God is Truth
Light and colour
God is faithful to His word

Spiritual awareness
Jesus said, “I am the way, the truth and the life.” He also said “I am the light of the world”. Because He is truth, He brings light to a world in darkness.

Bible story:
Genesis 6-8 The rainbow was given as a sign of God’s promise, never to flood the whole world again. The rainbow reminds us that God is always true to His word.

Bible Verses:
John 14:6 Jesus said, “I am the way, the truth and the life.”
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.”
Matthew 5:13-16 Christians as salt and light.
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.
1 Peter 2:9 He has brought you out of darkness into His wonderful light.
Romans 13:12 Put on the armour of light.
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.

Our response to 'God is Truth / God is Light'
Because God is truth I will…
- Put God first in my life.
- Never follow other gods.
- know that God is true to His word
- be true to the words I speak and keep my word
- understand that to live in God's light, I need to be forgiven for our sin
- understand that to live in the light I need to follow God, trust and obey and read His word.

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 'living in the light'?
Who is the light of the world?
How is life dependent on light?

Outcomes

Students will

Knowledge

- 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.
- Know the difference between a star and a planet.
- 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

Activities

- 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.

Assessment

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 or draw them in the appropriate column.
2. Show the colours made by mixing primary colours.
3. What have I learned from the study of light and colour…
    - about God?
    - about doing what God wants me to do?
    - about the Bible?

Values education Year 2
God is Truth
Trustworthiness

Trustworthiness means that …
You will do what you say you will do.
You keep your promises
You are honest
You can be trusted
You keep secrets when you are meant to keep secrets

Discussion and activities
Think of a person is trustworthy.
Why would you say that they are trustworthy?
Think of your best friend.
Why is it important to be a trustworthy friend?
Would your friend want to stay being your friend if you shared secrets about them that they didn't want shared?
Would your friend want to stay being your friend if you said you were going to do something, but you didn't?

God is trustworthy
That means He will keep His word. He will do what He says He will do in the Bible.
The Bible calls this "faithfulness".

What does the Bible say about God's faithfulness?
Psalm 36:5 Your steadfast love, O LORD, extends to the heavens, your faithfulness to the clouds.
Psalm 89:8 O LORD God of hosts, who is mighty as you are, O LORD, with your faithfulness all around you?
Psalms119:90 Your faithfulness endures to all generations; you have established the earth, and it stands fast.

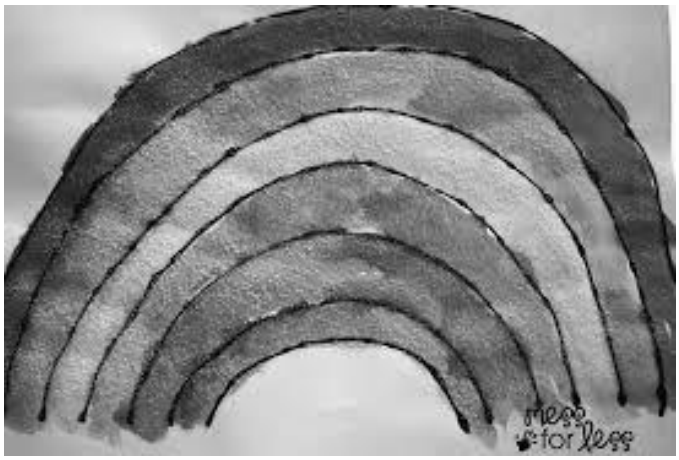
Art Year 2
God is Truth
Topic: Light and colour

Biblical connection: The God of the Bible is the only true God. He brings light to those who walk in darkness. He always keeps His promises.
Bible art as a wall display: Noah's ark landed and sign of rainbow, the sign of God's promise.

Painting and drawing

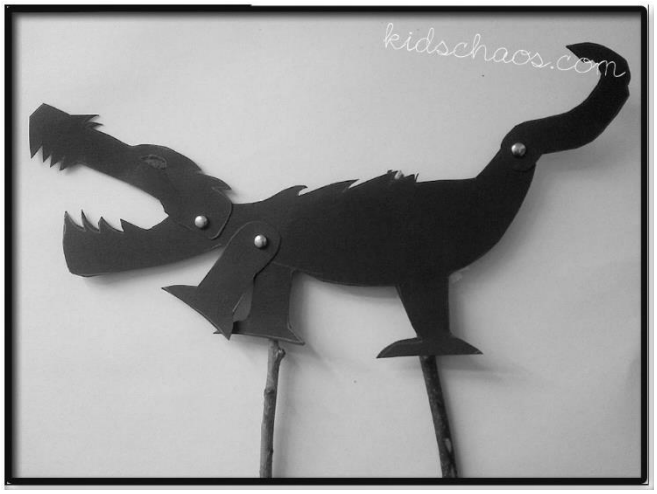
- Marbelling. Drop some thin paint of two colours on to a sheet of paper. Fold in half.
- Paint using three primary colours.
- Two colours of powder paint are together in a container: blue and yellow; red and blue; or red and yellow. Paint with dry powder paints on wet paper.

