

# The value of our electricity

Foundation Phase (Grade R)

Educator Guide

Home Language, Mathematics, Life Skills



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# How to save energy

Electricity is produced from fuel such as coal, water, diesel and uranium which are limited resources. An alternative to building new power stations to supply the increase in demand for electricity is to use what we have more efficiently (i.e. without wasting). One of the ways is to change the way we use electricity. Eskom's Integrated Demand Management (IDM) Energy Education programme motivates people to change the way they use electricity. Eskom has taken the approach of integrating energy education within the school curriculum.

The energy education programme is being introduced in the Foundation Phase so that learners can see energy saving as integral to their lives and put it into practice as they grow. The activities are simple and can be adapted by the educator. The activities are within the context of the Curriculum and Assessment Policy Statement (CAPS) of the Department of Basic Education (DBE).

Within the Grade R year the time table is called the **daily programme** and it comprises three main components, namely **teacher-guided activities, routines and child initiated activities or free play** (CAPS, DBE, 2011, p20). The activities for Grade R are teacher guided.

The subjects in Grade R are:

- Home Language
- Mathematics
- Life Skills

Note: The Eskom guides are in English. The educator will need to translate them into the Home Language or other languages.

Educators need to consult the Department of Basic Education's CAPS policy guides for details on the skills, content and assessment within the relevant Phase and Grades.

# How to save energy

## Home Language

The skills in the Home Language are (CAPS, DBE, 2011):

|                                                                                                                                          |                                                                                                                                             |
|------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>• Listening and speaking</li><li>• Reading and phonics</li><li>• Writing and handwriting</li></ul> | Thinking, reasoning and language structure and use are integrated into all four language skills (listening, speaking, reading and writing). |
|------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|

An integrated approach is taken to develop the skills required in Home Language within the context of energy education.

## Mathematics

In the early grades children should be exposed to mathematical experiences that give them many opportunities “to do, talk and record” their mathematical thinking (CAPS, DBE, 2011, p10). The energy education activities can be done during teacher-guided numeracy learning opportunities offered during ring time. The Eskom Energy Education programme has been designed in line with the “do, talk and record” approach.

## Life Skills

The Life Skills subject is aimed at guiding and preparing learners for life and its possibilities, including equipping learners for meaningful and successful living in a rapidly changing and transforming society (CAPS, Life Skills Gr 1 - 3, DBE, 2011, p8). Through Life Skills learners are exposed to a range of knowledge, skills and values. Structured life skill activities should be short teacher-guided activities (CAPS, Life Skills Gr 1 - 3, DBE, 2011, p11). The activities within the Eskom Energy programme can be adapted by the educator to suit the Grade R programme.

## For the educator to take note:

- Being energy-wise is the message that is integral to all the activities.
- You may use the activities as they are.
- You can adapt or change the activities.
- You can use other resources where you see appropriate.
- Adapt the activities to suit the grade you teach.
- Adapt the activities according to the level of the learners (consider language or any other barriers).
- Share and discuss the activities with other educators in the same phase and grade.
- You can use activities from the different grades but adapt to suit the level of your learners.
- You can design your own activities that best suit the level of learners and grade you are teaching.
- Practice the energy-saving behaviour so you become an example of what is expected.
- Share your knowledge and practice on energy-wise education with everyone at school, home and in the community.
- Saving energy means we don't have to produce so much, using our limited natural resources and limiting the amount of pollution we create, thus taking better care of our environment.

**Thank you for taking care of our earth**

# Energy-saving

## Activity 1: Life Skills – Counting (Term 2)

### [Educator] Introduction for the learners:

Learners in the Foundation Phase learn best when they are able to see concrete objects. The educator should start with the following introduction.



- Show the learners the actual old light bulb (incandescent) and an energy-saving light bulb (compact fluorescent light – CFL). Do not use scientific words. Instead use simple words like old bulb, wasting energy, new light, save energy.



**Incandescent light  
(Old traditional  
light bulb)**



**Compact fluorescent  
light (CFL)  
Energy-saving light**

- The energy-saving light does not get as hot as the old light bulb – but it does get hot. It has vapour inside. It uses less energy.
- The old light bulb gets very hot. It has a thin wire inside. It uses more energy.
- We should use an energy-saving light because it uses less energy.
- Put up an A4 picture of the energy-saving light and write next to it – **saves energy**.
- Put up an A4 picture of the old light bulb and write next to it - **wastes energy**.

Since these are Grade R learners guide the learners in the rest of the activity. Be slow and clear with the instructions.

[Note: The safe disposal of CFL or energy savers is crucial for South Africa. CFLs disposed of en masse in land fill sites could be detrimental in years to come to water resources. The energy-saving light has mercury vapour in it, and should it break, the educator would have to clean it up with specific precautions and evacuate the class for 15 minutes].

