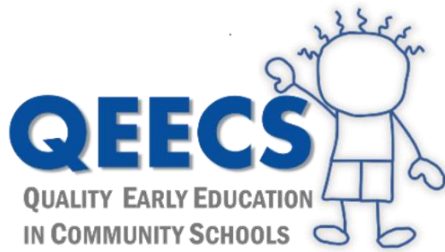


# Making and using low-cost learning materials for early childhood education







The objective of QEECS is to provide Zambia's marginalised and vulnerable children with a fair and equitable start through quality early education, in line with the ambitions and plans of the Ministry of General Education.



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## Introduction: Low cost resources in Early Childhood Education

Children learn through play, discovery and experimentation. In early childhood education it is very important to offer learners a rich environment.

The purpose of this **manual** is to support you to make low cost materials to use in your early childhood class, targeting children from 3 to 6/7 years of age.

The activities described in the manual are linked to the five learning areas of the Early Childhood Education syllabi of the Zambian Ministry of General Education. These are designated as follows:

- Language and literacy
- Social studies
- Environmental Science
- Mathematics
- Expressive Arts

You can follow the colour code for each learning area to find your way easily in the manual.

For each activity, the manual explains:

- What children learn from it
- How the activity can be done by the teacher
- How the teaching and learning material for the activity is made

The manual is accompanied by two resource packs: a resource pack with low cost learning materials and a resource pack with art and craft materials. These are explained in detail below.

The **resource pack with low cost learning materials** contains examples of materials that are used in the different activities covered in the manual. In your resource pack with low cost learning materials you will find:

- A file with print material:

- ✓ An envelope with laminated children's symbols and three extra sheets with symbols
- ✓ Two plastic ribbons and an envelope with patterns to play dancing ribbons
- ✓ An illustrated story: Ms Peggy and the diamond sweets

- ✓ Teacher's helpers chart
- ✓ Two emotions posters and originals of four colouring sheets

- ✓ A poster on handwashing
- ✓ A weather chart with peg
- ✓ An envelope with a fruit and vegetable memory game

- ✓ An envelope with a puzzle
- ✓ Three laminated sheets with building plans to use with blocks
- ✓ A laminated sheet to play mirroring game
- ✓ Two laminated sheets with colour Sudoku and an envelope with coloured Sudoku squares
- ✓ Three laminated peg cards and a set of four coloured pegs

- ✓ An envelope with Eddie the Elephant cards



- A hand puppet: Lucy the Cat

- Telephone game

- An envelope with bean seed
- A bar of soap
- Hector the hungry hippo, rubbish-bag holder

- Building blocks (9 cubes and 9 cuboids)

- Bean bags (9 – in 3 colours and 3 sizes)
- A drawing book
- A shaker

The **resource pack with art and craft materials** will help you make additional materials to use in your activities. In your resource pack with art and craft materials you will find:

- 1 ream of A4 paper
- 10 HB pencils
- 3 packets of wax crayons
- 2 sharpeners
- 10 rubbers
- 11 permanent markers (5 black, 3 red, 3 blue)
- 3 pairs of scissors
- 5 glue sticks
- 1 bottle of wood glue
- 2 packets of sticky stuff
- 5 rolls of see-through tape
- 5 rolls of wide see-through tape
- 20 sheets of manila paper in 5 colours

Most of the materials you will need can be found in your environment. These materials are not provided with the resource pack and you will have to set up a system to collect them. You can set up a section of your classroom or a corner of a storage room with cardboard boxes to collect and sort items. Your pupils and their parents will be glad to contribute waste materials and materials from their environment.

The resource pack also contains a file with good practices in early childhood education in Zambia:

- A booklet on best practices in early childhood education in Zambia
- Infographics:
  - Aspects of quality early education
  - Three examples of floorplans of early childhood education classrooms or shelters
  - Teachers' tips on block play
  - Teachers' tips on gross motor development and using bean bags
  - Teachers' tips on a cosy corner

- Brochures:
  - For communication to parents:
    - The importance of early childhood education
    - Parental involvement in early childhood education
    - Health in early childhood
    - Birth registration
  - For Teachers in Charge and teachers:
    - Early Childhood Centre guidelines

#### Contributors to the manual and packs

The manual and resource packs were developed with the support of:

- The QEECS team and VVOB
- Ministry of General Education, Ndola and Kitwe districts
- Kitwe College of Education, Buyantanshi, Twikatane and Bwafwano Community Schools
- Belgian University Colleges: Artevelde, LUCA School of Arts, HOWEST.



Language & Literacy



## Children's symbols

### What is it?

Many children in ECE classes cannot yet read or recognise their names. This is normal. Learning to read and write will happen in grade 1. There are many things you can do in an early childhood class to prepare them for reading in a playful way. When using children's symbols, each child in the class has an individual symbol that they can recognise. Their symbol can be used in many different ways to offer visual instructions to children. They are a great tool for classroom management.

In the resource pack, you find an example of a set of children's symbols.

### What do children learn?

Using symbols builds pre-reading skills in children. They learn to follow visualised instructions.

Links to the syllabus of language topics: this is an activity that can come right at the beginning of each school year, week one of term one (pages 3 and 35 of the syllabi).

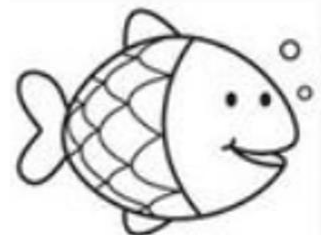
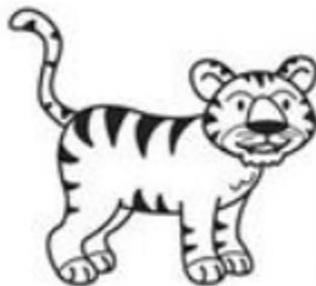
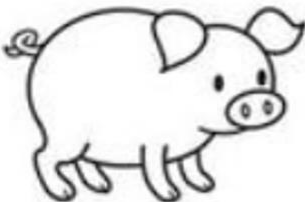
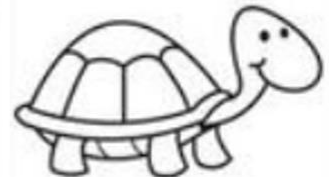
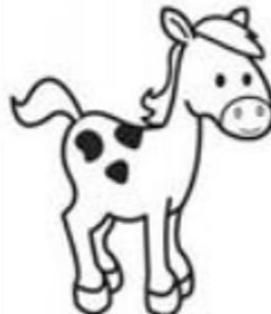
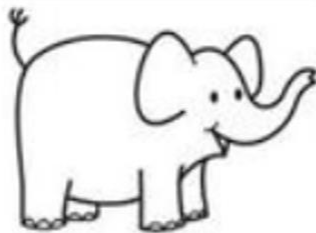
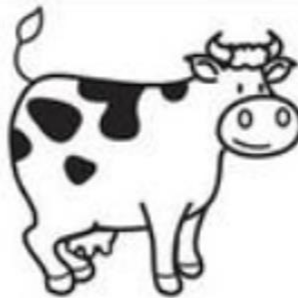
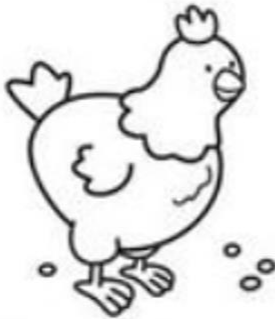
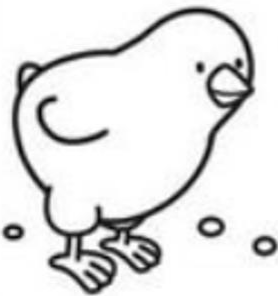
### How can you use it?

- Once you have decided to start using symbols, the first step is to have each child choose a symbol. This is the symbol they will have in your class for the rest of the year. For example, if Emily has chosen the elephant symbol, you use this symbol for her throughout the year.
- The child's symbol can be used in many different ways. Some examples:
  - To indicate where each child should store their bag, lunch box, drinking bottle, shoes or class work. (Emily will put her bag by the elephant symbol)
  - To label a folder with the child's work. (Emily's book is marked with an elephant)
  - To record their attendance in class in the morning (see activity 'attendance chart' explained on page 22).
  - To indicate who will be teacher's helpers this week (see activity 'teacher's helper' explained on page 24).

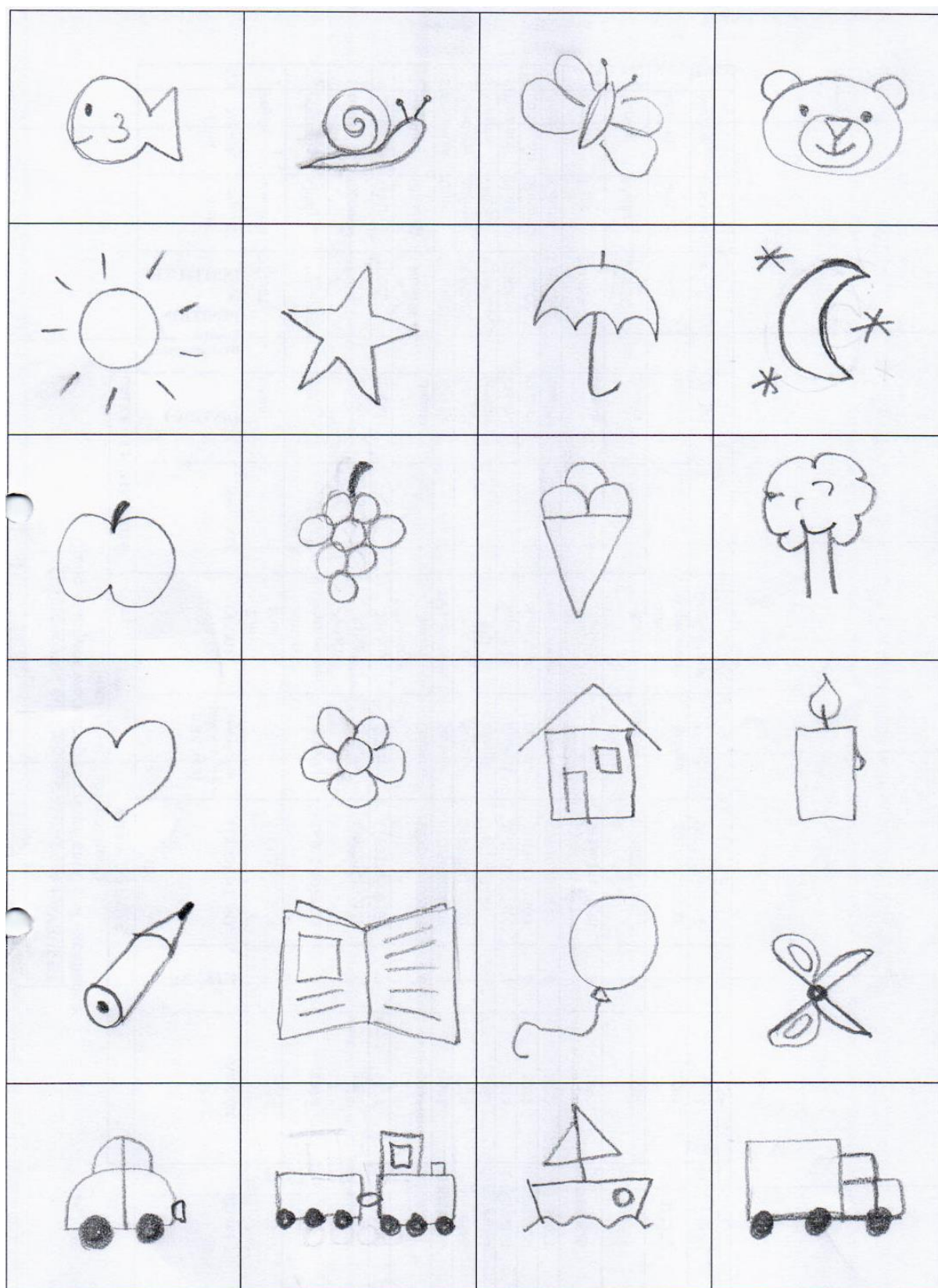
### Differentiation

- The set of symbols provided with the pack can be used from a young age (even younger than three).
- As children grow older you can use more abstract symbols using a combination of shapes and colours. This is a next step in preparing children for primary school. You can also add their name to the symbol, so they learn to recognise their name.
- On the next pages, you find examples of sets of symbols:
- The symbols of the resource pack. You can easily make more sets by photocopying the symbols and having the children colour them in.
- A set of symbols that are easy to draw. In case you can't photocopy, you can decide to use this set.
- A set of more abstract symbols that can be used with the older children (5-6 years old). These symbols are a combination of geometrical shapes and colours. At this age, children should be able to recognise and name many colours, so you can use other colours than the basic ones. For example: light blue and dark blue, grey, purple....

Symbols – young children (3-4 yrs): to colour in

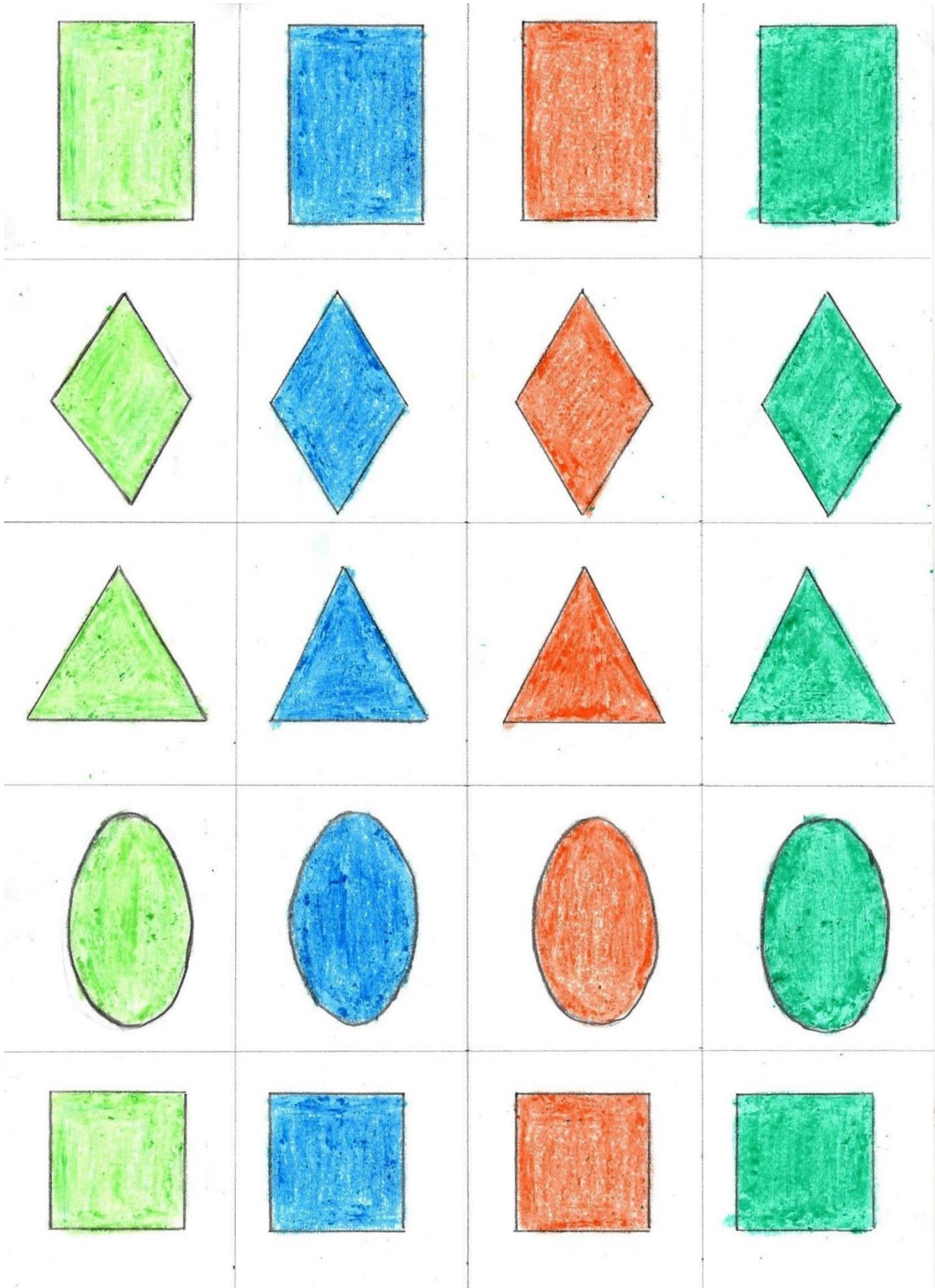


Symbols: easy to draw





Symbols: older children (5-6 yrs): combining geometrical shapes and colours



## What do you need and how do you make it?

Each child in the class will need a symbol. In the resource pack, an example of 20 symbols is provided. If you have more children in your class, you will need to make more symbols. The symbols can be used in many ways, so you will need more than one set of symbols.