Drawing or painting the colours of the rainbow: order of colours from outside to the inside: red, orange, yellow, green, blue, indigo, violet



Construction

- Make shadow puppets. Children can work in groups or pairs to write a script for their characters.



How to make a shadow puppet theatre

What you need
1 cardboard box
1 sheet of tissue paper (large enough to cover one side of your box)
sticky tape
scissors or a craft knife
black marker pen
bedside lamp or large torch
a table

Cut the back panel out of your box.

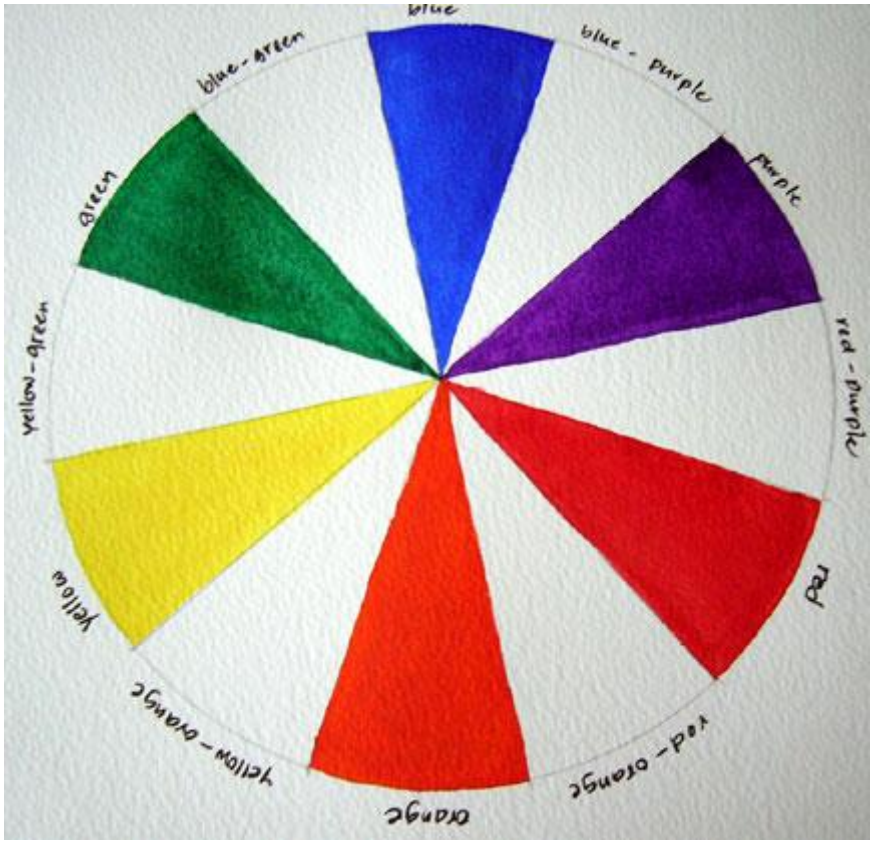
Leave two of the side flaps to keep your puppet theatre stable, but cut off the front flaps (the pieces that close up the box).

For the front of your theatre, sketch out a smaller square within the front panel, you can make it fancy with an arch and pillars if you want but really all you need is a smaller square within the main square (like a television set).

On the inside of the box, tape a piece of tissue paper that covers the opening you have just cut out.

Place the theatre on the edge of a table. Position a lamp or torch behind, shining directly into the inside, lighting up the tissue paper from within.
Make some shadow puppets and place them between the light and the screen, as close to the screen as possible works best.

Colour wheel



Practical Science:

Growing plants in the dark /light experiment

1. Take 6 pots and 6 bean seeds
2. Fill each pot with soil.
3. Plant one bean seed in each pot.
4. Place three of the pots outside in a spot that receives lots of sunshine.
5. Place the remaining three pots in a dark cupboard.
6. Water the plants and see what happens.

Do plants need light to grow?

