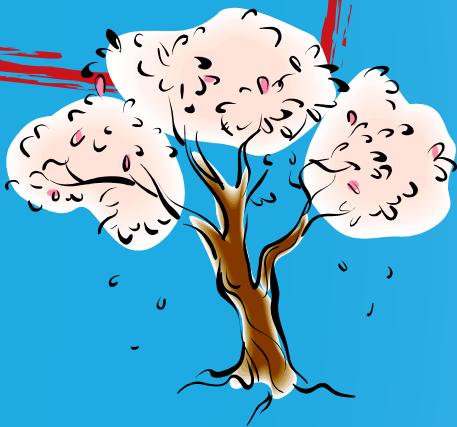


# SEASONS



## CONTENTS PAGE:

|     |   |       |
|-----|---|-------|
| 1.  | EU-UNAWE Mission Statement  | 3     |
| 2.  | CAPS Life Skills Programme of Assessment                                | 4     |
| 3.  | Core Knowledge & Content - CAPS Curriculum Life Skills Foundation Phase | 5-6   |
| 4.  | Learning Outcomes & Definition of Seasons                               | 7     |
| 5.  | Assessment Standards, Learning Objectives & Educator Notes              | 8     |
| 6.  | Seasons Whole Class Activity, Resources & Questions                     | 9     |
| 7.  | Illustration of Seasons in the Southern Hemisphere                      | 10    |
| 8.  | Learner Activity - Paper Mache Earth Ball & Educator Notes              | 11    |
| 9.  | Learning Outcome & Definition of Night and Day                          | 12    |
| 10. | Assessment Standards, Learning Objective & Questions                    | 13    |
| 11. | Whole Class Activity - Day and Night                                    | 14    |
| 12. | Learner Activity - Day and Night, Resources & Educator Notes            | 15    |
| 13. | Learner Activity - Grade 2  | 16    |
| 14. | Learner Activity  | 17-18 |
| 15. | Learner Objective & Definition of Shadow                                | 19    |
| 16. | Assessment Standards, Learning Objectives & Questions                   | 20    |
| 17. | Fair Test - Educator Notes & Resources                                  | 21    |
| 18. | Learner Activity - Fair Test  | 22    |
| 19. | Learner Activity - Identifying Materials                                | 23    |
| 20. | Drawing Shadows - Educator Notes, Learner Activity & Questions          | 24    |
| 21. | Illustrations of Shadows  | 25    |
| 22. | Learner Activity - Draw a Shadow Cartoon                                | 26    |



The idea behind EU-UNAWE is to educate children aged between 4-10 years (especially those from underprivileged communities) about astronomy, because it embodies a unique combination of scientific and cultural aspects:

- Our awe-inspiring Universe captures the imagination of children, making it a great stepping-stone to introduce youngsters to science and technology. Indeed, many scientists can trace their interest in science to a moment as a young child when they were first introduced to the wonders of the cosmos.
- Considering the vastness and beauty of the Universe and our place within it provides a special perspective that can help broaden the mind and stimulate a sense of global citizenship and tolerance.



# CORE KNOWLEDGE AND CONTENT CAPS LIFE SKILLS CURRICULUM FOUNDATION PHASE

| <i>Seasons</i>   | <i>Weather</i>  | <i>Earth and Space</i>   |
|--|---|--|
| <b>Summer:</b><br>The weather in summer.<br>How nature is affected.<br>How animals are affected.<br>How people are affected. | <b>The Daily Weather:</b><br>A daily weather chart.<br>Regular observations of the weather conditions<br>Cold, hot, windy, cloudy, sunny, misty, rainy.<br>Symbols used to describe the weather chart.<br>The weather and us.<br>What does the sky look like including clouds and colour. | <b>Plants and Seeds:</b><br>What plants need to grow (sun/sunlight).   |
| <b>Autumn:</b><br>The weather in autumn.<br>How nature is affected.<br>How animals are affected.<br>How people are affected. | <b>Weather Disasters:</b><br>Floods.<br>Fires.<br>Lighting.<br>Earth quakes.<br>Storms and strong winds.  | <b>The Sky at Night:</b><br>Changing from day to night.<br>What does the night sky look like?<br>What does the moon look like?<br>When can we see the moon?<br>How the moon seems to change shape.<br>The sun is a star. |

## *Seasons*

### **Winter:**

The weather in winter.  
How nature is affected.  
How animals are affected.  
How people are affected.