# Energy-saving

## Group activity



- Give each group (4 - 5 learners) an envelope containing a mix of pictures of the light bulbs (3 energy-saving lights and 2 old light bulbs). Cut these from the sheet provided on the next page.
- Ask the learners what is in the envelope? [Pictures of light bulbs].
- Ask the learners to open the envelopes and take out the pictures.
- If you do not have envelopes then give the learners a set of 5 pictures and go straight to the guiding questions below.
- Learners can also be given the sheet and asked to cut out or tear out the bulbs.

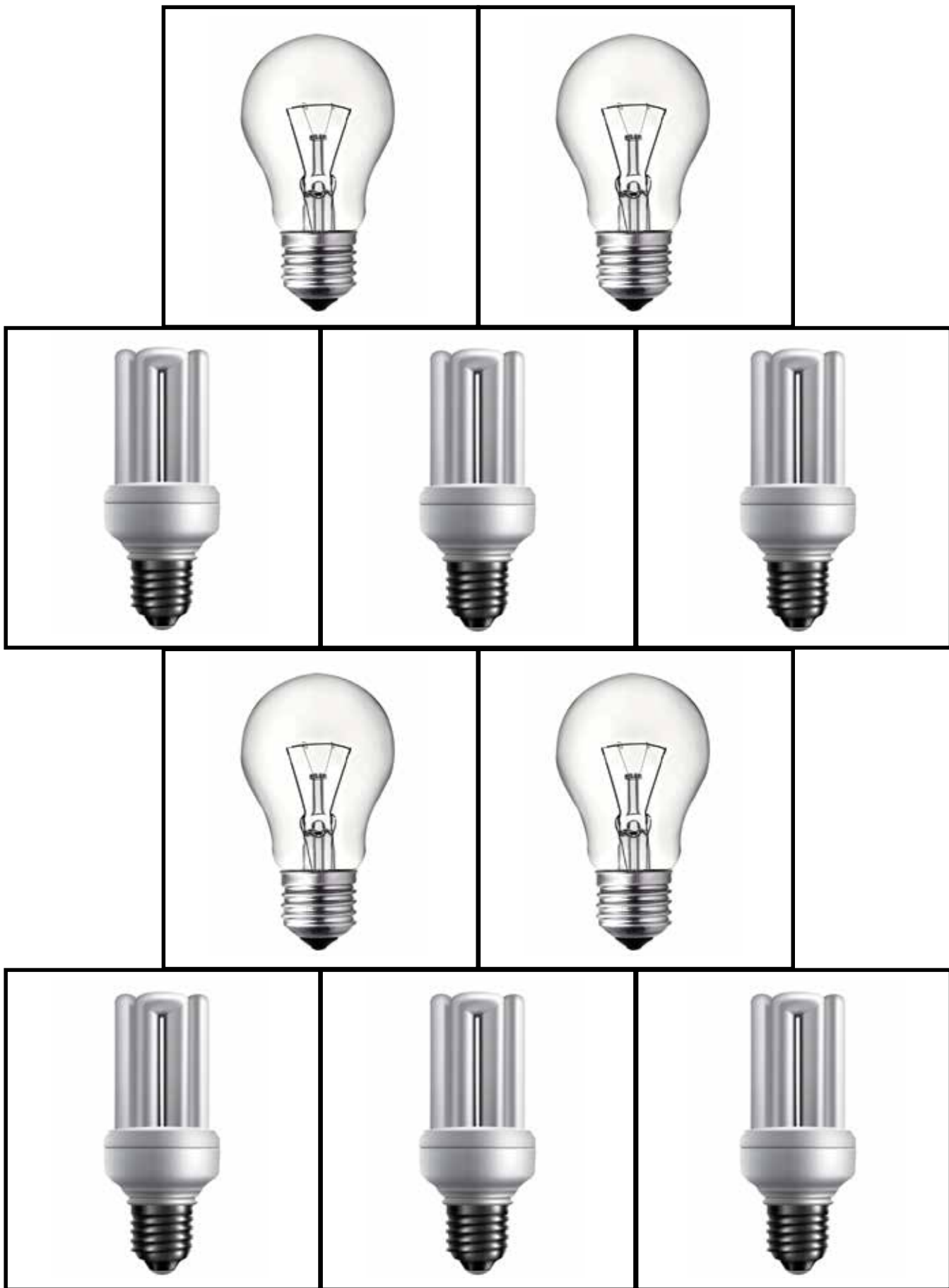


Ask the learners the following questions or give them the following instructions. [Move slowly step by step].