To make symbols you need:

- Paper
  - Pencil or pen
  - Colouring markers, coloured paper, colouring pencils or crayons
  - Scissors
1. Draw symbols on a piece of paper. You can also photocopy the symbols from the manual
  2. Cut the symbols out
  3. The children can colour in their symbols

*The symbols will last much longer if they are laminated. You can laminate the symbols at any of the zonal and district resource centres in both Kitwe and Ndola districts. Alternatively, you can protect them by covering them with see-through tape.*



## Dancing Ribbons

### What is it?

This is a pre-writing activity that you can do with the whole class. The 'dancing ribbons' are ribbons made from plastic bags. The children, holding a ribbon in each hand, stand in a circle. They take turns throwing a dice with illustrations and patterns. They make movements with the ribbons, using their bodies, arms and hands to copy the patterns.

The resource pack contains an example of plastic ribbons (you will need to make two for every child in the class). It also contains cards with illustrations and patterns to stick on a dice (cardboard box).

### What do children learn?

The children develop pre-writing skills. They train their gross and fine motor skills and learn to express themselves individually.

Links to the syllabi topics: this activity links to the topic of handwriting (page 3 to 10 and page 35 to 45 of syllabus). It can be used in combination with an activity to tracing patterns, letters, or numbers.

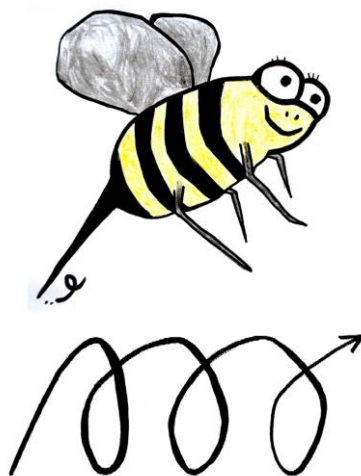
### How can you use it?

1. This is an activity you can do with all the children in the class in one group.
2. Make sure that every child has enough space to move. Do this activity outside, or in an indoor area with a lot of space.
3. The children stand in a circle. Every child gets two ribbons, holding one in each hand. The activity only starts when everyone has two ribbons. The teacher also holds ribbons and is part of the circle.
4. You use a dice (cardboard box) with illustrations and patterns. Each pattern is linked to a movement that the children can make. In the resource pack, you find eight examples of illustrations and patterns – see the overview on the next page. Choose six and stick one on each side of the dice.
5. Let children take turns to throw the dice.
6. The illustration that faces upwards has to be mimicked by the children by moving the ribbons.
7. Make a sound to accompany the illustration and the movement. For example for a bee 'BzzzzBzzzzBzzz', for the wind: 'Whoowhoowhoo'. This will help children make connections between the illustration, the pattern and the movement.
8. Repeat by letting other children throw the dice.
9. Go back inside when you notice the children's attention is waning.
10. Give each child some paper, pencils or crayons. You can use paper that is already printed on one side to save resources.
11. Choose one pattern from the dice, which they will draw on paper.
  - a. As an example you can ask: How does a butterfly move?
  - b. Show them the specific illustration and pattern on the dice.
  - c. Do this movement with two hands, writing in the air, together with the children, but without ribbons and eventually with only one hand (children who are naturally left-handed will choose to do this with their left hand. This is ok).
  - d. Now you can draw the pattern on the chalkboard, slowly, while the children are still drawing the pattern in the air.
12. After practicing the movement in the air, the children can start drawing the pattern on their paper. They do not need to get it right. They are learning how to hold a pencil and they are learning how to express themselves freely.
13. Repeat this a few times, possibly also with another pattern.

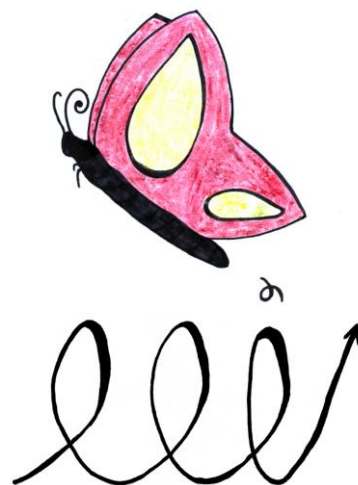




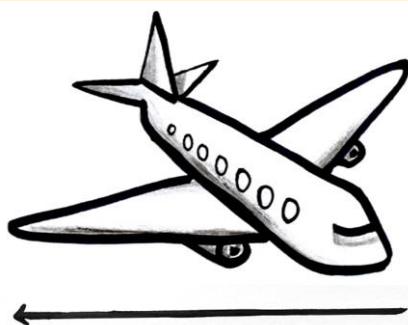
**Lightening:** zigzag, up and down (horizontal)



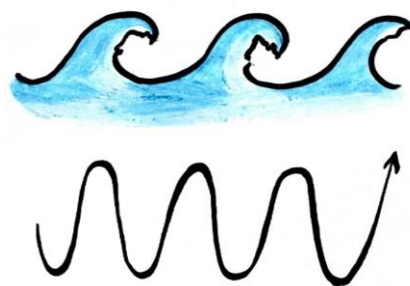
**Bee:** make circle movements with your hands, from the outside to the inside



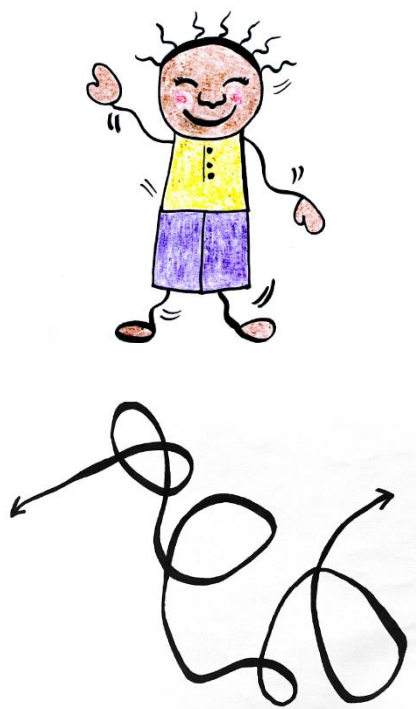
**Butterfly:** make circle movements with your hands, from the inside to the outside



**Plane:** make horizontal movements



**Waves:** make big, wavy movements with both hands, from left to right and right to left



**Freestyle:** dance, make any movements you like



**Rain:** make dots in the air, up and down



**Wind:** make small, wavy movements

## What do you need and how do you make it?

You will need:

- Scissors
- Plastic bags (enough for two ribbons for each child)
- Medium-sized cardboard box
- Big piece of paper (1 or 2)
- Tape
- Pencils
- Crayons
- Paper
- Cards with illustrations and patterns (provided with the resource pack)

1. Take the plastic bags you collected, and cut them into long ribbons.
  - a. Cut the bag open so that you have one long piece of plastic.
  - b. Then cut several long ribbons out of it. You need two ribbons for each child.
2. Make a dice from a medium-sized cardboard box.
  - a. Close the box and seal it with tape.
  - b. Optional: Wrap the box with blank paper.
  - c. Choose examples from the illustrations / patterns and stick them on the box with sticky stuff or tape. Remove them after the activity and keep them safe.
  - d. You can use your dice for other activities as well (for example Eddie the Elephant on page 70).



## Story puppet – Lucy the Cat

### What is it?

This is an activity that can be done with the whole class. You can use a puppet or several puppets to tell a story. It gives you the freedom to make up an endless number of stories. You can do this with or without a book or puppet theatre.

An example of a puppet, Lucy the Cat, can be found in your resource pack. Lucy the Cat is a hero in one of the stories in your resource pack called 'Miss Peggy and the bag of diamonds'.

### What do children learn?

Telling stories with puppets adds an extra dimension to developing listening and communication skills in children. Using a puppet makes it easier for children to be creative and let their fantasies come to life. It can also make it easier to talk about difficult and sensitive topics.

Links to the syllabus of language and literacy - topics: the story puppet can be used in any activities that develop listening and speaking skills (page 3 to 10 and page 35 to 45 of syllabus).

### How can you use it?

- This is an ideal activity to do with the whole class.
- A story can be made part of the daily routine. Many teachers will tell a story at the start of every day or at the end of every day.
- Before you start, make sure you have a story in mind to tell the children. You can find more ideas on storytelling on page 17.
- Ask the children to sit in a circle. The teacher is part of the circle.
- The puppet can be used in different ways:
  - It can be the puppet telling the story to the children.
  - The puppet can have a dialogue with the teacher.
  - The puppet can ask the children questions.
  - The puppet can be the main character in the story told by the teacher.

#### *Tips for using a puppet:*

- *Make sure the puppet is looking towards the children*
- *Make sure the puppet moves when (s)he is talking*
- *When the puppet is talking, you can use a different voice*



### Differentiation

- You can make the puppet a 'living' part of the daily routine. For example, when class starts, one of the children can wake the puppet up. When class finishes, one of the children can put the puppet to bed etc. You can make a small bed or a house where the puppet 'sleeps'.
- You can make more than one puppet to be part of the same story.
- You can ask the older children to make up a story and do a puppet show for the other children.
- You can do an activity in which children make their own puppets.



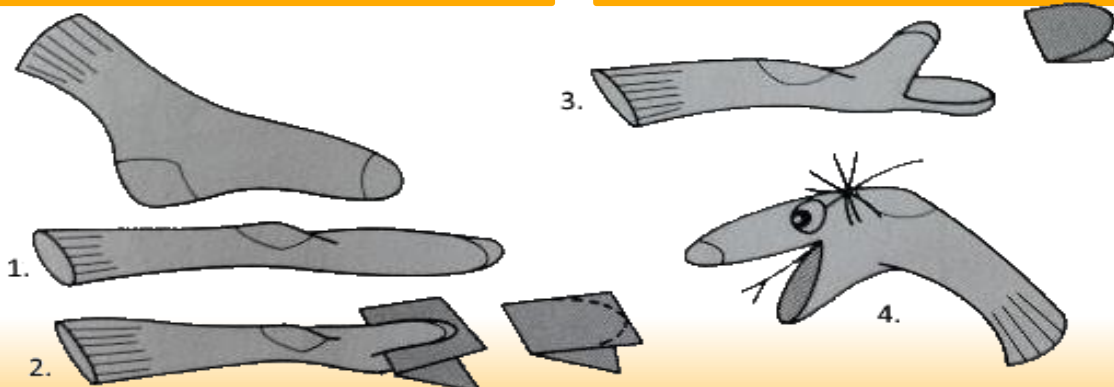
### What do you need and how do you make it?

Lucy the Cat is an example in the low cost resource pack. If you are good at sewing and you have some scrap material, a needle and thread, you can make many more characters. Below some pictures showing other ways to make puppets.

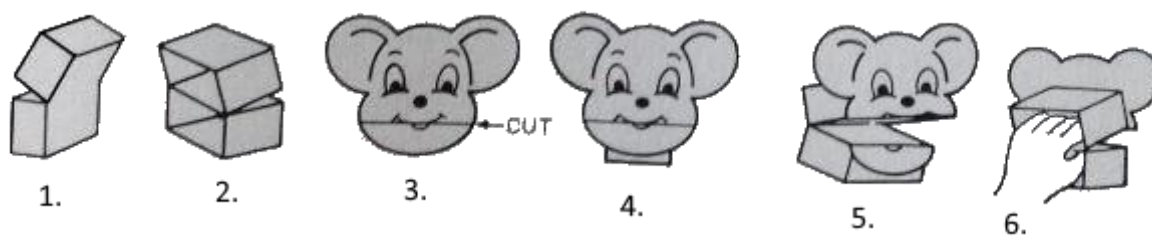
#### Using cardboard and a stick



#### Using an old sock



Using a small box



Using a plastic bottle



## Storytelling – Kamishibai

### What is it?

Kamishibai, or “paper-theatre,” is a type of storytelling originating from Japan. It is part of a long tradition of illustrated storytelling, beginning as early as the 9<sup>th</sup> or 10<sup>th</sup> century. The idea is that the children can see an illustration whilst you read out the part of the story that is written on the back.

A story is included with the resource pack: Miss Peggy and the bag of diamonds

### What do children learn?

The children develop listening skills. It is a fun and different way of telling a story. You can easily use this when you make your own stories.

When you connect the story to the theme that you are working with during that week, the story can give context to your theme and deepen the learning by the children. For example, when you are working around ‘pollution’, you can use a story around littering.

You build their social skills and understanding of the world through stories.

Links to the syllabus of language and literacy - topics: Stories can be used in any activities that develop listening and speaking skills (page 3 to 10 and page 35 to 45 of syllabus).

### How can you use it?

1. This is an activity you can do with the whole group of children.
2. Often, teachers will end (or start) the day with a story. A different story is told every day.
3. All the children sit in a circle or semi-circle. Make sure they can all see the pictures of the story.
4. You sit in the circle with the children, next to your Kamishibai so you can easily change the illustrations and read the story.
5. You show the first illustration and read the story written on the back. Remember to use the familiar language of the children.
6. Continue until the story is finished.

### Differentiation

- You can involve the children in the story. For example, you can ask them ‘what do you think will happen next?’ before you go to the next illustration.
- You can invent stories that have your class puppet in it. You can then use your puppet at the same time as your Kamishibai.
- You do not need to have a Kamishibai for every story you tell. For some stories you may have picture books, or you can tell a story from your head, or only with the puppet. But remember that illustrations will engage your learners visually and enhance their listening skills.

### What do you need and how do you make it?

A Kamishibai story is included with your resource pack (Mrs Peggy and the diamond sweets).

The story can be hand-held, or can stand on a flat surface. If you want, you can make a triangular support to hang your stories on.

### Triangular support

To make the support you need:

- cardboard
- scissors or a knife
- tape



1. Cut a large piece of cardboard and fold it into a triangular shape.
2. Tape it together
3. Optional: you can cover the stand with white or coloured paper to make it look nice.
4. Now you can hang the Kamishibai story over it. The illustration should face the children and the text should face you.



### Writing a story

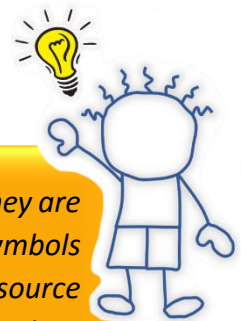
- You can choose to write a real or a fantasy story.
- It is important that the children can imagine the story, so it has to be a story that fits in their world.
- A story for young children (2 – 4 years) should have no more than three characters. For older children (4 – 6 years) you can have more than three characters.
- The story should be simple, clear and it happens in the NOW.
- Basic structure of a story:
  1. Introduction: the main characters are introduced.
  2. Centre:
    - Start of the action
    - Climax of the action
    - Show-down of the action
  3. Conclusion = Happy end.