## *Weather*

### **Spring:**

The weather in spring.  
How nature is affected.  
How animals are affected.  
How people are affected.

## *Earth and Space*

### **Space.**

Earth from space—  
what it looks like  
(land, sea and clouds).  
Stars and planets.  
Names of the planets.  
Space travel.

**GRADES**  
1. Grade R  
2. Grade 2

**TERM/S**  
R- 1-4  
**GRADE 2**

## LEARNING OUTCOME

### Scientific Investigations

The learner will be able to act confidently on curiosity about natural phenomena and to investigate relationships and solve problems in scientific, technological and environment contexts.

**Definition: Seasons**  
One of the divisions of the year, marked by alternations in the length of day and night, or by distinct conditions of temperature, moisture, etc., caused mainly by the relative position of the earth with respect to the sun.

## ASSESSMENT STANDARDS

- Contributes towards planning an investigative activity.
- Participates in planned activity.
- Thinks and talks about what has been done.

## LEARNING OBJECTIVES

- Learners should be able to describe the differences between the four seasons
- Learners should be able to understand the relationship between the sun and the earth and the rotation of the earth around the sun which causes a change in seasons.

## EDUCATOR NOTES

The earth's axis points in the same direction throughout the year.

In December sunlight falls more directly on the southern hemisphere which makes it summer and the sun follows a higher path through the sky.

In June the southern hemisphere receives less direct sunlight, making it winter.

Spring and autumn begins when sunlight falls equally on both hemispheres which happens twice a year.

In March autumn begins in the southern hemisphere and spring in the northern hemisphere

In September when spring begins in the southern hemisphere it is autumn in the northern hemisphere

## ACTIVITY- SEASONS

An earth ball is used to demonstrate the movement of the earth around the sun to show the change in seasons.

The educator uses two learners.

Learner A holds the earth ball.

Learner B holds the torch or lamp which represents the sun.

Place a figurine on the earth ball is used to represent South Africa's location on the earth ball in the southern hemisphere, e.g. Cape Town.

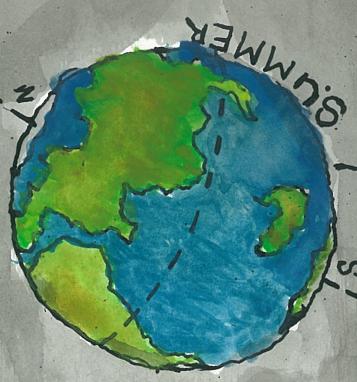
Learner B stands in the middle of the room with the torch or lamp reflecting light on the figurine in the southern hemisphere and should not move.

Learner A moves the earth ball around the lamp or torch (sun) showing how sunlight spreads on the surface of the earth depending on the changing position of the earth.



## QUESTIONS (Whole Class Discussion)

- Describe the differences between spring, summer, autumn and winter.
- What types of clothes do you wear during the different seasons ?
- What types of food do you eat during summer and winter?
- What are the colours of the leaves on the trees during the different seasons?
- How does the weather change in each season, for example sunny, rainy, windy or snowy.
- Do you know why seasons occur?



## LEARNER ACTIVITY– PAPER-MACHE EARTH BALL

### RESOURCES

- Balloons
- Newspaper strips
- Glue (mixture of water and flour)
- Paintbrushes
- Paint (blue, green and white)

### EDUCATOR NOTES

1. All learners will be given round balloons
2. Learners blow up their balloons.
3. Learners will use a paintbrush and brush the strips of newspaper with glue and cover the balloon.
4. When the balloon is fully covered in newspaper, place in a warm place.
5. Using the different colour paints and the EU-UNAWE earth ball learners paint their own earth balls.

## LEARNING OUTCOME

### Scientific Investigations

The learner will be able to act confidently on curiosity about natural phenomena and to investigate relationships and solve problems in scientific, technological and environment contexts.



## ASSESSMENT STANDARDS

- Contributes towards planning an investigative activity.
- Participates in planned activity.
- Thinks and talks about what has been done.

## LEARNING OBJECTIVES

- Learners should be able to understand that the earth rotates on its own axis in 24 hours which causes day and night.
- Learners should be able to understand how night and day occurs.

## QUESTIONS (Whole Class Discussion)

- When does the sun rise? (morning /evening)
- When does the sun set? (morning /evening)
- How many hours in the day?
- What are some of the activities you do in the morning, for example wake up, brush your teeth and go to school.
- What are some of the activities you do at night for example watch television, have supper and go to bed.
- What animals can you see during the day?
- What animals do you think only come out at night?