- I.1 Count how many pictures there are all together and write the number down. [5]
- I.2 Separate the pictures into 2 groups [look at their shape to separate the pictures into the 2 groups]. [Old light bulbs and energy-saving lights].
- I.3 Draw a yellow circle under the lights which save energy. [Draw a circle/triangle/triangle on the board to show learners the shape].
- I.4 Draw a red triangle under the lights that waste energy under the lights that waste energy.
- I.5 Count how many lights have a yellow circle. [3]
- I.6 Count how many lights have a red triangle. [2]
- I.7 Which do you have more of? the energy-saving lights or the old light bulbs? [Energy-saving].



## Energy saving and old lights



## Activity 2: Integrated activity covering Mathematics, Life Skills and Language.

Use the picture of the family “Use energy wisely” for this activity. Take the learners through the activity step by step.



- Ask the learners to find the stairs in the picture.
- See if your friend has found the stairs.
- Now let us go up the stairs. [Ask the learners to stand up. Then step on the spot as if you are all going up the stairs. The learners can sit once you are all upstairs].
- Tell the learners to listen carefully. Ask the learners the following questions or give the instructions. Give them time to answer before going to the next question.

### Questions:

- I.1 How many rooms are there? [3]
- I.2 Let us name the rooms. [In each case show the learners which is the left hand-side and which is the right hand-side.]
- I.3 Count how many lights there are in all the rooms. [4]
- I.4 Which room has the most lights. [Lounge - 2]
- I.5 Which rooms have the same number of lights? [stairs and kitchen - 1 each].
- I.6 How many heaters in the house? [1]
- I.7 Ask the learners the following lead questions:
  - How many people are in the house? [3 - mother, father and son].
  - Where are they? [In the dining room / kitchen].
  - What are they doing? [Having dinner / supper].
- I.8 Do we need all the lights in the house to be on? What do you think? [Listen to the learner's answers]. [No – The family is eating in the dining room / kitchen so the lounge light does not have to be on. The stairs can be on as a safety feature so that no one trips when going up the stairs].
- I.9 What are you going to tell everyone who lives or stays in your house?

[Educator - talk about **saving and wasting**. Sum up with the message: **“Put / switch off the lights that are not needed”**].



## Activity 3: Life Skills Creative Arts (Term 2 - Class Activity)

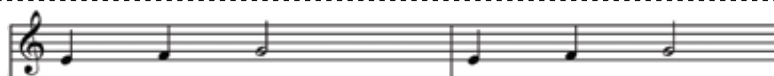
### Creative games and skills

- Listening skills: reacting to signals, cues, stories, rhymes and songs, action words such as 'Freeze!', 'Up!', 'Down!'

Learners are to animate (use action to show) the energy-saving light following the actions and cues of the educator.



- Ask all the learners to look at the picture of the energy-saving light.
- The educator reads line 1 slowly and clearly and performs the action.
- The learners are to perform the action when the educator **claps**.
- [Educator claps] – learners perform the action and repeat the words as the educator reads line 1 again.
- Repeat the same for each line below.



**In-can-de-scents!**

**In-can-de-scents!**

**They waste rands, they waste rands.**

**They use lots of energy, they use lots of energy**

**Don't use them, don't use them!**

**C-F-L's**

**C-F-L's**

**They last long, they last long**

**They are energy savers, they are energy savers,**

**Change and save, change and save.**



### Frère Jacques

Modérato Traditional Round

Piano

Are you sleep - ing, Are you sleep - ing,

Bro - ther John, Bro - ther John,

Morn - ing bells are ring - ing, Morn - ing bells are ring - ing,

Ding Dong Ding, Ding Dong Ding,

www.makingmusicfun.net

This arrangement copyright © 2008 www.makingmusicfun.net

[Note: The safe disposal of CFL or energy savers is crucial for South Africa. CFLs disposed of en masse in land fill sites could be detrimental in years to come to water resources. The energy-saving light has mercury vapour in it, and should it break, the educator would have to clean it up with specific precautions and evacuate the class for 15 minutes].