### Making a Kamishibai story

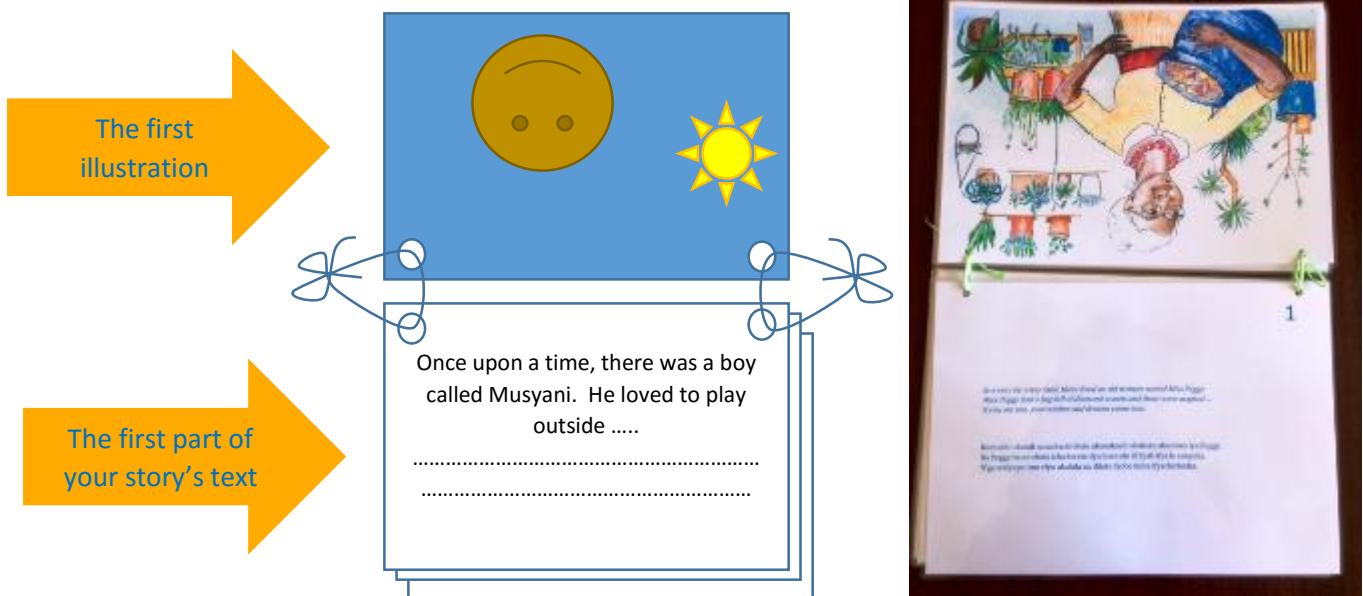
You need:

- A story!
- Paper
- Pencil, pen
- Paint, colouring markers, colouring pencils or crayons
- Scissors or knife or hole punch
- String

*The stories will last much longer if they are laminated. You can laminate the symbols at any of the zonal and district resource centres in both Kitwe and Ndola districts. Alternatively, you can protect them by covering them with see-through tape.*



1. You can make a Kamishibai on A4 or A3 paper. If you have many children in your class, A3 is better, so all children can see the illustrations. If you do not have A3 paper, you can stick two A4 papers together.
2. You divide your story into different parts. For each part, you will draw an illustration that shows what happens in that part of the story. It is up to you to decide how many pages your Kamishibai will have (anything between 4 and 12 pages).
3. If you are not used to drawing, keep your drawings simple, and look for inspiration in books or magazines.
4. On a first piece of paper, draw your first illustration.
5. On another piece of paper, write out the first part of your story. On the back of the page with the first written part, you can draw the second illustration.
6. Write the second part of the story on a new paper. On the back, you can draw the third illustration. And so on.
7. Now attach the different parts of your story to each other, in the right order. You can do this by making two small holes in the top of the sheets and then tying them together loosely with a piece of string. If you tie them too tight, it will be difficult to turn the pages.



Not





# Social Studies



## Attendance Chart

### What is it?

The attendance chart can be used every morning in class. It is a way of welcoming each child to class, greeting each other, and knowing who is absent that day.

### What do children learn?

The children practice greeting each other, building social interaction skills.

The children can read and count who is present and absent that day. The attendance chart builds pre-reading and pre-maths skills in children.

Links to the syllabus: The activity assists in the personal and social development of each child. It links to the topic of family (page 12 of the syllabus), school/ECE centre (page 14 and 49), community (page 48)



### How can you use it?

This is an activity that the teacher can do with the whole group of children, as part of the morning routine at the start of the day.

1. We say good morning to each child. The children say good morning to the teacher.
2. Each child in turn takes their symbol and puts it on the attendance chart to show that they are present. The symbols that remain behind are from the children who are absent that day.

### Example:

Teacher: "Good morning Esther."

Esther: "Good morning teacher."

Esther takes her symbol and puts it on the attendance chart.

## What do you need and how do you make it?

This activity makes use of children's symbols. A set of children's symbols is provided in the resource pack. How symbols can be used is explained on page 6.

The symbols are stuck on an attendance chart. Such a chart can take different shapes, and can be made using different materials:

- Wood, ply board or strong cardboard
- Ruler
- Saw, knife or scissors
- Paint, colouring markers, coloured paper, colouring pencils or crayons
- (Hammer and nails)
- Sticky stuff, glue or tape

*You use an attendance chart every day and for many years. The stronger you can make it, the longer it will last. Wood and ply board are strongest. If you use cardboard, cover the shape with see-through tape to protect it.*



1. Cut a shape from a piece of wood, ply board or cardboard. Make sure the shape is big enough for all your children's symbols to fit on.
2. The photographs of the attendance chart on the previous page show examples of 'the classroom' as the shape, but you can also use a different shape, for example a cloud or a tree.
3. Paint or colour the attendance chart so it looks attractive.
4. Make sure the children's symbols can be attached to the attendance chart:
  - When using wood or ply board, you can hammer small nails into the board. Make a small hole in the symbols so the children can hang their symbol from a nail.
  - When using cardboard, sticky stuff or Velcro can be used to stick the symbols onto the attendance chart.
  - Alternatively you can make paper pockets on the attendance chart. Children can fit their symbols into the pockets. Make sure the symbols can be seen over the tops of the pockets. (see the right-hand picture of an attendance chart on the previous page)
5. Hang the attendance chart at eye level of your children.

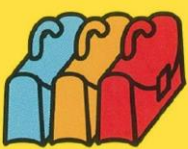







## Teacher's Helper

### What is it?

This is a chart that shows the tasks the children can do to help the teacher. The chart has pictures on it to show the different tasks. You use the symbols (explained on page 6) to indicate which children have volunteered to help you with which task for that week.

An example of a Teacher's Helper chart is part of the resource pack. Below, we explain the different tasks. You can make your own Teacher's Helper chart with different tasks.

<b>School bags:</b> Two teachers' helpers can check whether the bags are neatly put away.			
<b>Broom:</b> These two helpers can sweep the classroom when the teacher asks them.			
<b>Books:</b> Two little helpers can help to distribute books to the children when the teacher asks for help.			
<b>Weather:</b> One child can put the peg on the weather chart to show what the weather is like.			
<b>Envelope:</b> One child can be the teacher's messenger.			
<b>Bin:</b> This child will make sure the classroom is clean. Hector the Hungry Hippo helps out too (see page 39)!			

### What do children learn?

This activity helps children to know what tasks need to be done around the class and school. It fosters a sense of responsibility and a helpful attitude in the children.

They learn that their turn will come and that others also need to be given a chance to help.

They also practice pre-reading skills when reading the chart and they develop motor skills when doing a task.

Link to syllabus topics: topic of family (gender roles) on page 12 in the syllabus, home (responsibilities) on page 13 and 47, school (rules) on page 14 and 39 and community (taking care of property) on page 48.

### How can you use it?

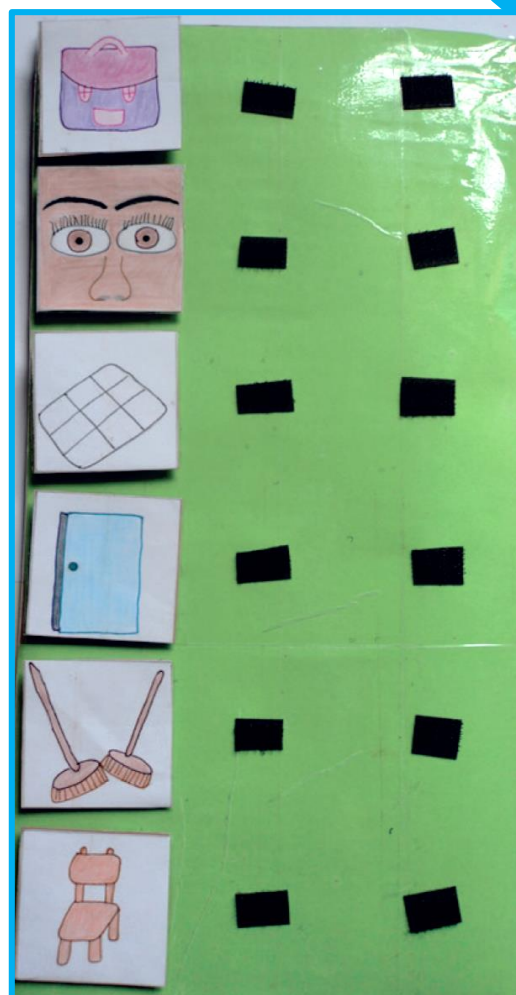
1. At the start of the school week, you ask for volunteers to help with different tasks that are depicted on the teacher's helper chart.
2. This can be done during the morning routine on a Monday.
3. For each task, there can be one or two volunteers.
4. Choose one or two children out of all the children that volunteer. Make sure that over the weeks, different children get an opportunity to help with different tasks. Remember that no tasks are 'boy'- or 'girl'-tasks. Both boys and girls should be encouraged to volunteer for any task.
5. When you have chosen two volunteers for a task, you ask them to pick their symbol and put it next to the task on the chart. They are now your helpers for that task for the week.
6. Do not expect the children to do the task perfectly from the beginning. Give them gentle reminders when they have forgotten their responsibility; do the task together with them and give them some tips on how the task can be done in case they struggle. Praise the children for remembering and trying.
7. The next week, you choose new volunteers. Make sure to pick children who didn't get a chance the week before.

### What do you need and how do you make it?

An example of a task chart is part of your resource pack. You will also need a set of children's symbols to use with the chart. See page 6 to learn more on children's symbols and how to make them.

If you want to make a new task chart (for example, because you want to include different tasks) you need:

- Paper, thin cardboard
- A ruler
- Pencil, colouring pencils, crayons



*You can use a teacher's helper chart for many years. The stronger you can make it, the longer it will last. The chart will last much longer if it is laminated or stuck on cardboard. You can laminate the chart at any of the zonal and district resource centres in both Kitwe and Ndola districts (A4 only). Alternatively, you can protect it by covering it with see-through tape.*



Start by dividing your task chart using your ruler:

- 3 columns
- Enough rows for the different tasks you have in mind

Now draw pictures that depict the different tasks in the first column. For example, a broom is the task of sweeping the classroom at the end of the day.

If you have the space, hang the task chart at eye level for the children so they can stick their symbols on the chart themselves.

## Emotions

### What is it?

This is a chart that shows the four basic emotions: happy, sad, angry and scared. You use the chart to help children to become conscious of their emotions and to learn which behaviour is acceptable or not.

When a child is struggling with an emotion, this can result in behaviour that is disruptive to his or her learning, and the learning of others. It is important that young children learn that all sorts of emotions are normal and natural, but that certain behaviours are not alright. You can use the emotion chart to give this child some time out to self-regulate his/her behaviour.

An example of an emotions chart, printed on two A4 sheets is part of your resource pack.



Happy



Sad



Angry



Scared

### What do children learn?

This activity helps children to build emotional and social skills.

They learn to understand, regulate and express their emotions. They learn to understand emotions of others.

This will lead to positive interactions with others, and helps children to form close and secure relationships and friendships with others.

Link to syllabus topics: The activity assists in the personal and social development of each child. Family (understanding oneself) on page 12 of the syllabus, school / ECE centre (rules) on page 14, home (rules) and community (relating to others) on page 47.

### How can you use it?

1. When a child in the class is struggling with an emotion, this child cannot learn well. As a first step, you ask the child about what he or she is feeling at the time. Are you angry? Sad? Happy? Or scared?
2. You invite the child to take their symbol from the attendance chart (see pages 6 and 22 for more information on symbols and attendance chart), and put the symbol on the poster with the emotion the child is feeling (you can use sticky stuff for this).
3. Remember, there is nothing wrong with any of these emotions. The chart helps the child to express how they feel.
4. There are now a number of things you can do to help the child cope with the emotion they are feeling.
  - a. You can suggest to the child to spend some time alone in a quiet corner of the classroom.
  - b. You can give the child a task to distract them, such as colouring one of the pages of the four drawings of the emotions chart are part of your resource pack in. Remember to photocopy your



originals. You can give the child a photocopy of the picture with the emotion the child is feeling. The child can colour in this picture. For example, if Emily is feeling sad, she can colour in a picture of the sad child.

c. You can also ask Emily to draw her own picture of a sad child.

5. When the child has managed to self-regulate and give a place to the feelings, it is important to talk to the child about what happened. This is especially important when the child showed some disruptive behaviour. You can then make the child understand that the behaviour was not alright. If there was a conflict between two children, you can involve both children.
6. As closure, you can invite the child to put their symbol back on the attendance chart.

### What do you need and how do you make it?

An example of an emotion poster is part of your resource pack. You will also need children's symbols to use with the chart. See page 6 to learn more on children's symbols and how to make them.

If you want to make a new emotion poster you need:

- Paper, thin cardboard
- A ruler
- Pencil, colouring pencils, crayons

*You can use emotion posters for many years. The stronger you can make them, the longer it will last. The posters will last much longer if they are laminated or stuck on cardboard. You can laminate the posters at any of the zonal and district resource centres in both Kitwe and Ndola districts (A4 only). Alternatively, you can protect them by covering them with see-through tape.*



You can draw pictures, or use pictures from an old magazine to depict different emotions. Make sure the pictures are clear.

Hang your emotion posters at eye level for the children so they can stick their symbols on the chart themselves.

You can also draw your own emotions colouring pages for the children. You can use one-sided paper to make the best use of your resources.

## Telephone Game

### What is it?

The children can make and use a telephone made out of tins or cups and string. This is an excellent pretend play activity and is easy to make.

### What do children learn?

Children learn about communication. They develop communication and conversational skills themselves. The game encourages pretend play.

Link to the syllabus topics: Communication (on page 16 and 50 of the syllabi)

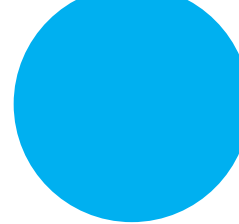
### How can you use it?

1. Two children can play with each tin/cup-and-string phone.
2. One child speaks into one container while the other child holds the other container up against his or her ear.
3. In order for this type of phone to work, the string must be pulled tightly so the sound waves can travel from cup to cup.
4. Make sure children don't pull so tightly that the string gets pulled all the way out of container.
5. You can play a telephone game with the whole group of children:
  - This is a game you can play outside.
  - Make the children stand in a circle.
  - Give two children one end of the telephone each. Make sure the string is long enough to reach across the circle. Remember the string needs to be pulled tightly for the sound to travel.
  - Ask the first child to think of an answer to a question. For example you can ask: "What is your favourite food?" The child whispers or says their answer in a soft voice into the tin/cup whilst the second child listens closely.
  - The first child now passes their cup to a third child in the circle. The second child - who listened to the answer - now needs to whisper the answer into the cup whilst the third child listens.
  - Then the second child passes their cup to a fourth child and the third child needs to whisper the answer.
  - Continue to pass the phone to different children. After about 6 children have whispered the answer, ask the last child to say the answer aloud.
  - Check with the first child whether the answer is right.