## ACTIVITY—DAY AND NIGHT

An earth ball is used to demonstrate the movement of the earth around the sun to show day and night.

The educator uses 2 learners

Learner A holds the earth ball.

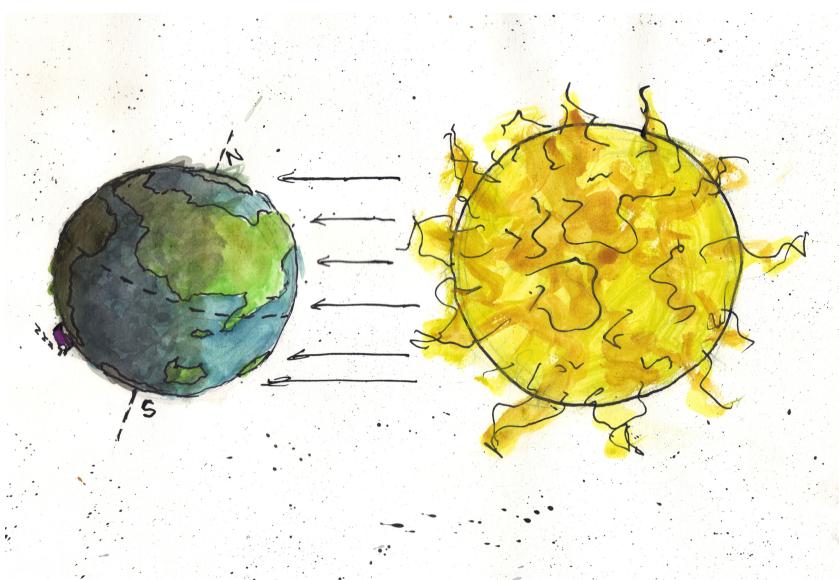
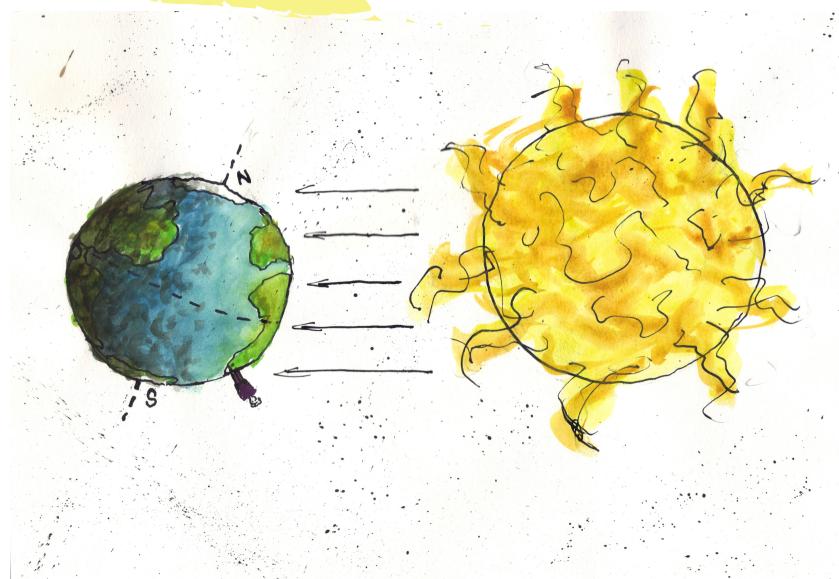
Learner B holds the torch or lamp.

Place a figurine on the earth ball. This is used to represent South Africa's location on the earth ball in the southern hemisphere e.g. Cape Town. Learner B stands in the middle of the room with the torch or lamp reflecting on the figurine in the southern hemisphere and should not move.

Learner A stands in front of Learner B.

