*Themes for Christian Studies Level 5, (Pure), Christians should be lights to the world*

### Biblical references

#### Bible stories and passages

Genesis ch 1 God said "Let there be light."

Matthew 5:13-16 Christians as salt and light.

Genesis ch 9- The sign of the rainbow, (spectrum)

Galatians 5:22 Goodness is a fruit of the Spirit.

Ephesians 5:8-11 Live as children of the light.

Matthew 6:22-23 If your eye is clear your whole body will be full of light.

#### Memory verses

1 Peter 2:9 He has brought you out of darkness into His wonderful light.

Deuteronomy 6:18 Do what the Lord says is right and good.

Romans 13:12 Put on the armour of light.

John 8:12 Jesus said, "I am the light of the world. Whoever follows me will have the light of life and never walk in darkness."

1 John 2:29 Everyone who does what is right is of God.

1 John 1:5 God is light and there is no darkness at all in Him.

1 John 1:7 If we live in the light, just as He is in the light, then we have fellowship with one another, and the blood of Jesus, His Son, purifies us from every sin.

## Key Questions

What is light?

How does light make you feel?

What is darkness?

How does darkness make you feel?

Why does light remind us of the things that come from God?

Why does darkness remind us of things that come from Satan?

What does the Bible mean by 'walking in the light'?

Who is the light of the world?

How is life dependent on light?

Has God always been there?

What is the meaning of the word 'create'?

Why did God call the light 'good'?

## Outcomes

Students will

*Knowledge*

- Explain the Biblical parallel between light, (things of God), and darkness, (things of Satan)
- Understand the critical role the sun plays in supplying the earth with light and energy
- Understand the meaning of transparent, translucent and opaque
- Understand the difference between reflected and refracted light (middle/upper primary)
- Understand that light can be broken up into colour
- Name the primary colours and the colours that are formed when primary colours are mixed together
- Explain human dependence upon light
- Explain animal dependence upon light.
- Understand the critical role the sun plays in supplying the earth with light and energy.
- Recognize that the sun is a star and describe its structure.
- Know the difference between the structure of a star and other bodies in space.
- Explain the connection between day / night and the earth's rotation.

*Skills*

- observe and describe the colours of the rainbow
- identify colours that will make an object stand out from its background
- conduct experiments with light and record results

### *Values*

- understand that to live in God's light, we need to be forgiven for our sin
- understand that to live in the light we need to follow God, trust and obey and read His word.
- understand that as Christians we need to daily ask God's forgiveness for the wrong we have done so that we become pure and blameless in God's sight
- have joy in knowing God's world is a colourful world

## **Activities**

### LOWER PRIMARY

- Conduct blindfold walks to show dependence upon light.
- List reasons for plant, animal and human dependence upon light.
- Experiment to show dependence of plants upon light.
- List daytime and night time activities of humans and animals.
- Paint with water on white concrete path, and observe the way the water evaporates in the sun.
- Classify lights into different categories, e.g. lights in the sky, electric lights, projected lights, reflected lights, fire light.
- Experiment with objects or materials that reflect e.g. mirrors, glass, water, shiny metals.
- Make a periscope.
- Experiment with prisms. See how sunlight passes through glass and splits the white light up into spectrum of colours.
- Identify colours of the rainbow.
- Blow bubbles and discuss the colours that are seen in the film.
- Identify primary and secondary colours.
- Name the colours that will be formed when two primary colours are mixed.
- Use cellophane to explore the effects of combining colours.
- Make black and white collages.
- Make candles.
- Use paint, experiment with colour mixing.
- Use cellophane to explore the effects of combining two colours.
- Make a cardboard colour wheel by combining two or more colours and spinning the wheel rapidly on an axle.
- Make a colour wheel that shows all primary and secondary colours.
- Study colour in the world around us.
- Using a combination of different coloured paper and pencils, discover the combinations of colours that are bright or dull looking.
- Devise an experiment to show that plants depend on light for growth.
- Plant seeds, varying exposure to light.
- Observe plants in the natural environment and note the way in which they compete for light.
- List reasons for human and animal dependence upon light. e.g. to see objects, availability of plant food.
- Classify animals of the day and animals of the night.
- Observe different kinds of lights.

- Classify lights, e.g. lights in the sky; electric lights; projected lights; reflected lights; flames.
- Devise shadow games using an overhead projector.
- Make shadow puppets.
- Set up a shadow stick, observing shadow lengths throughout the day.
- Use models to demonstrate an eclipse of the moon or sun/ day and night.
- Experiment with light using opaque, transparent and translucent paper.
- Discover how light travels.
- Experiment with mirrors.
- Make a spectrum using prisms.
- Record the colours of the rainbow.

#### MIDDLE/UPPER PRIMARY

- Define a star. Compare the light of a star to the light of a planet.
- Use models to demonstrate an eclipse of the moon or sun, what causes day and night, what causes tides and what creates our year of 365.25 days.
- Explain what is meant by a light year. Relate how long sunlight takes to reach the earth and name the nearest stars to earth.
- Draw constellations and recognize them in the night sky.
- Use an overhead projector for shadow activities.
- Make a shadow stick and measure shadow length.
- Look at light through materials: transparent, translucent, opaque.
- Make a spectrum to see colour and rainbows.
- Explore light rays that are both reflected and refracted.
- Explore the possibilities of flashlights e.g. large, small, for strength and distances of beam.
- Free play with prisms and lenses.
- Make a pin-hole camera.
- Study some optical illusions.
- Study light and reflection associated with road transport e.g. reflectors, car lights, rear vision mirrors, traffic lights, flashing lights, illuminated signs.
- Research the history of lighting.

### **Assessment**

#### Lower Primary

1. Draw up a table with 3 columns. The headings for each column: transparent, reflective, opaque. Now go around the room and find objects for these categories. Write them in the appropriate column.
2. Show the colours made by mixing primary colours.

#### Middle/Upper Primary

1. Draw a diagram to show how light rays can be reflected or refracted.
2. Draw the colours of the rainbow.

#### All levels

What have I learned from the study of light and colour...

- about God?

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

### **Link to Australian Curriculum**

**Science Foundation Year:** Biological Sciences – Living things have basic needs

**Science Year 1:** Physical Science – Light and sound are produced by a variety of sources and can be sensed

**Science Year 5:** Physical Science – Light from a source forms shadows and can be absorbed, reflected and refracted.

### **Learning Connections**

**English:** Imagine a trip to Antarctica or the Arctic Circle in the middle of winter. Write about your trip.

**History:** History of lighting

**Mathematics:** measure length of shadows and beams

**Art:** Colour mixing; light and dark colours / tones; shadow puppets

**Health:** Care of the eyes

**Thinking Skills:** See *Creative Thinking Skills* on this web site – “*Light and Colour*” (*Lower Primary*).

### **Additional Beacon Media Resource**

‘*Eyes to see*’ – see Units of Study, student workbooks