### Differentiation

Have older children make predictions about whether or not they will be able to hear using this telephone. Test out the cup telephones and then have them confirm or deny their predictions. Talk about how the sound travels down the length of the string through sound waves or vibrations, in the same way as a guitar makes a sound when you make the strings tremble. When two children are using the telephone, a third child could touch the string and actually feel the vibrations. Ask questions: will it work when the string is loose or only when it's tight? Why? (Answer: *only when it's tight, because when the string is loose it can't vibrate.*) Test out different lengths of string to see whether this makes a difference in the volume and/or ability to hear.



### What do you need and how do you make it?

An example of a cup-and-string telephone is part of your resource pack.

What you need:

- Paper cups, plastic containers, tin cans or plastic bottles – for every phone set, you need two of each
- String (for example fishing line)
- A sharp pencil or a nail
- Scissors

1. This is a game that you can make together with the older children in the class (5 to 6 years). For younger children, you need to make the telephones for them.
2. Make sure you have enough cups; you need two for each phone. You can ask the children to bring used plastic containers or metal cans from home (make sure they are clean). If you use plastic bottles, you will need to cut the top half off. This is best done by the teacher.
3. Start by poking a small hole through the bottom of the container.
4. Cut off a piece of string – minimum of 3 meters. Depending on how much string you have, you can make it quite long (even 10 meters).
5. Feed the string through the small hole. Tie the string into a big knot on the inside part of the container. Make sure the knot is large enough so that it can't be pulled back through the hole.
6. Poke a hole through the bottom of the second container.
7. Pull the string from the first cup through the hole in the second cup. Again tie the string into a big knot on the inside part of the cup, making sure the knot is large enough.
8. You can have the children decorate the phones. This is optional.
9. Your phone is ready for use.



Not



Environmental Science



## Handwashing

### What is it?

This is an activity that involves all children in the class at certain times of the day. They wash hands after they have used the toilet, before they eat food, after an activity which has made their hands dirty.

Included with your low cost resource pack is a bar of soap and a hand-washing guide for children.

### What do children learn?

Children learn some basic hygiene skills that will help to keep them, and others, healthy.

Link with syllabi topics: Nutrition and health (food hygiene) on page 20 of the syllabus; Hygiene and safety (personal hygiene) on page 55.

### How can you use it?

1. Make handwashing a consistent routine in the day of the children. This is key to ensure children develop the automatic reflex to wash their hands.
2. Make sure you have clear rules about when they should wash hands: after they have used the toilet, before they eat food, after an activity which has made their hands dirty.
3. If possible, supervise the children washing their hands closely. Show them how to scrub the back, palm and nails properly.
4. If you stick the handwashing guide to the wall near the handwashing basin, you can use it to remind the children of the simple steps.



### What do you need and how do you make it?

- You need reliable handwashing facilities. This does not have to be very expensive. A tap-bucket and bowl are great. If you don't have that, a jug can be used.
- Soap will kill more bacteria than water alone.
- Handwashing guide

Engage your head teacher or teacher in charge about the importance of hand-washing for young children.



Ideally, you have a tap-bucket and bowl near the toilets, and one in or near your class. When placed in sight, the children are reminded to wash their hands after they have been to the toilets. The one in the classroom can be used for washing their hands before they have lunch or after an activity from which the children might get dirty hands, like playing outside.

Stick the guide provided with the resource pack near the tap, at eye-level for the children.



## Weather Calendar

### What is it?

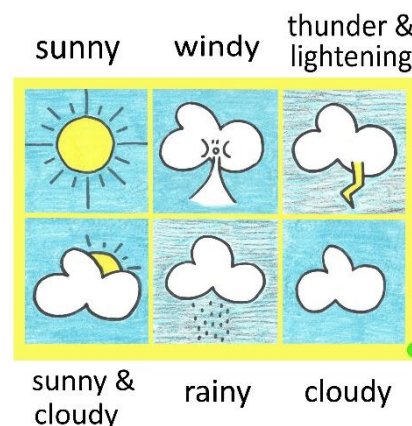
A weather calendar can be used every day. It is a calendar that visualises different types of weather. It can be used as part of the morning routine; and as the weather changes during the day.

An example of a weather chart is included in the resource pack, together with a clothes' peg.

### What do children learn?

This is a fun way to let children learn about the environment, more specifically the different types of weather. They also learn to 'read' the weather calendar and they learn how to behave in a group discussion.

Link to the syllabus topics: Environment - weather patterns (on page 22 of the syllabus) and seasons (on page 56)



### How can you use it?

1. As part of your morning routine, you go outside with all the children and you look at the weather.
2. You ask the children to put on their (pretend) special weather glasses and look up at the sky (they should not look straight at the sun because this is bad for their eyes).
3. Then you go back inside and discuss the weather they just saw. Make sure different children get an opportunity to say something on different days.
4. One child gets to put the peg on the right weather symbol on the calendar.
5. When the weather changes during the day – alert the children, go have another look outside. Some children may notice before you! Respond to what they have seen; allow children to have a look outside and/or change the peg on the weather calendar.



### What do you need and how do you make it?

To make a weather calendar yourself you need:

- Paper, cardboard
- Paint, colouring markers, coloured paper, colouring pencils or crayons
- A peg

*The weather calendar will last much longer if it is laminated. You can laminate the calendar at any of the zonal and district resource centres in both Kitwe and Ndola districts. Alternatively, you can protect it by covering it with see-through tape or sticking it on cardboard.*

1. Draw pictures of different types of weather on paper. For example, a thunder cloud with lightning, a cloud with rain, sun and blue sky.
2. Stick the pictures on a piece of paper or cardboard
3. Hang the weather calendar on the wall at eye level for the children so they can easily reach it. Tip: you can hang the weather calendar close to the attendance chart (see page 22)

## Memory with vegetables and fruit

### What is it?

This is a memory game using pictures of fruits and vegetables. There are two pictures that are the same and the aim is to find the two that are the same. All pictures are put face-down on a table or on the ground. One by one, the children get a chance to turn two pictures over. When a child finds two pictures that are the same, they can take them away. When they are different, they are put back. The game finishes when all the picture cards have been taken. The child who has collected the most sets of cards has won.

An example of a memory game is included with your resource pack. It includes pictures of 6 different kinds of fruit and 6 different kinds of vegetables (24 cards in all).

### What do children learn?

The fruits and vegetables in the pictures are healthy and yummy and they are part of a healthy diet.

Children build cognitive skills whilst concentrating on remembering where different pictures are. They learn to match and develop memory and vocabulary.

They learn to play together with others, taking turns and sticking to the rules of the game.

Link to the syllabus topics: Plants (page 18 and 53 of the syllabus) and nutrition and health (page 20 and 54)

### How can you use it?

1. This game is best played by a group of 2 to 4 players.  
When there are more than 4 players, the children may need to wait too long until it is their turn and they get bored. Ideally, you develop several memory games and have the children play in pairs.
2. Help the children to put all the 24 cards face down on the table or on the floor. Then make them sit around the cards in a circle.
3. Decide which child can begin and then move in a clockwise way to the next child etc.
4. Explain the rules to the children:
  - You need to find two pictures that are the same.
  - When your pictures are not the same you have to put them back, face down.
  - As the other children need to memorise where you have put the cards, show the cards to everyone, and don't mix the cards after you have put them back.
  - The next child in the circle gets to go. The child first picks one card, and then tries to remember whether the same card has been turned over before, and where it is. If the child can't remember, he/she can try their luck and pick a random card.
  - When your pictures are the same, you can keep them and have another go.



- When all the pictures are gone, everyone counts their pictures. The child with the most pictures has won.
5. As the teacher, you can play the game together with the children as one of the players.
  6. Ask the children questions that will help them realise that the fruits and vegetables in the pictures are healthy and yummy foods. Ask the children to name the different fruits and vegetables in the pictures, which of the vegetables and fruits are their favourites and why, whether they eat them raw or cooked, what they taste like, whether they think they are healthy foods etc...
  7. After the children have played the game a few times, they can also play it without you.
  8. After they have finished playing, make sure the children help you tidy up. It is important to keep all the pieces of the game together!



*Setting clear class rules with the children is important:*

- *It will teach children how to behave around each other*
- *It will help keep your class tidy*
- *It will make your materials last longer.*

### Differentiation

- For younger children, you can reduce the number of cards you use. For example, you only use the picture cards of the fruits.
- This is an excellent game to play when you are working on a theme such as 'healthy foods' or 'fruits and vegetables'.
  - You can bring some of the real fruits and vegetables to the classroom for the children to touch and taste.
  - You can ask the children to bring their favourite fruit or vegetable to school and give them turns to talk about it and why it is their favourite.

The memory game is an ideal game to use for many different topics, and to practice many different skills!

- You can make memory games with different topics (for example animals or colours and shapes).
- You can also make memory games that have an added association. For example:
  - Matching animals and their young. Children then need to match the adult animal with the young. For example: a chicken and a chick; a frog and a tadpole etc.
  - Matching contradictions. For example: big and small. hot and cold etc.
  - Matching objects with its shadows or contour
  - Matching rhyming words (5-6 years)
  - Matching same number of items: for example 6 dots with 6 boats; 2 dots with 2 ducks etc.

### What do you need and how do you make it?

An example of a memory game is included with your resource pack. It includes pictures of 6 different kinds of fruit and 6 different kinds of vegetables (24 cards in all). You can make your own memory games on different themes.

You will need:

- Paper, thin cardboard
- A ruler



- Scissors
- Pencil
- Colouring markers, coloured paper, colouring pencils or crayons
- Envelope or small box

1. First of all, you need to decide on the theme of your memory game. You want to link the theme to the topic/theme that you are learning about with the children. For example: wild and/or domestic animals, transport.
2. Divide your paper in squares that are all the same size.



*Your games will last much longer if they are laminated. You can laminate your memory games at any of the zonal and district resource centres in Kitwe and Ndola districts. Alternatively, you can protect your games and squares by covering them with see-through tape.*

3. Draw pictures for your memory game in the squares. Remember that you need two the same (for example, two blue cars, two red lorries...) or, two that make a set (for example, adult and baby animals, items that have the same colour...)

4. Stick your paper on cardboard to make the game stronger. Alternatively, you can take your cards to the teacher resource centre near you and laminate them.

5. Cut out the pictures. It is important that all the pictures are the same size. Otherwise the children can cheat by looking at the size of the cards to know which two are the same!

6. Put all the cards of the game together in a small box or an envelope (you can reuse an old envelope or use a clean food container)

## Growing Beans

### What is it?

Children plant their own bean seeds and see how the seeds germinate and the plants grow.



### What do children learn?

Children learn that plants grow from seeds and that they need water to grow. They learn about different parts of a plant. They practice language skills as well.

Link to the syllabus topics: Plants on page 18 and 53 of the syllabus.

### How can you use it?

1. You involve all the children in the class in this activity.
  2. You will need a container for each child. You can ask the children to bring an empty plastic or glass container, tin can or egg carton from home (for example a used jam jar or yoghurt pot). When using a plastic bottle, you need to cut the top half off.
  3. Make sure each child gets about 5 bean seeds; replace any that are damaged.
4. The growing process:
- First, each child will put the seeds in their container and add some water. Soaking the beans for 24 hours will speed up the germination.
  - The next day, each child is given a wad of toilet paper or some cotton wool. They take the beans out of their container. Then they pour the water away. They wet the toilet paper or cotton wool and put it in the bottom of their jar. Then they add the seeds again. The children line up their containers, preferably near a window.
  - After a few days, the first beans should be germinating. The children must make sure the paper or cotton wool remains damp, but not too wet because then the seeds will rot.
  - After about ten days, the children can plant the seeds that have developed leaves in the soil. If there is a school garden, the children can plant them there. Otherwise, they can plant them in their containers.
5. You make sure the children check on their seeds every day. They can talk about what they see happening, and can compare with others. Make sure the children look out for:
- a root to grow out of the side
  - the root to push down
  - root hairs developing
  - the seed to push up while the root hairs push down
  - shoots to come up
  - leaves to develop
6. After they have planted their small plants in the soil, you continue to observe the growth of the plants, flowers and beans.
7. You can discuss what is needed for plants to grow (water, air, soil, warmth), what parts of the plant are eaten, when the time is ready to harvest, how the beans are prepared etc.
8. If it is possible to keep the bean plants at the school until harvest time, you can harvest the beans and even cook a meal together. Alternatively, you can let the children take the plant home as a present for someone they care about.



## Differentiation

- If you have different kinds of seeds, you can experiment with planting different ones. The children can compare how the different seeds are growing.
- When leaves start growing on the bean plants, you can put some in a dark place (for example inside a cupboard) and see what happens.

## What do you need and how do you make it?

A packet with bean seed is provided with your resource pack. You can also use other seeds.

To do this activity you need:

- Seed
- Containers (can be plastic like the lower part of a bottle, glass, metal or egg carton)
- Water
- Cotton wool, toilet paper or old newspaper
- Soil



## Hector the Hungry Hippo

### What is it?

Hector is a very hungry hippo who loves rubbish. The children can feed him throughout the day to keep him (and the school environment) happy. They can see his tummy grow bigger when he is given more 'food'.

### What do children learn?

Children learn to look after their environment. They learn that littering is a bad habit and that rubbish makes our environment unhealthy, contaminates rivers, blocks sewage pipes and that it provides a breeding ground for pests and diseases. They learn to show that they care for the school, their home, Zambia and the planet by throwing their rubbish in a bin or rubbish pit.

Link to the syllabus topics: Hygiene and safety (environmental hygiene) on page 21 and 55 of the syllabi.

### How can you use it?

When Hector is first introduced to the class (the whole group), you explain the rules on rubbish at the school and in the class. For example:

- We do not leave our rubbish lying around when we have eaten or finished an activity – we go feed Hector.
- We do not throw rubbish on the playground, we bring the rubbish to Hector because he is always hungry.
- We do not throw rubbish on the ground on our way from home to school.
- When I see rubbish lying around in the classroom or on the playground, teacher and Hector will be so pleased when I pick it up and feed our hippo.

You can ask children why it is bad to throw rubbish on the ground.

Hector can become part of the daily routine. One of the tasks of the teacher's helpers can be that a child goes around with Hector during/after snack time to collect all the rubbish. How to use a teacher's helper chart is explained on page 24.

When Hector has eaten his fill, the bag should be removed and taken to the rubbish pit and a new bag can be looped on.

It is important to use Hector consistently. This means that you should remind children to feed Hector each time you see they are forgetting about the rubbish or throwing it where it doesn't belong. Make sure that you always have some plastic shopping bags to replace full rubbish bags.