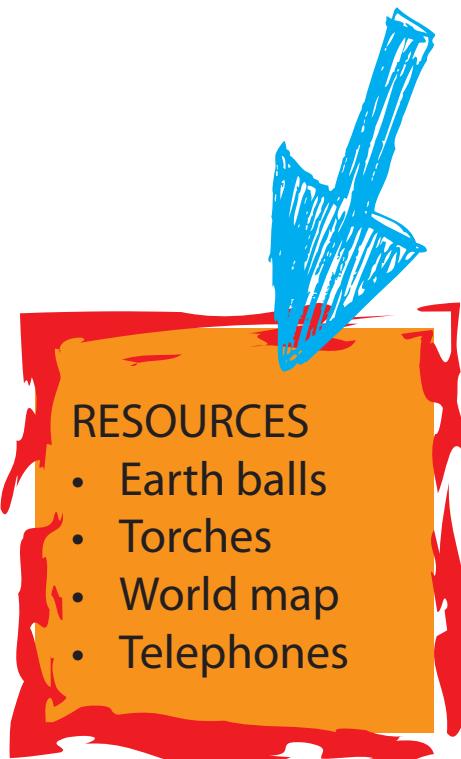
Learner A shines the torch or lamp on the figurine and does not move.

Learner B spins the earth ball to show how day and night occurs



## LEARNER ACTIVITY— DAY AND NIGHT

1. Learners work in pairs using their paper mache earth balls and torches.
2. Learners place figurines on different parts of the earth's globe and explore when different countries will have day and night.
3. Grade R learners can place the figurines in different countries and speak about night and day.



## EDUCATOR NOTES

Educators work with the learners to label the different continents on the earth ball prior to starting the activity.

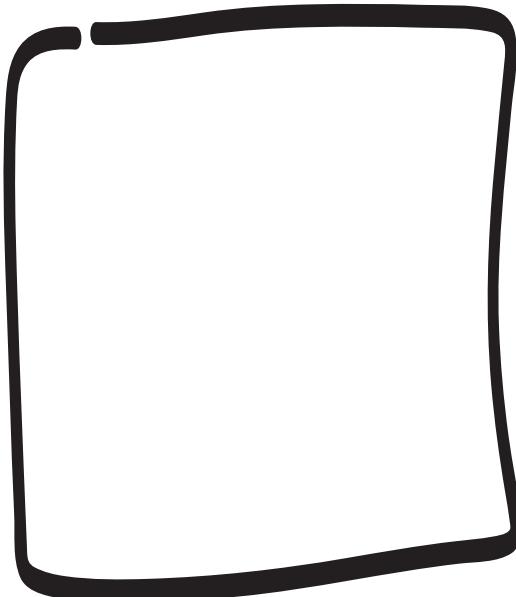
This will ensure that the learners are able to identify different part of the world when completing the activity below.

## LEARNER ACTIVITY

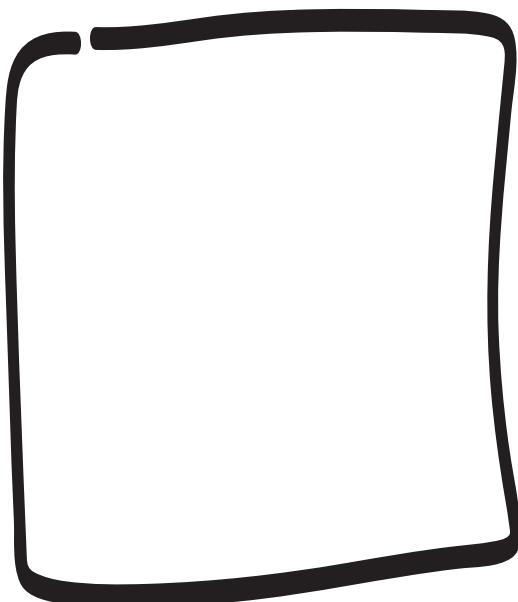
Suitable for Grade 2 learners

1. Draw a map and name the country which is experiencing daylight.
2. Draw a map and name the country which is experiencing night.