## Activity 4: Home Language story telling

### CAPS: English - Listening and speaking (Term 2)

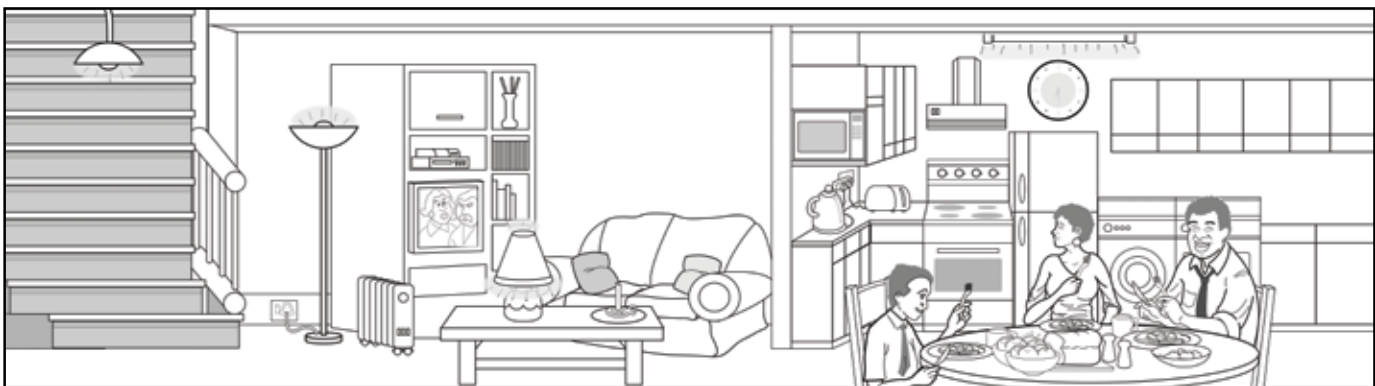
- Listens to stories and acts these out.
- Listens and responds to simple questions.

### CAPS: Life Skills - Creative Arts - Performing Arts (Term 1)

- Improvising stories based on fantasy or own life experiences using voice (singing / speaking), movement, music, props / objects and drama techniques.
- Expressing moods and ideas through movement and song (e.g. happy to be saving energy, water, and food; sad to be wasting.)

[Educators note: For story telling educator should use puppets, masks and other props. Activities related to the story are oral (listening and speaking). Include role-play activities as follow-up to the story that is told and read.

- Use the picture of the family “**Use energy wisely**” to help the learners visualise the story.
- Prompt questions are represented by **PQ**.
- When reading the story, repeat the lines that show moods (as a prompt question - **PQ**) for the learners to show action for the mood – e.g. Dad replied in a soft but clear voice, “Sssshhhhh.” The educator should ask the learners – [**PQ**] **What did dad say?** The learners are to put their index finger on their lips and say - “Sssshhhhh”.
- Read the story to the learners with action and emotion.





## Good Habits

My name is Max and this is what happened at dinner last night. Dad sat down to have dinner with mummy and I. Mummy had cooked a tasty dinner. **[PQ: What kind of dinner did mummy cook? Mmmm...tasty...]**

Mummy watched a programme on television while at the table **[PQ – What was mummy doing? eating and watching television]**. Dad very politely told mummy to switch off the TV. Then I shouted out, “Oh no Dad, my programme is going to start just now.”

Dad replied in a soft but clear voice, “Sssshhhhh, **[PQ: What did dad say? Show action: The learners are to put their index finger on their lips and say -“sssshhhhh”]**. Enjoy the food and let’s not watch the TV while eating. Besides it is unkind to ignore each other at the table.”

“Max,” said dad, “I noticed that you had left all the lights on. Son, I kindly ask that you switch the lights upstairs off.”  
“But why dad?” I asked.

Dad smiled **[PQ: What did dad do? Get the learners to smile]** and replied, “Every time we put something on we are using energy. We are downstairs so there is no need for the lights upstairs to be on. Right now we are wasting energy. Whenever we use energy and even if we are wasting energy, I have to pay for it. Do not waste **food** **[PQ: Ask the learners to repeat]**, Do not waste **water** **[PQ: Ask the learners to repeat]**, Do not waste **energy** **[PQ: Ask the learners to repeat]**, Do not waste **money** **[PQ: Ask the learners to repeat]**, and Do not waste **time** **[PQ: Ask the learners to repeat]**. Use what we have **wisely** – it is the right thing to do.” **[PQ: Ask the learners to repeat]**.

I listened to my dad and so did my mummy. Although we did wrong, dad was patient and explained very clearly that saving and using wisely is a good habit.”

## Questions on the story:

Since these are Grade R learners the questions should be asked orally. Go slowly and give the learners time to answer. When asking the questions point to the picture – “Use energy wisely”.



1. Who were the people sitting at the dinner table? [Mum, dad, Max].
2. What did mum do wrong? [She was watching television while eating]
3. What did Max do wrong? [He shouted at the table; He also wanted to watch television while eating; He left the lights upstairs on].
4. What did dad teach the family about energy? [When you put anything on you are using energy; You pay for energy; Switch off what you are not using].
5. Name 3 other things that dad taught the family? [Do not waste water, do not waste time, do not waste food, do not eat while watching television, be calm].
6. Was dad angry? What makes you think so? [No. Dad talked calmly and softly].
7. What are all the things that you have learnt from the story? [Do not waste; talk calmly; ...] [Listen to the answers of the learners and question further where necessary].