### What do you need and how do you make it?

An example of Hector the Hippo is included in your resource pack. If you want to make more hungry hippos or other hungry animal bins you need:

- Thin cardboard and/or hard plastic
- A permanent marker
- Colouring markers, coloured paper, colouring pencils or crayons

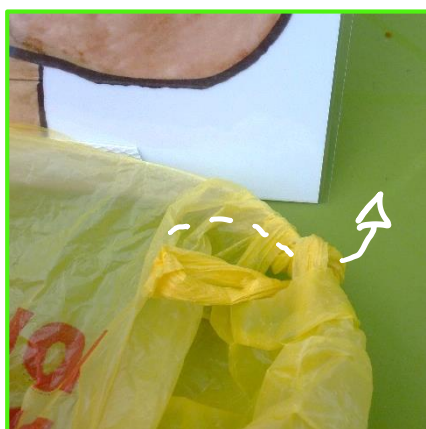


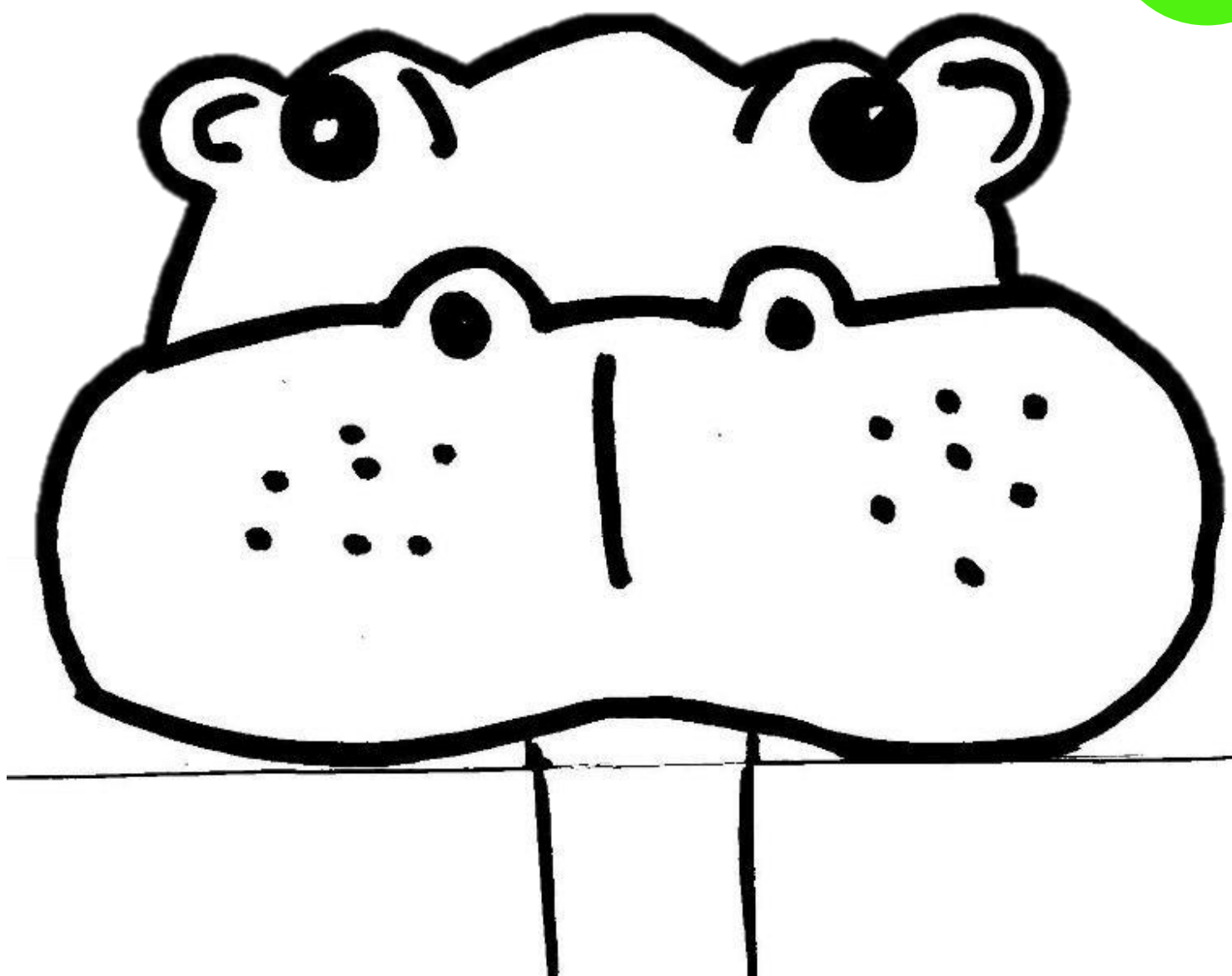
- Scissors
- Tape, stapler
- A thin plastic carrier bag

1. First, you decide which hungry animal you want to make.
2. If you want to make a hippo, you can use the template on the next page. You can make other animals or human faces as well.
3. Draw the template onto a piece of thin cardboard. Use a permanent marker to draw the hippo's outline, eyes and nose.
4. Colour the hippo with wax crayons or colouring pencils. You can also have the children do this.
5. Cut a thin strip of flexible cardboard or hard plastic. It should be between 1 and 2 centimetres thick and 40 to 50 cm long.
6. Loop the strip into a circle and staple or tape the ends together.
7. Now staple or tape Hector Hippo to this ring. You use Hector's 'neck' to do this.
8. Now loop the handles of the plastic carrier bag around the ring, on either side of Hector's face (see pictures below). Take care, if you knot the handles instead of looping them, the bag will be more difficult to take off when it is full.
9. Make sure the bag is arranged neatly around the ring, so the opening is nice and wide.
10. You can make a small hole in the hippo so you can hang him from a low nail in the wall.



*Your Hungry Hippo will be used every day to eat all the rubbish. He will look better for much longer if he is laminated. You can laminate your bin animal at any of the zonal and district resource centres in Kitwe and Ndola districts. Alternatively, you can protect him by covering him with see-through tape.*







Not



Mathematics



## Puzzle

### What is it?

Included in the resource pack are one or two simple 3- or 4-piece puzzles with straight edges, cut from thin cardboard. It is an activity children can do individually.

### What do children learn?

Puzzles will help children develop some very important skills:

- **Physical skills** -- from holding puzzle pieces and turning them until they fit (hand-eye coordination, gross and fine motor skills).
- **Cognitive skills** -- as they solve the problems of a puzzle they start understanding the surrounding world, they recognise shapes, memorise, solve problems.
- **Emotional skills** -- they learn to set goals, they acquire patience and are rewarded when they complete the puzzle.

### How can you use it?

Skills to make a puzzle need to be built up step-by-step. You can't expect a child to do a 12-piece jig-saw puzzle straight away. Below an outline of how puzzles can gradually be made more complex:

#### A one-piece puzzle

This can be a wooden or cardboard puzzle, where the shape of the puzzle-piece fits exactly in the shape of the hole or in the shape drawn on the puzzle.



#### A simple two- to four-piece shape puzzle

The focus of this type of puzzle is to complete the **shape**. There is no picture on it or the picture is not important. For example a square, a triangle, a circle. This kind of puzzle can have straight edges or jig-saw edges. In the beginning, you can provide an outline on a piece of paper or cardboard on which the child can fit the shape.



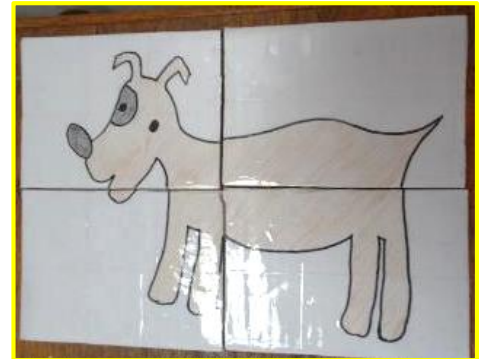


### A two- to four- piece picture puzzle

With this kind of puzzle, the children need to focus on getting the picture right. This requires that they build some visual skills to be able to piece the picture together again. There are different ways to do this:

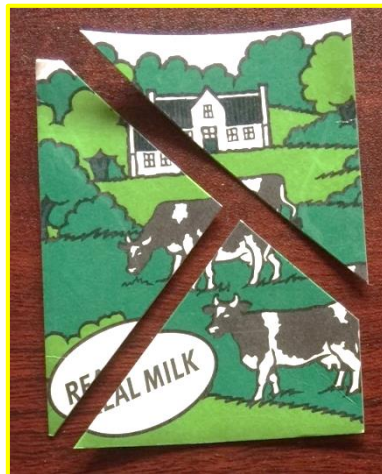
#### *From a colouring page*

1. You can provide a child with a colouring page to colour in.
2. Once the child has coloured it in, you draw some lines on the picture. You ask the child to cut the picture on the lines.
3. You jumble up the pieces and ask the children to make the picture whole again.



#### *From a box or magazine*

1. You cut a picture out of a box, an old magazine etc.
2. You cut the picture into 2 to 4 pieces (depending on the size or the picture).
3. You jumble them up and ask the child to make the picture whole again.
4. This can be more difficult than it seems!



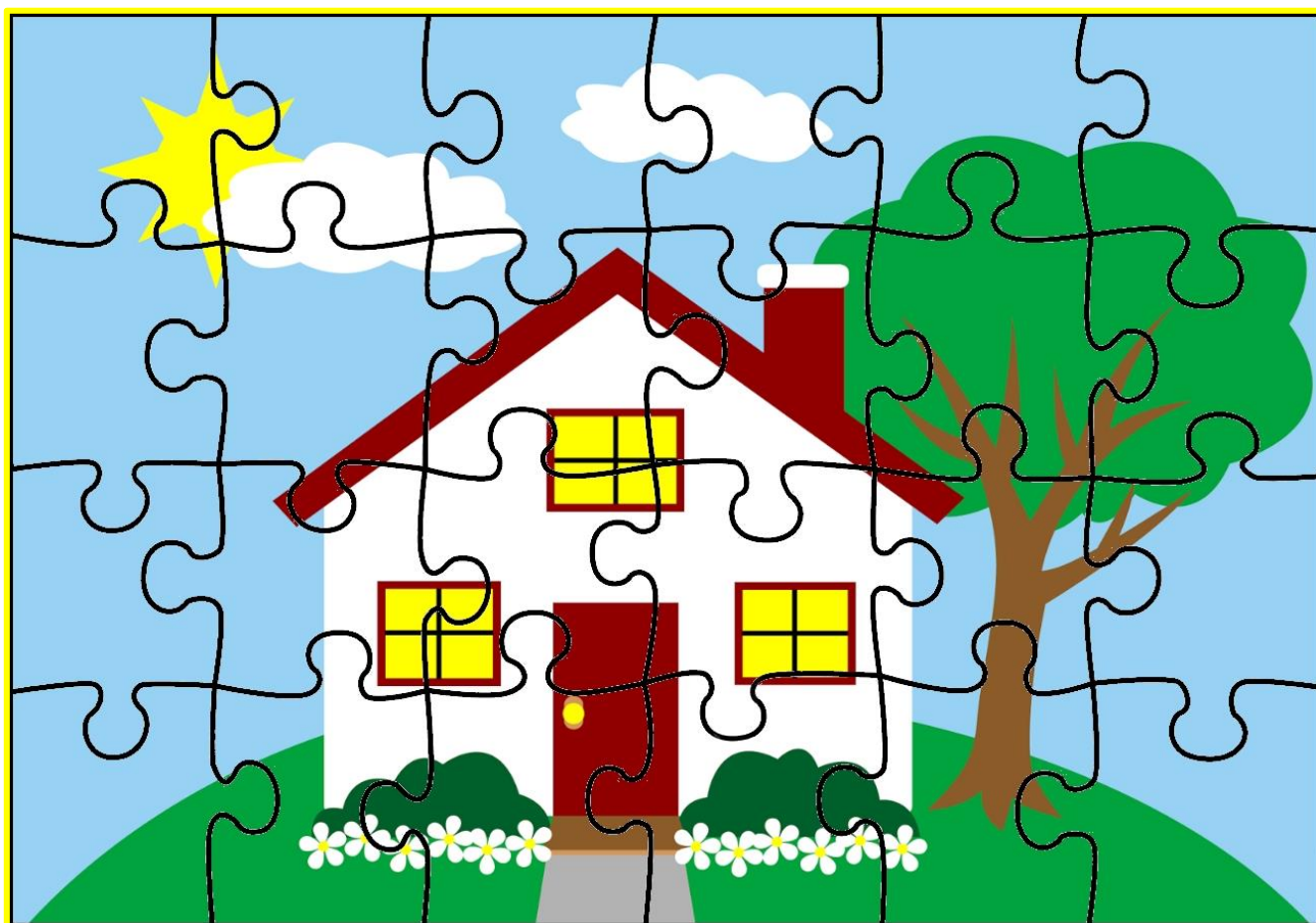
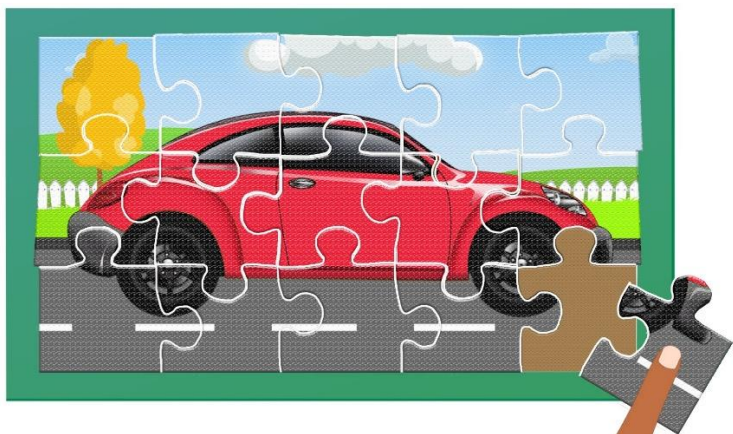
### More complex puzzles

More complex puzzles have more pieces (nine-pieces upwards) and the focus is usually on completing the picture. On the next page you can find some examples you can copy and cut yourself.