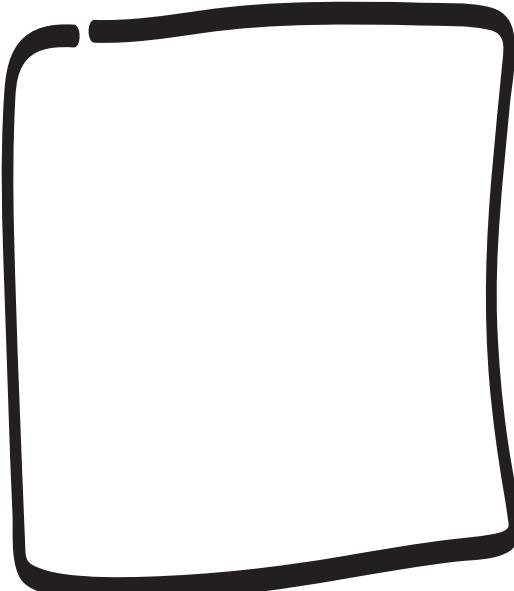
Day - Country



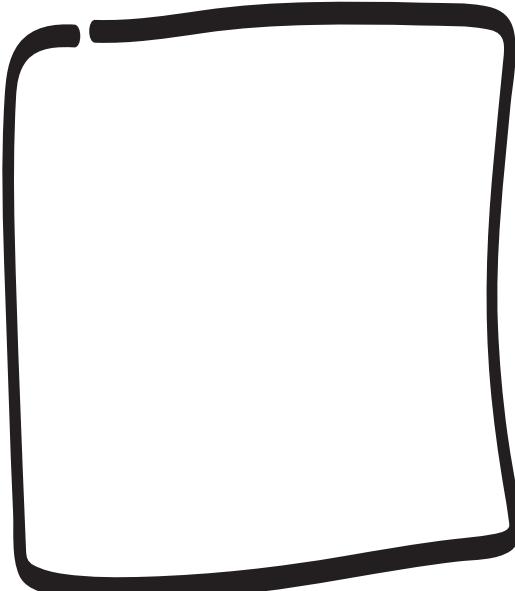
Night - Country



Day - Country

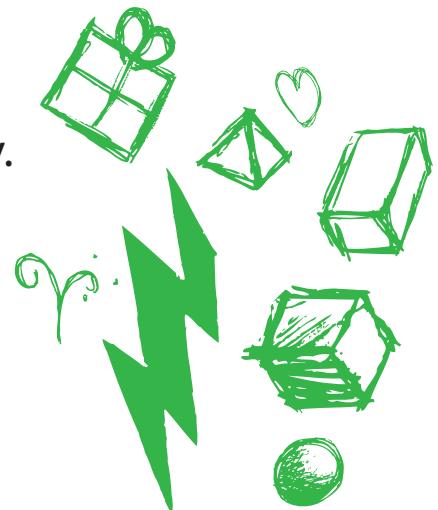
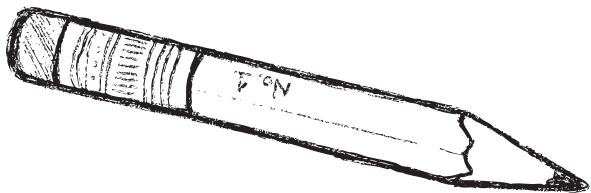