Practical Science: Playing with Shadows

What you will need:

- Flashlight (torch)
- Blank wall
- Piece of yarn / string
- Chalk

What to do:

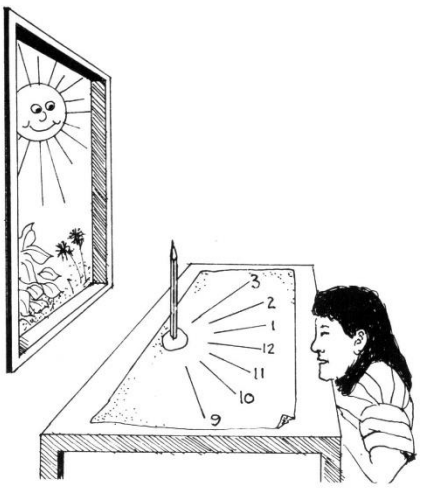
1. Discuss shadows. Ask them how they are formed and whether a single object can produce different kinds of shadows.
2. Take the children outside on a sunny morning. Tape a long piece of yarn / string to the ground for each student. Ask them to write their names in front of the yarn.
3. Ask the students to observe the position of the sun. Use the chalk to mark the length of each student's shadow on the yarn.
4. Return outside and repeat the same steps later in the morning, at midday, in the early afternoon and again later in the afternoon.
5. Discuss with your students how the position of the sun affected their shadows.
6. Based on their observations, ask them how they can change the shape of the shadow of a single object.
7. Experiment with a flashlight (torch) shining through a shadow box.

Practical Science: Make a Sun dial

What makes shadows?

Shadows are made when something blocks the light shining on it.

In the olden days, people did not have clocks like the ones we have today. They measured time by the sun. They could tell the time by the length of the shadow made by a shadow stick (also called a Sun dial).



To make a sun dial:

1. Cut a circle from stiff cardboard to make a dial.
2. Push a sharp pencil or skewer through the middle of it.
3. Push the pencil into the ground.
4. Mark on the dial where the pencil's shadow falls each hour.

Practical Science: Mixing colours

You will need

• 5 large glass bowls
• 2 plastic cups
• Red, blue and yellow food coloring
• Water

Instructions

- Pour water into 3 glass bowls and add a few drops of food coloring to each.
- Set aside one bowl for mixing and another as a dumping bowl.
- Now let the children have fun taking a cupful of water from two of the primary colors and mixing them in the mixing bowl.
- Repeat the experiment by pouring some of the third color into the bowl.

Practical Science: Dyed Flowers

Things you will need:

- A few stems of bright, white flowers such as lilies, chrysanthemums or carnations
- Jars filled with water
- Food colouring

Instructions:

1. Use the food dye to colour the water in each jar. This experiment works best with strong dye
2. Place the flowers into the jar.
3. Now watch and wait!

You may like to test some different colours, or maybe even draw a picture of your flower as it changes!

Practical Science: Walking Water

Things you will need:

- Three cups
- Paper towel
- Water
- Food colouring

Instructions:

1. Fill two of the cups half way with water and place them either side of the empty cup.
2. Colour the water in one cup with yellow dye, and the other with blue dye.
3. Fold or cut the paper towel into two long strips (a few cm wide).
4. Place one end of the first strip into the blue colored water and the other end of the strip into the empty cup.
5. Place one end of the second strip into the yellow-coloured water and the other end of the strip into the empty cup to join the first strip. 6. Watch and wait to see what happens!

You may like to try using different combinations of primary colours!

Practical Science: Rainbow in a Glass of Water

You will need:

- A glass of water that is 3/4 full
- Sunlight
- White paper

Instructions:

- Ask a child to stand near a sunny window or any other sunlit place.
- Have him hold the glass of water above the white paper in a way that allows the sunlight to pass through the water and fall on the paper.
- Watch a rainbow appear.

Explanation:

When light passes from one medium to another medium (in this case, from air to water), it separates into the seven colors of the rainbow – violet, indigo, blue, green, yellow, orange and red. You can observe the same process in a rainbow in the sky, in a water fountain and in the mist above a waterfall.

Thinking skills

Light and colour 1 Draw a picture using one colour to show how you feel today.	**Light and colour 2** Name 3 things that a torch and a book have in common.
Light and colour 3 Make a machine to paint a picture of a rainbow.	**Light and colour 4** What if there were no colours in our world? Give 3 ideas to explain what it would be like.
Light and colour 5 Draw a torch Now redesign it by using the following steps: B – make one part **bigger** A – **add** something extra R – **replace** one part with something bigger	**Light and colour 6** What do you think would happen to the world if there was no light? Give 3 suggestions.