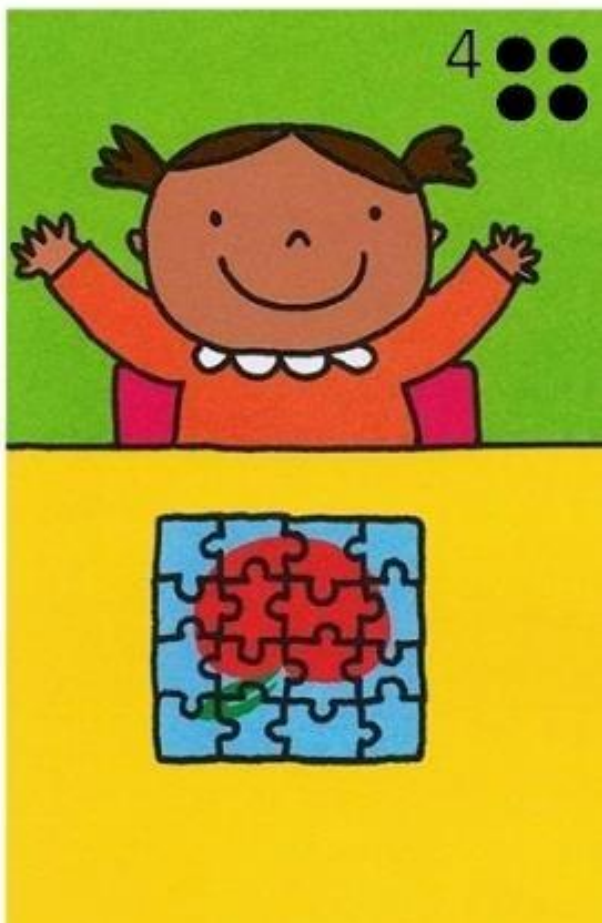
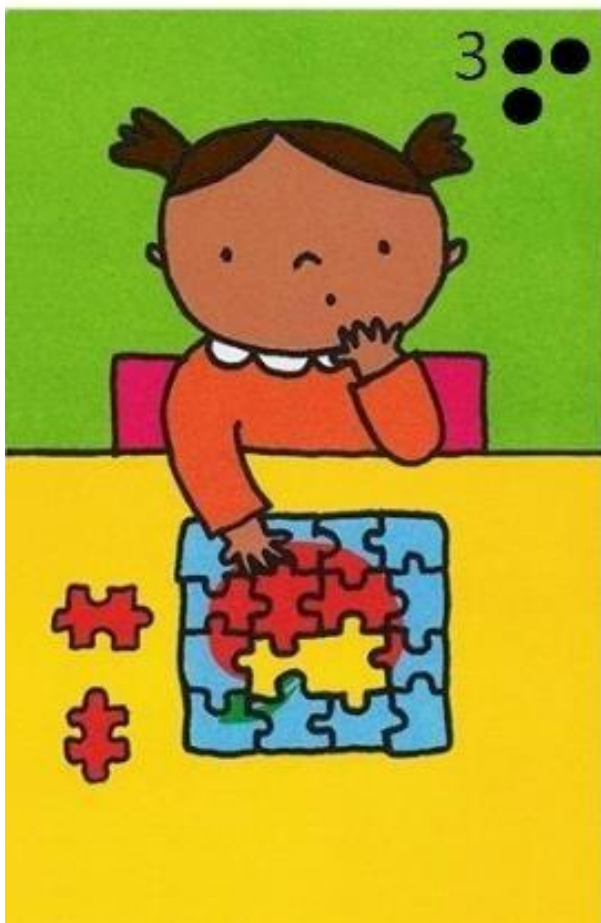
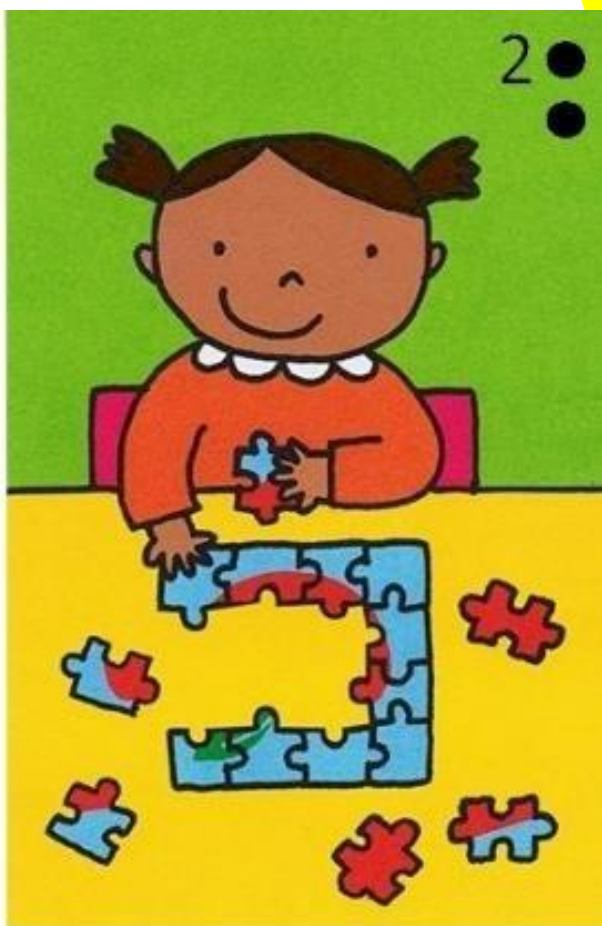
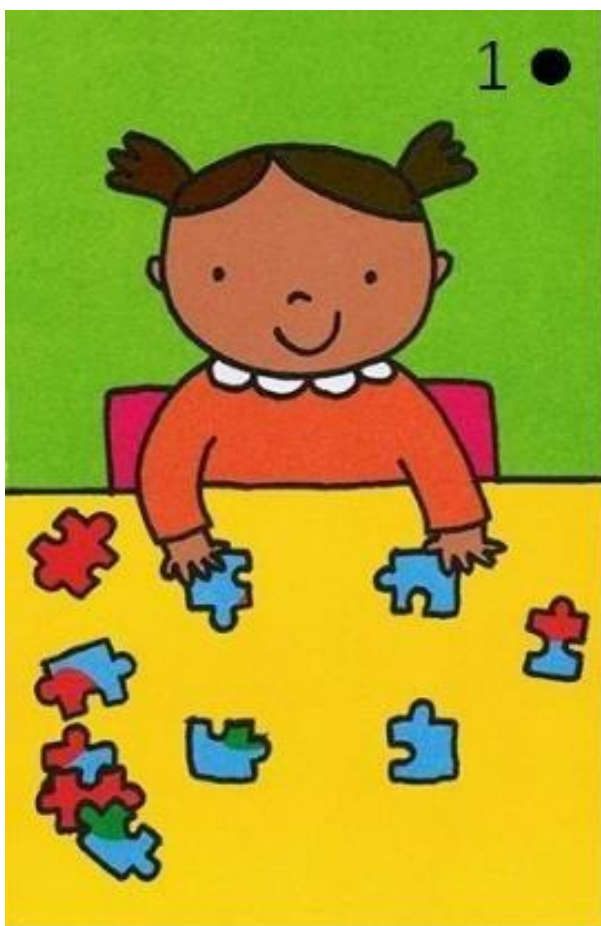


Some tips:

- It is best to provide an example of the 'complete picture' for the children to look at whilst they are making the puzzle.
- Tell the child to first put all the pieces facing upwards, otherwise it can be difficult to find the right pieces.
- For a jig-saw puzzle, the children can follow these steps: first find the corners, then the edges and then you fill in the middle (see picture on the next page).









1. Making a puzzle is usually an individual activity. It is very important that you give each child a puzzle that is at his/her level. If the puzzle is too difficult, the child will get discouraged and is not learning. If the puzzle is too easy, the child will get bored and is not learning.
2. You can have a small group of children making puzzles, whilst the other children are busy with other activities.
3. Involve the children in tidying up. Puzzles become unusable once pieces are missing, or when several pieces get mixed up.

### What do you need and how do you make it?

If you want to make more puzzles, you need:

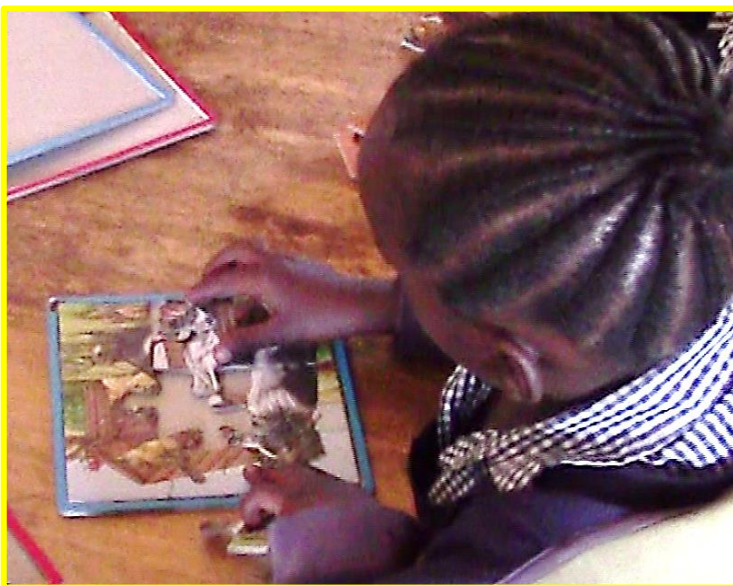
- Thin cardboard – for more complex puzzles choose cardboard with a picture on it
- Scissors
- Ruler
- Pencil or marker
- Paper
- Envelope or small box

You can make puzzles in different shapes and of varying complexity.

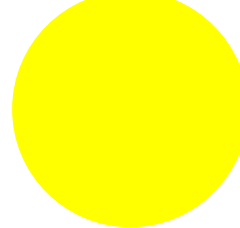
Puzzles become unusable once pieces are missing, or when several pieces get mixed up. Put an identical symbol on the back of each piece of the same puzzle so that you and the children can easily see which pieces belong together. You can use small boxes or envelopes to keep pieces of the same puzzle together.

*Setting clear class rules with the children is important:*

- *It will teach children how to behave around each other*
- *It will help keep your class tidy*
- *It will make your materials last longer.*



Puzzles can be colour-coded according to their level. For example all 4 to 6 piece puzzles are yellow, the 7 to 10 piece puzzles are green. This helps students select a task which is within their ability and not a puzzle with 16 pieces that they will not be able to complete independently...



## Building Blocks

### What is it?

Building blocks can be used in guided and free-play, allowing children to build different structures and shapes.

With your resource pack, 18 small building blocks are provided – 9 cubes and 9 cuboids – together with six examples of building plans of varying levels of difficulty.

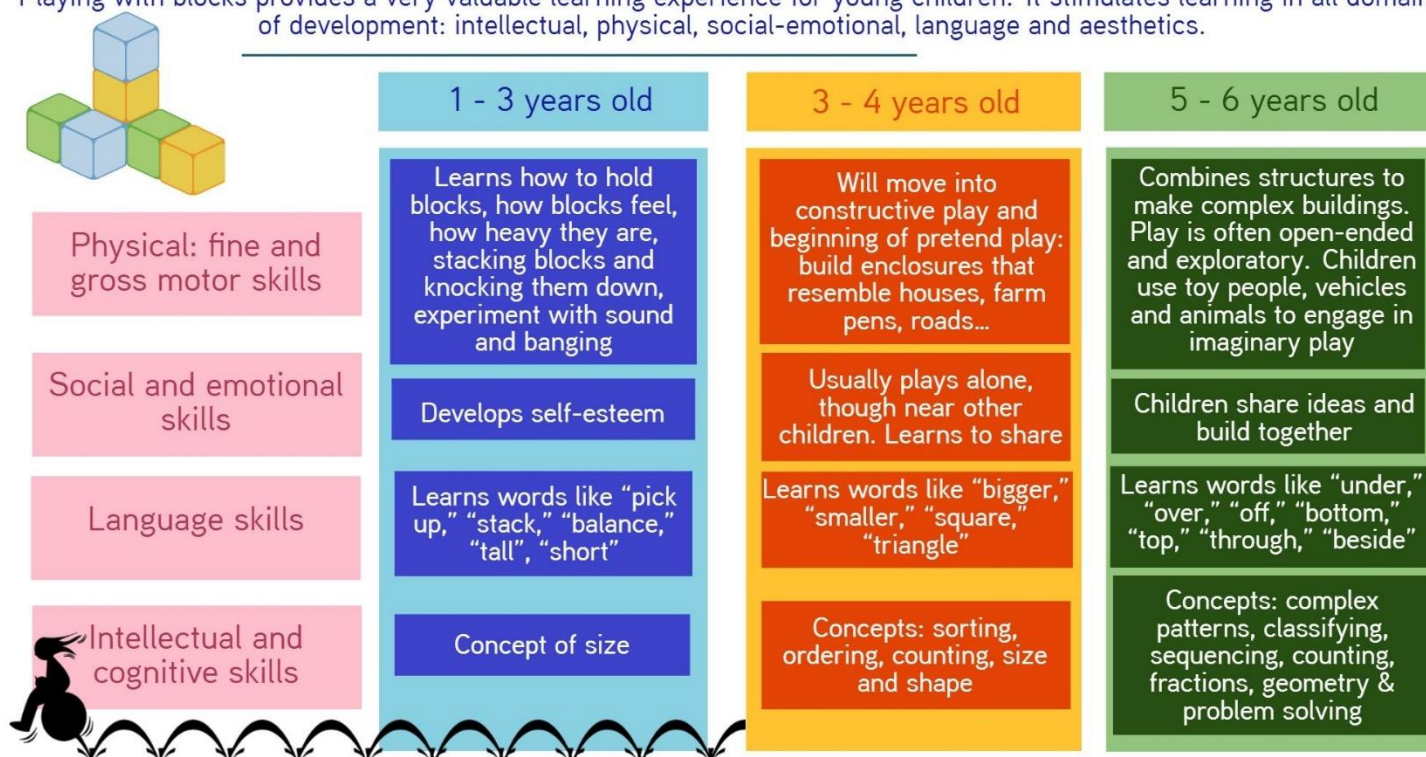
### What do children learn?

Children can develop many different skills through playing with building blocks. Using them together with building plans, children develop problem-solving skills, pre-reading skills, spatial awareness and number sense. They also learn to work independently.

## Block Play



Playing with blocks provides a very valuable learning experience for young children. It stimulates learning in all domains of development: intellectual, physical, social-emotional, language and aesthetics.



### How can you use it?

Many teachers will dedicate a corner of their classroom for block play. This corner can be open for free play at certain times of the day, and can also be used for guided play-learning activities with blocks for small groups of children.

Below is an explanation of how blocks can be used with building plans.

1. Because this is an individual game, it is an ideal activity to do when children are divided in small groups. Whilst other groups are busy with other activities, one small group (e.g. 4 children) is working with building blocks and building plans.
2. Make sure that you have enough material for the number of children playing. You need building plans and enough building blocks

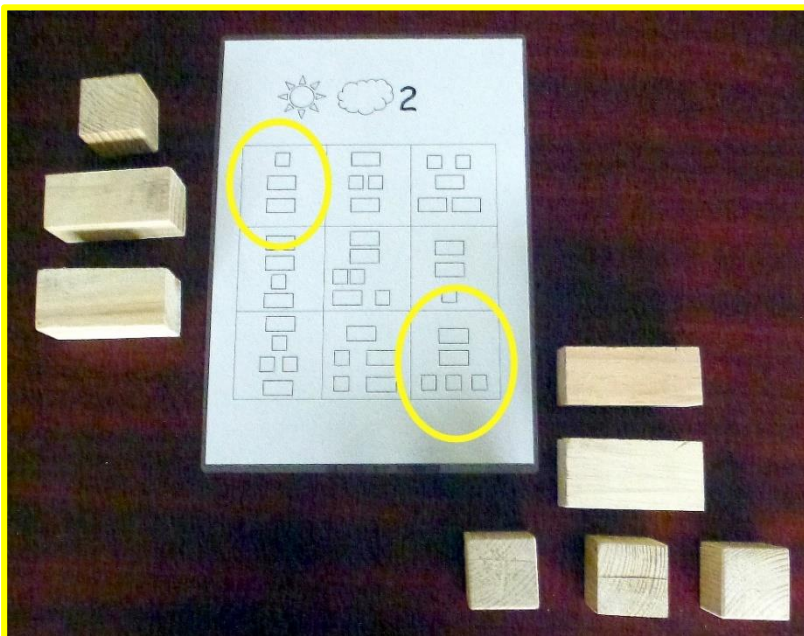
3. You can set out the blocks and building plans in the block play corner, if you have one in your classroom. Or, you can put the material on a small table or on the floor.
4. Each child is given a building plan to complete. Take note that there are varying levels of difficulty in the examples of building plans in your resource pack. Those labelled '1' are the easiest. Those labelled '3' are the most difficult.
5. Give the children time to complete their buildings, according to the plan.
6. When a child is finished, he/she can ask the teacher to check if it is correct.
7. As the teacher, you should continuously assess whether the building plans are not too difficult or too easy for an individual child. If the plan is too easy, or too difficult, children will not learn much.
8. When the child has followed the building plan correctly, they can make another building.
9. After some time, you can give another small group of children a chance to work with the blocks and building plans.



#### Differentiation:

In your resource pack, six building plans are included:

1 - Easiest: each block is drawn as a separate entity on the building plan. The easiest way to complete these plans, is when the children put the blocks on top of the plan. You can make it more difficult by asking them to build the construction alongside the plan.



2 - Middle: these building plans show different structures that children can build. They are no longer to scale. They can only be built next to the plan. Children can build the constructions lying flat or standing up.

3 - Most difficult: only the outline of a shape is provided. Children will need to puzzle how they can fill the shape with the blocks provided. These plans are to scale. It will be easiest to make the construction by putting blocks on top of the plan. To make it more difficult, you can ask the children to build their construction alongside the plan.



Building plans with a sun-symbol at the top, only make use of the cube-shaped blocks.

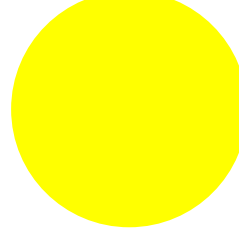


Building plans with a cloud-symbol at the top, only make use of the cuboid-shaped blocks.



Building plans with both a sun- and cloud-symbol at the top, make use of cube- and cuboid-shaped blocks





## What do you need and how do you make it?

If you want to develop a block-play area in your classroom, you need a variety of blocks. Plastic and interlocking blocks are available from stores, but, blocks can be made from a variety of materials.

Wooden blocks are very durable. You may be able to source blocks through a local carpenter or sawmill that has no use for their off-cuts.

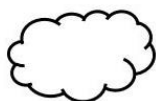
Cardboard boxes of different sizes also make excellent building material, though they are not as durable as wood.

The size of the blocks can vary. As long as they are not too heavy or too big for small hands to easily grip.