Night - Country



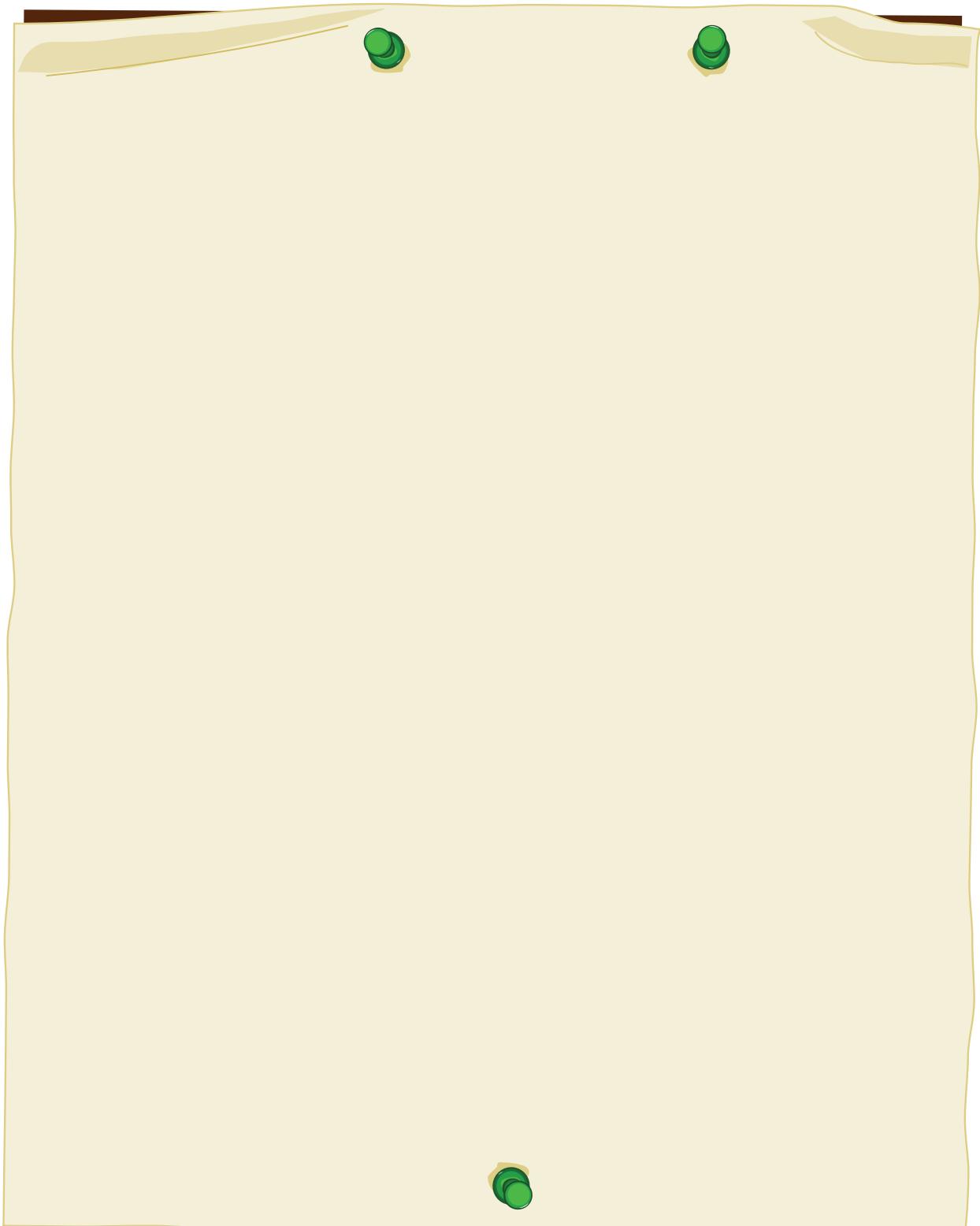
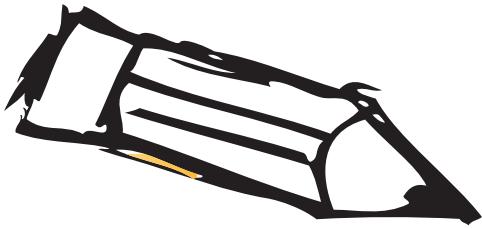
## LEARNER ACTIVITY

Draw pictures of things you do during the day.



## LEARNER ACTIVITY

Draw pictures of things you do at night.



## LEARNING OUTCOME

### Scientific Investigations

The learner will be able to act confidently on curiosity about natural phenomena and to investigate relationships and solve problems in scientific, technological and environment contexts.

#### Shadows

A shadow occurs when opaque objects obstruct light from the sun or any source of light.

Light travels in a straight line.  
The shadow of the object will either move through the motion of the object or a light source.

## ASSESSMENT STANDARDS

- Contributes towards planning an investigative activity.
- Participates in planned activity.
- Thinks and talks about what has been done.

## LEARNING OBJECTIVES

- Learners should be able to conduct a fair test to identify transparent, translucent and opaque objects.
- Learners should be able to identify that opaque materials create shadows.
- Learners should be able to conduct a simple investigation of shadows and analyse how shadows change as the relative position of the sun changes.

## QUESTIONS (Whole Class Discussion)

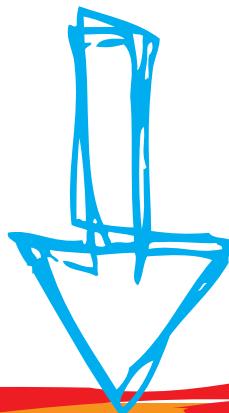
- What makes a shadow?
- Does different objects create different shadow shapes?
- Are shadows different colours?
- When do shadows disappear?
- Where is the sun at noon?
- Do you have a shadow at noon?

## EDUCATOR NOTES

Conducting a fair test procedure

Educator to explain the terms transparent, translucent and opaque to learners prior to the fair test.

1. Use an overhead projector to represent the sun.
2. Place the above materials on the overhead projector one at a time to determine whether the materials are transparent, translucent or opaque.
3. Learners tick the table according to the observations made or circle the correct picture from learner activity worksheets.