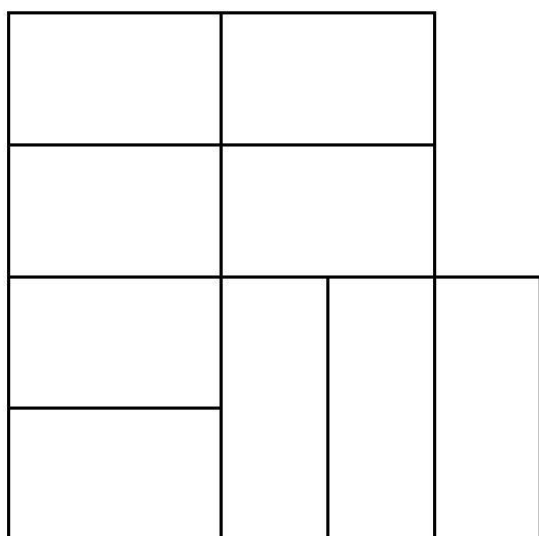
The resource pack contains 18 small building blocks, and six examples of building plans that can be used with the blocks. Below you find more examples of building plans, which you can draw out on A4 paper. For the plans at level 1 and 3, it is important that you draw them to scale. This means that the size of the boxes should be the same as the blocks that you have.



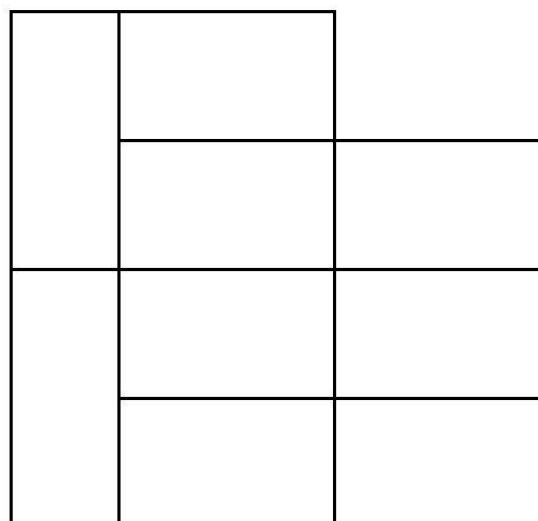
*Your building plans will last much longer if they are laminated. You can laminate your plans at any of the zonal and district resource centres in Kitwe and Ndola districts. Alternatively, you can protect your plans by covering them with see-through tape.*

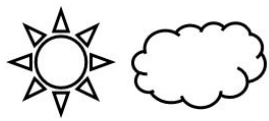
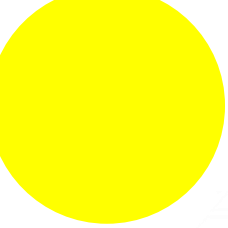


1

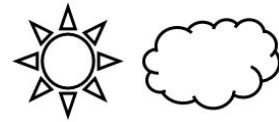
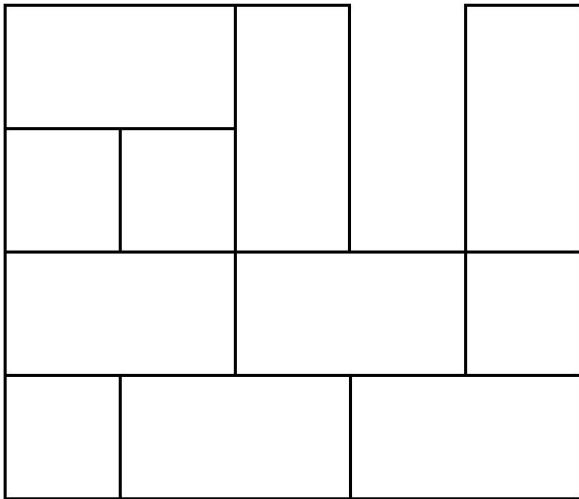


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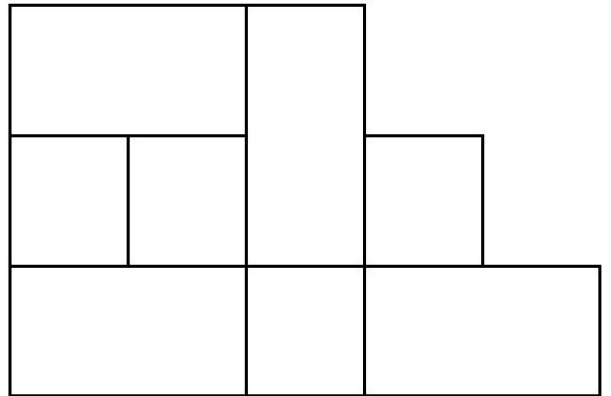




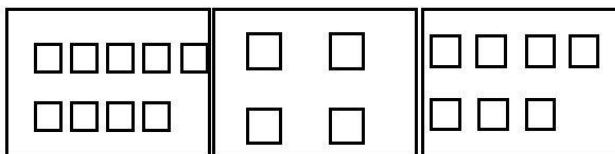
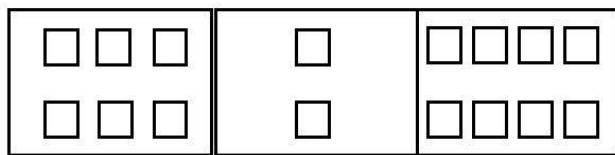
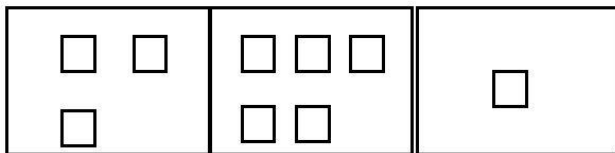
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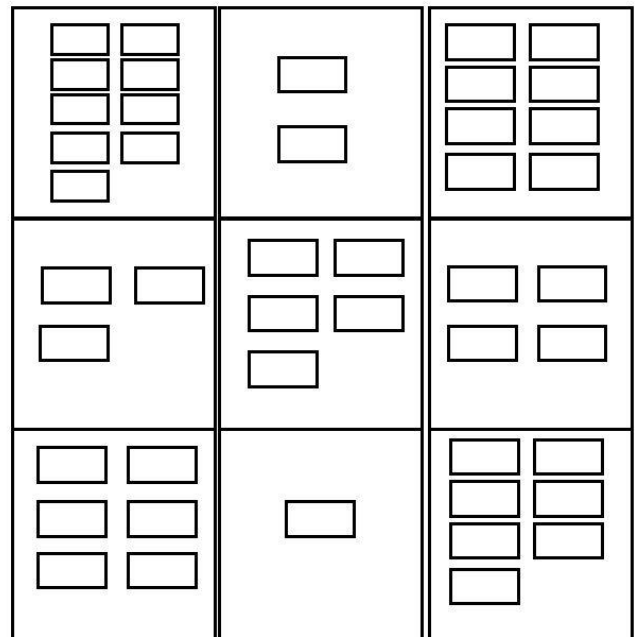
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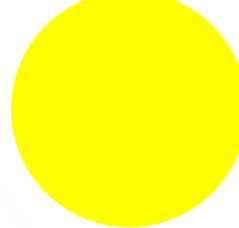


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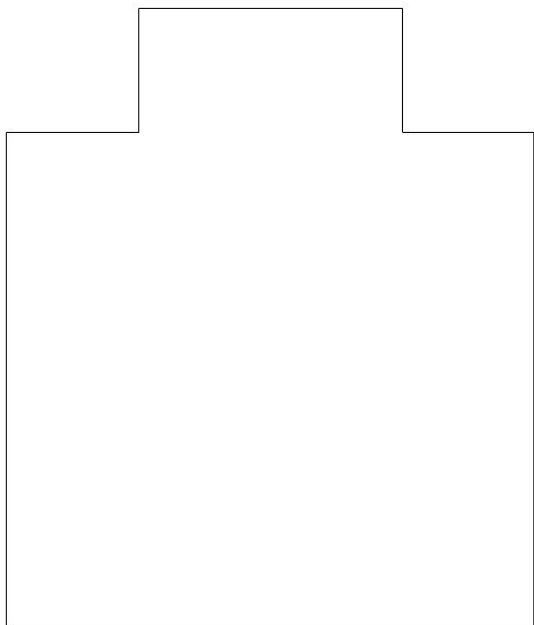


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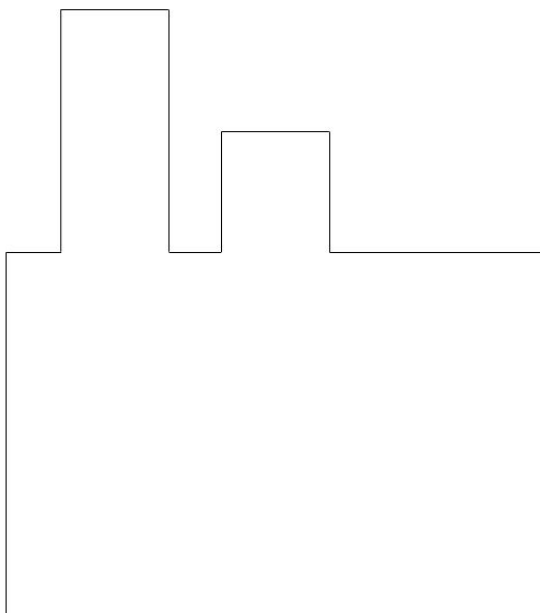




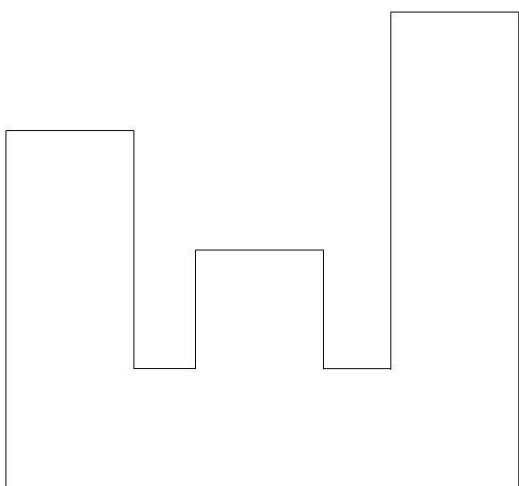
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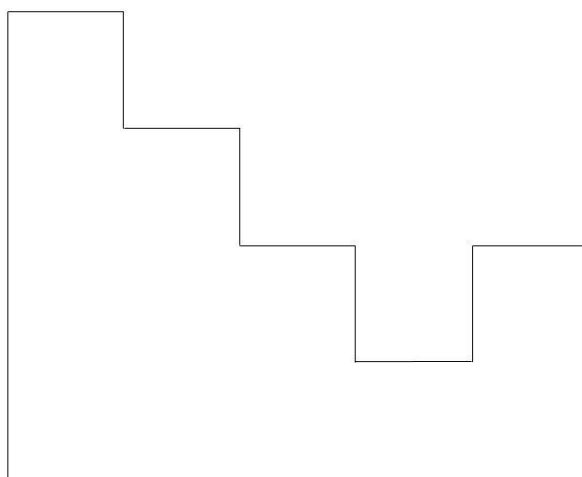
3



3



3





## Mirroring

### What is it?

This activity is played by pairs of children. Each pair is given a sheet of paper that is divided in two with a line. One child makes a composition with bottle tops or other materials on one side of the sheet. The other child mirrors the composition on the other side of the paper.

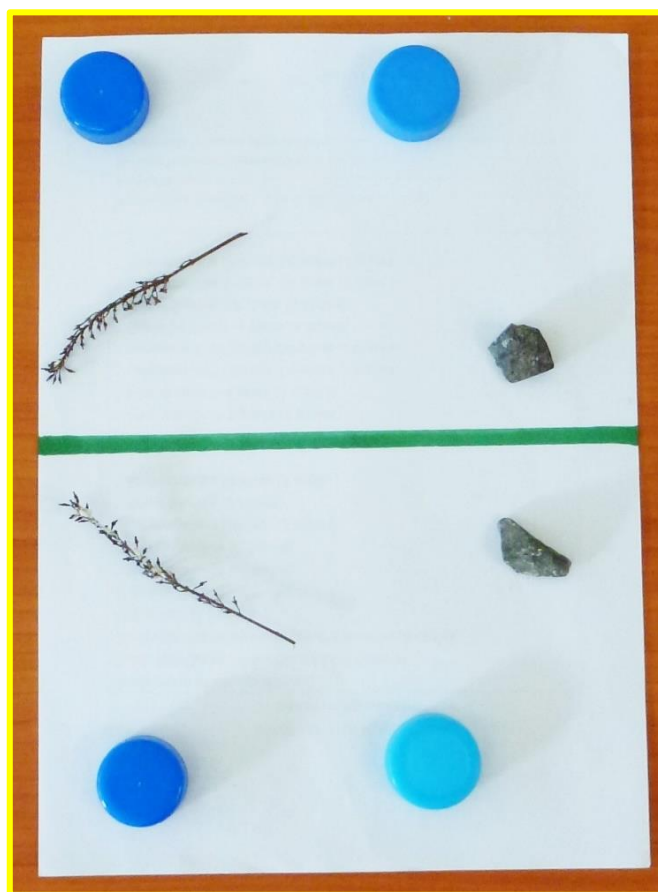
### What do children learn?

The children are learning to match shapes and colours, and are practising their spatial awareness. They are also building social interaction skills as they have to play the game together.

If you implement the activity with materials found in nature, you are developing the children's appreciation of their environment.

### How can you use it?

1. This game can be played with all the children in the class at the same time. Or, the game can be played by a smaller group of children whilst other children are doing something else in other groups.
2. Make sure that you have enough material for the number of children playing.
3. Divide the children in pairs.
4. Give each pair a sheet with a line in the middle and a set of bottle tops (one set is included in the resource pack as an example). Make sure you give them bottle tops that match in size and colour (for example two large yellow, two small red, two small blue, two medium sized green).
5. Ask each pair to divide the bottle tops so that each child has one of each kind. Make sure the children sit opposite each other, with the sheet between them.
6. One child starts and makes a composition in his or her section of the sheet with the bottle tops.
7. The other child tries to make the composition on the other side of the sheet. The line between the two sections acts as a mirror. This means that when child 1 puts his red bottle top close to the line, child 2 also has to put his red bottle top close to the line, on the other side.
8. When the second child is finished, they call the teacher.
9. The teacher checks the exercise of the pair. If they did it right, they can switch roles. If there is a mistake, the second child has to reposition the material that is in the wrong place. When he or she gets this right, they can switch roles.



### Differentiation

1. Instead of using bottle tops, you can use many other materials that you can find in the classroom and outside.
2. Instead of giving the children the material at the start of the exercise, you can first give them an assignment to go and find material to play the game with. This will require that they work together as a pair, because they need to find two of each material (for example two stones, two leaves, two sticks and they need to be of a similar size). The children will learn how to work together.



3. Instead of doing the exercise on a piece of paper, it can also be played outside in the sand. You then draw a line in a sandy patch of the playground.
4. To make the exercise easier or more difficult, you can give the children fewer or more bottle tops.
5. You can make use of the 'mirror sheet' that is included with the resource pack (see picture on the left). When using this sheet, you could ask the children to put a book or folder on the line, so that they can't see the other side of the mirror. The first child, that is making a composition for the other child to copy, needs to explain where they have put the bottle tops. For example:
  - "I have put the green bottle top on the chicken."
  - "I have put the light blue bottle top on the tail of the cat."
6. When it is time to tidy up, involve the children. Make sure you have a labelled box or a basket for bottle tops, so that they can be kept together.

### What do you need and how do you make it?

You need:

- A sheet of paper
- A permanent marker to divide the sheet in two parts
- Bottle tops / leaves / stones / nuts / seeds or any other things you can find in your environment

A set with one sheet and bottle tops is provided with the resource packs. This is only enough for two children to play. You will need to prepare more sheets and material for more children to play.