## RESOURCES

- Overhead projector- (sun)
- Plastic bag
- Foil
- Wax paper
- Glass
- Newspaper
- Colour chalk
- Scissors

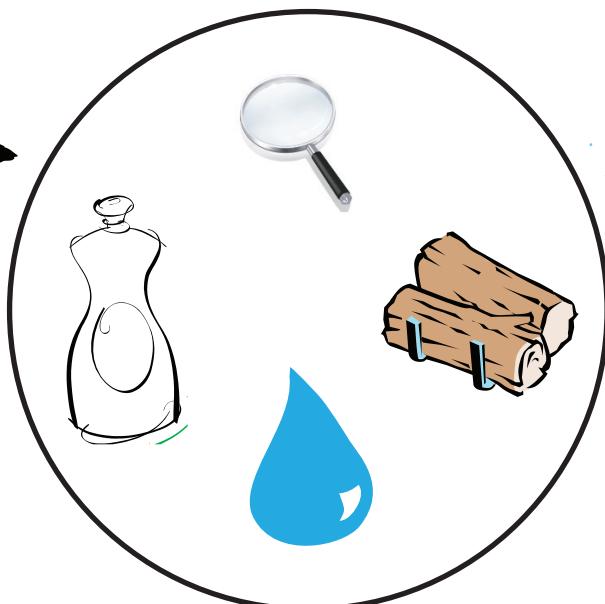
### LEARNER ACTIVITY

Place a tick in the box after observing the fair test conducted.

| Materials | Transparent | Translucent  | Opaque         |
|-----------|-------------|--------------|----------------|
|           | 2. Glass    | 3. Wax paper | 4. Plastic bag |
|           |             |              |                |

Circle the correct pictures

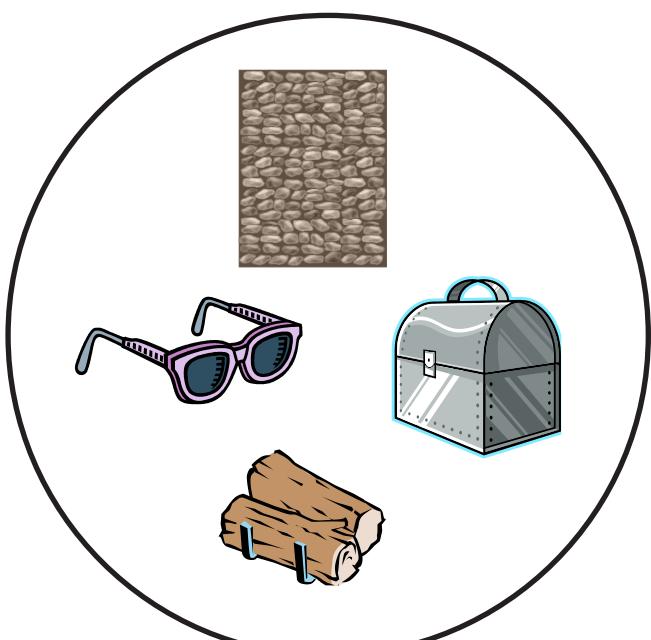
Transparent materials



Translucent materials



Opaque Materials



## EDUCATOR NOTES

Learners work in pairs

The experiment will be conducted twice on the same day.

To be conducted on a sunny day.

The first set of shadow drawings will be done in the morning and the second set in the afternoon.

The learners draw an outline of their partners' shadows with colour chalk.

Place newspaper on the outline of the shadow and cut out.

The students will return to the classroom and compare the length of the drawings.

The educator will have a whole class discussion on the different lengths of the shadows.

Learners will have an opportunity to explain their observations .

## LEARNER ACTIVITY

1. Making shadow outlines of their partners according to the instructions given by the educator (refer to educator notes).
2. Making show outline of the various objects e.g. a hoop, ball, schoolbag.
3. The learners can play shadow games like follow the leader's shadow or tag the shadow.
4. Learners can draw shadow stick figures to create a cartoon strip.

## QUESTIONS

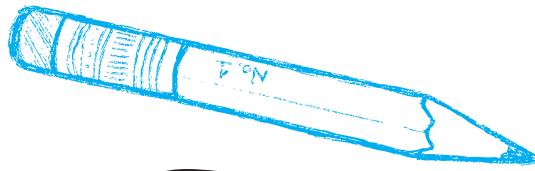
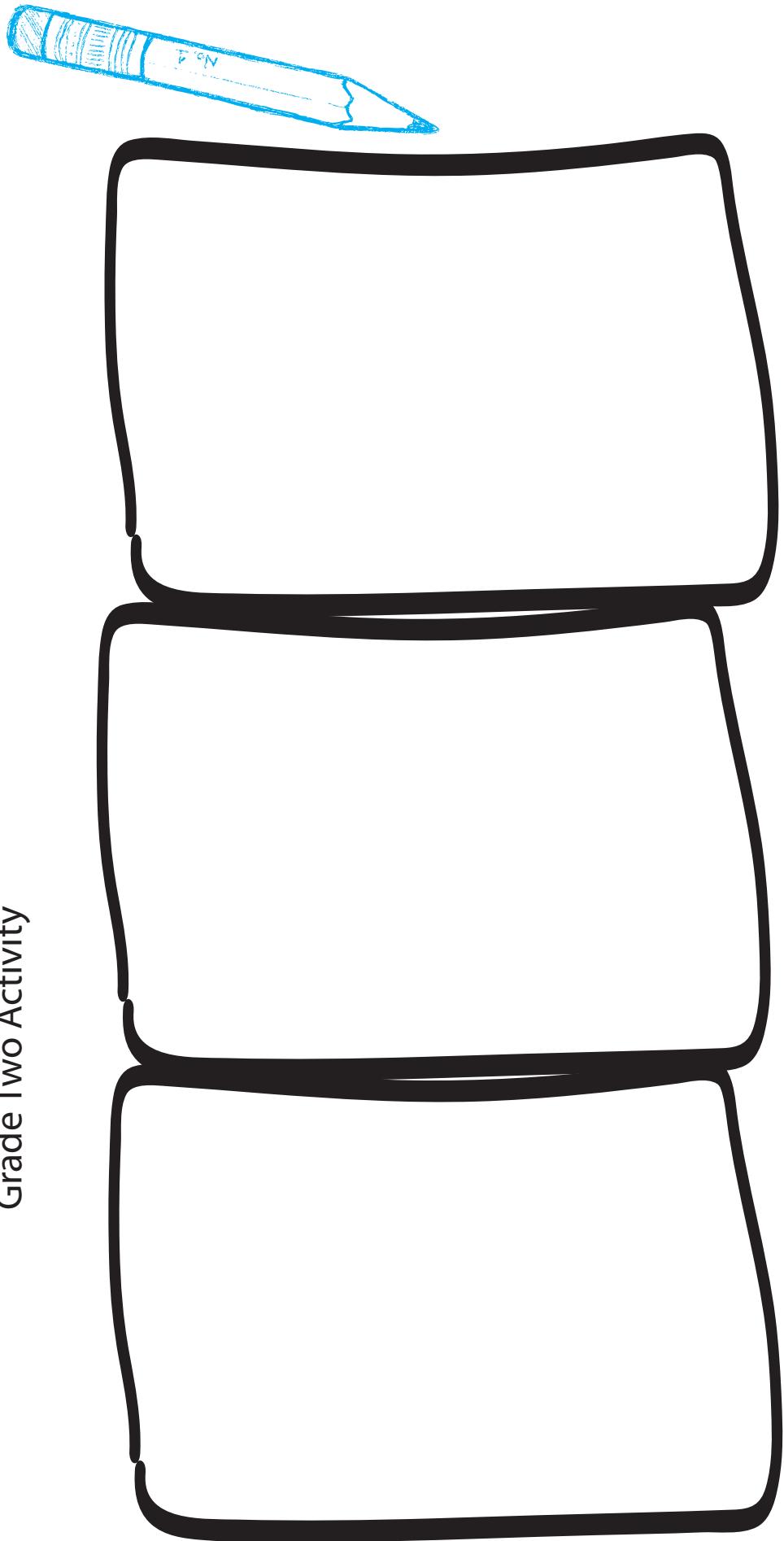
- Why do you think we have a long and short shadow?
- Can you draw shadows on a cloudy day?

## Drawing Shadows



**LEARNER ACTIVITY**

Draw a cartoon strip of shadow stick figures  
Grade Two Activity



## ACKNOWLEDGEMENTS

I would like to thank the following people for their contributions:

- The Ministry of Basic Education Republic of South Africa
- Dr David Gilbank
- Pierre van Heerden
- Natasha Kyster
- Ina Roos
- Haus der Astronomie (Heilderberg Germany)

Reference:

<http://teacher.scholastic.com/lessonrepro/lessonplans/profbooks/cloudsmade.pdf>