*Setting clear class rules with the children is important:*

- *It will teach children how to behave around each other*
- *It will help keep your class tidy*
- *It will make your materials last longer*

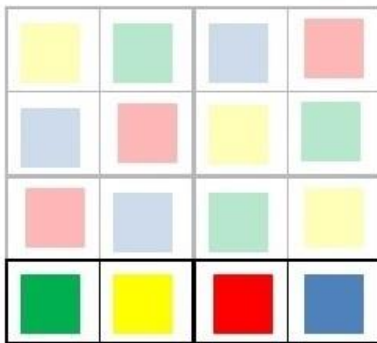


## Sudoku

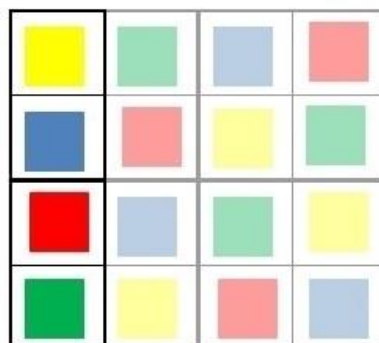
### What is it?

This is an individual game.

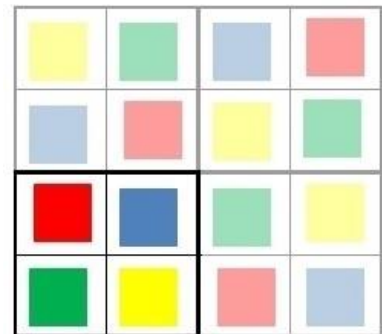
The game consists of a square with colours. Some of the colours are missing. The aim of the activity is that the child completes the square with the missing colours. Each colour can only appear:



once in each row,

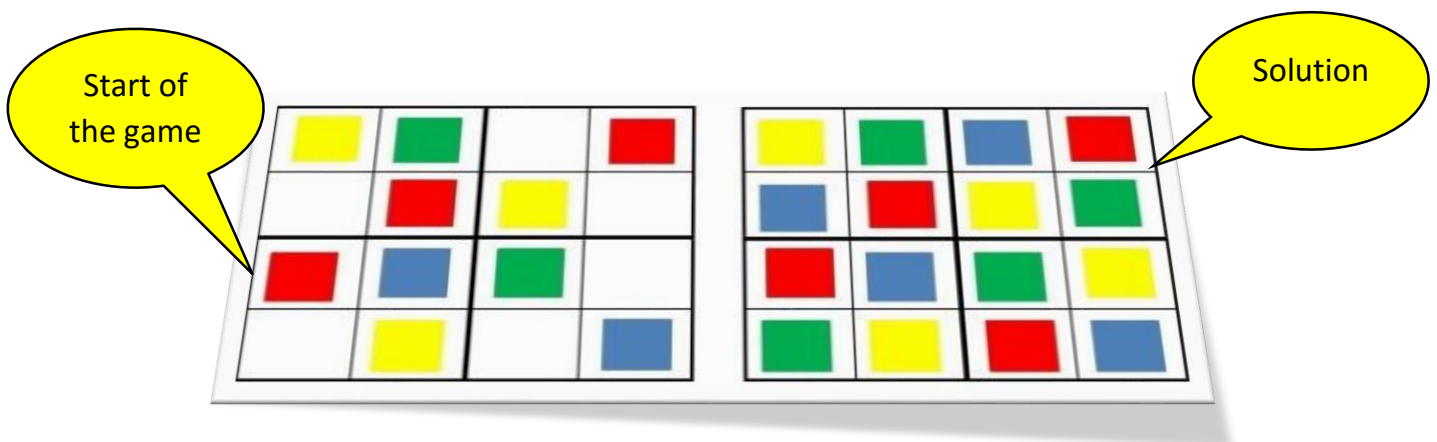


once in each column...



and once within each of the four smaller squares.

Four Sudoku puzzles and an envelope with laminated, coloured squares are included in the resource pack.



### What do children learn?

This game builds the logical, spatial and problem-solving skills of children. How can you use it?

- Because this is an individual game, it is an ideal activity to do when children are divided in small groups. Whilst other groups are busy with other activities, one small group (e.g. 4 children) is working with Sudoku games. Make sure you have enough game sheets and small coloured squares for every child in the small group.
- Ask the small group of children to sit around the table, or on the floor where you have displayed the Sudoku game sheets and coloured squares. Ask each child to pick one game sheet and explain the rules of the game to them.
- Give each child the time to find the solution by themselves. As the teacher, your role is to help children to understand the game, but not to tell them the solution:
  - You help children when they are stuck or they haven't understood the concept of the game.
  - You help children to discover their mistake and correct it by themselves.



- When a child has completed the square, you check whether the answer is correct. If it is correct, they can continue with another sheet.
- After some time, you can rotate the small groups and have another group of children to come and work on the Sudoku puzzles.
- When it is time to tidy up, involve the children. Make sure you have a labelled box or an envelope where the small Sudoku squares can be kept together.



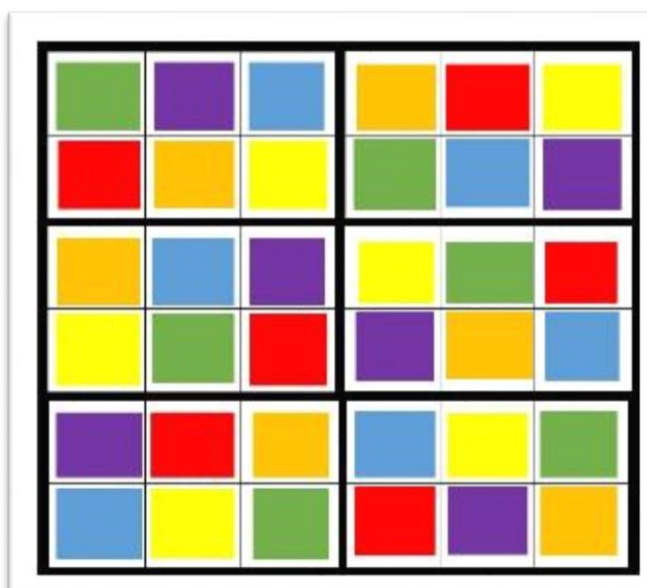
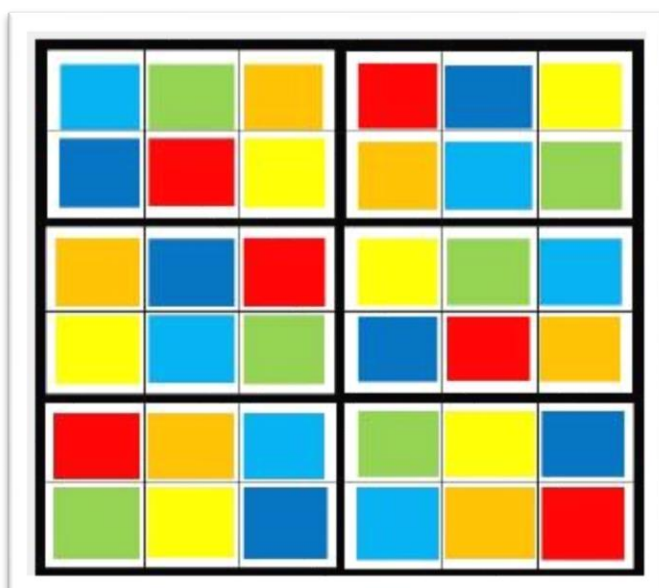
*Setting clear class rules with the children is important:*

- *It will teach children how to behave around each other*
- *It will help keep your class tidy*
- *It will make your materials last longer*

#### Differentiation

- For children who have not mastered the game yet, the game is easier when there are fewer squares missing.
- For children who have mastered the game, keep them challenged by giving them more difficult game sheets, with more empty spaces.
- You can also make the game more difficult by adding more colours and more rows and columns (for example 6 colours would require a square with six rows and six columns).

Examples of 6x6 sudoku:



#### What do you need and how do you make it?

In order to play this game, the child needs a drawing of the square, and small coloured squares to complete the drawing.

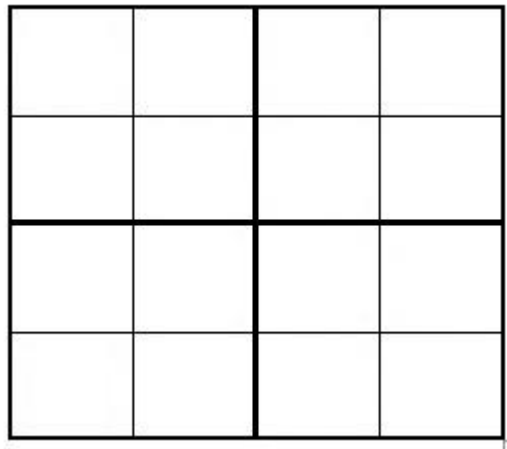
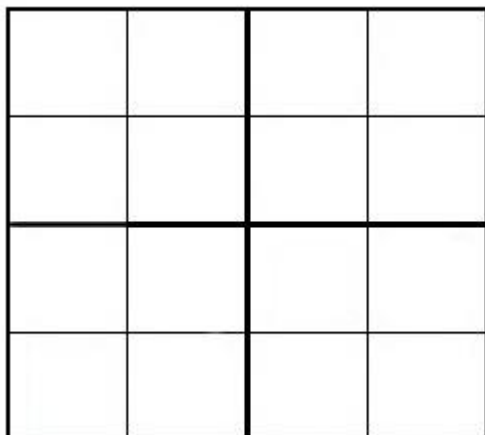
In the resource pack, four examples and a set of coloured squares are provided. In order to offer variation, and to let several children play the game at the same time, you can make some more game sheets and coloured squares.

To make this game you need:

- Paper
- Colouring markers, coloured paper, colouring pencils or crayons
- Scissors

- Ruler

1. Draw a square and divide it in 4 equal rows and 4 equal columns. It helps the children if the outer lines and the lines of the four squares within are made bold (see picture).



*Your games will last much longer if they are laminated. You can laminate your Sudoku games and small coloured squares at any of the zonal and district resource centres in Kitwe and Ndola districts. Alternatively, you can protect your games and squares by covering them with see-through tape.*

2. Draw coloured squares within the spaces on the big square, leaving some spaces blank. It helps to start from a drawing of the solution with all the squares filled in. When drawing the game, you then leave some spaces blank. Remember that there should only be one of each colour on each row and column!

3. Cut some small coloured squares in each colour.
4. Try out the game yourself to make sure the solution can be found!



## Peg Cards

### What is it?

This is an individual game that requires children to make logical associations.

The game consists of a sheet with a problem to solve. The child needs to think of the answer, making the association between the problem and the colour code. With coloured pegs, the child indicates the correct solution on the right-hand side of the sheet. When the child flips the sheet over, he/she can check whether they got the answer right.

In the resource pack, three examples of peg cards are included, together with a set of pegs:

- Elephants: match the size of the elephants with the size of the dots on the right. The biggest elephant has a yellow circle next to it. Therefore, the yellow peg needs to be put on the biggest dot.
- Animal puzzle: find the missing piece of the puzzle. The missing part of the giraffe is highlighted in yellow. Therefore, the yellow peg needs to be put on the puzzle piece of the giraffe on the right.
- Chicks: match the number of eggs with the number of chicks on the right. The picture of the hen with one egg has a green circle next to it. Therefore, the green peg needs to be put on the picture with one chick.

Start of  
the game

Solution



### What do children learn?

This game builds the logical and problem-solving skills of children. Depending on the peg card, the children can be practising colours, counting, spatial awareness, size, shapes, ordering etc.

### How can you use it?

- This is an individual game. You can make a peg card available to an individual child. It is an ideal activity to do when children are divided in small groups. Whilst other groups are busy with other activities, one small group (e.g. 4 children) is working with peg cards. Make sure you have enough game sheets and coloured pegs for every child in the small group.
- Ask the small group of children to sit around the table, or on the floor where you have displayed the cards and pegs. Ask each child to pick one game sheet and explain the rules of the game to them.
- Give each child the time to find the solution by themselves. They can turn over the sheet to check for themselves whether they have solved the problem correctly!  
As the teacher, your role is to help children to understand the game, but not to tell them the solution. You help children when they are stuck or they haven't understood the concept of the game.
- When a child has found the solution to a peg card, they can continue with another sheet.
- After some time, you can rotate the small groups and have another group of children to come and work with the peg cards.



### Differentiation

- As this activity requires some logical thinking skills, it may be best suited for older children and children who have mastered sorting, puzzle-making or counting.
- For younger children, you can think of counting and sorting activities, puzzles etc. before they move onto trying association games such as the peg cards.
- You can ask children in the class who have mastered the concept of different peg cards to explain the game to another child. This increases the learning of both children!

## What do you need and how do you make it?

In order to play this game, the child needs a peg card and four coloured pegs.

In the resource pack, three examples are provided. In order to offer variation, and to let several children play the game at the same time, you can make more game sheets. Two examples and their solutions are provided in this manual (see next pages).

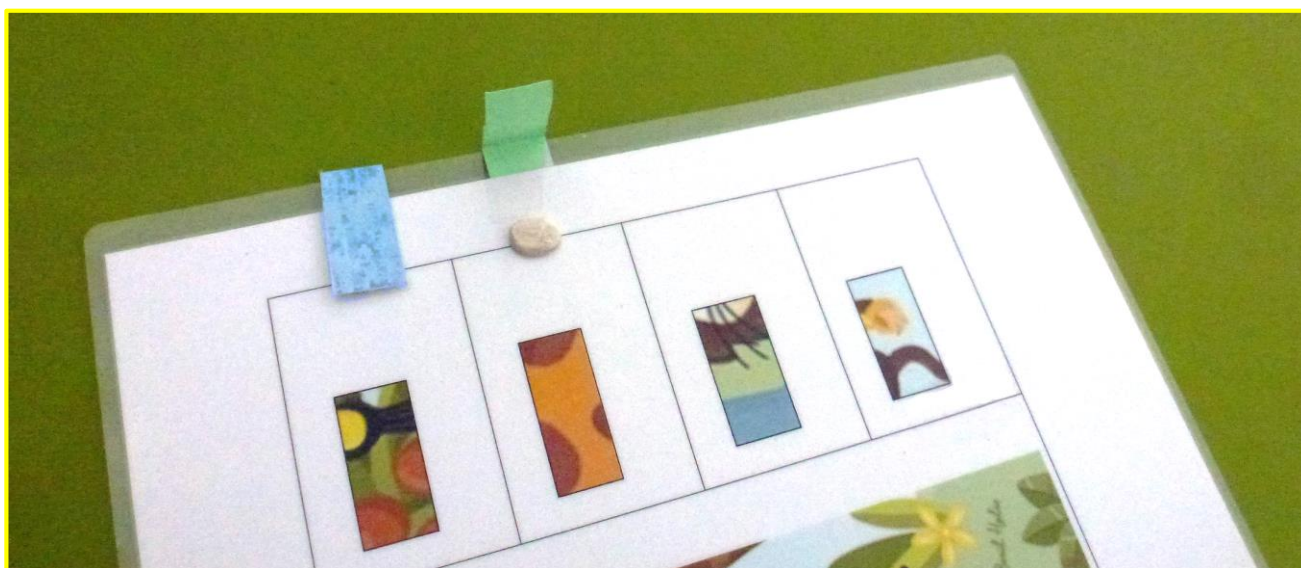
To make this game you need:

- Paper
- Coloured pegs
- Colouring markers, coloured paper, colouring pencils or crayons

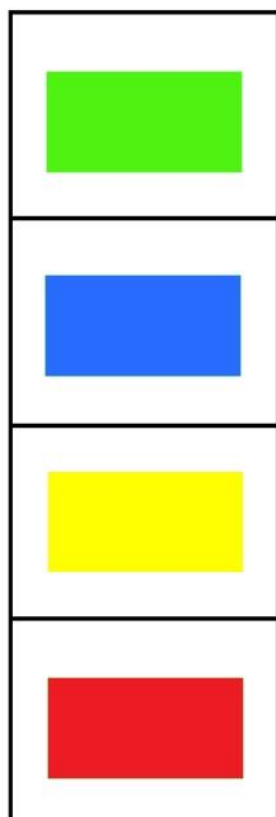
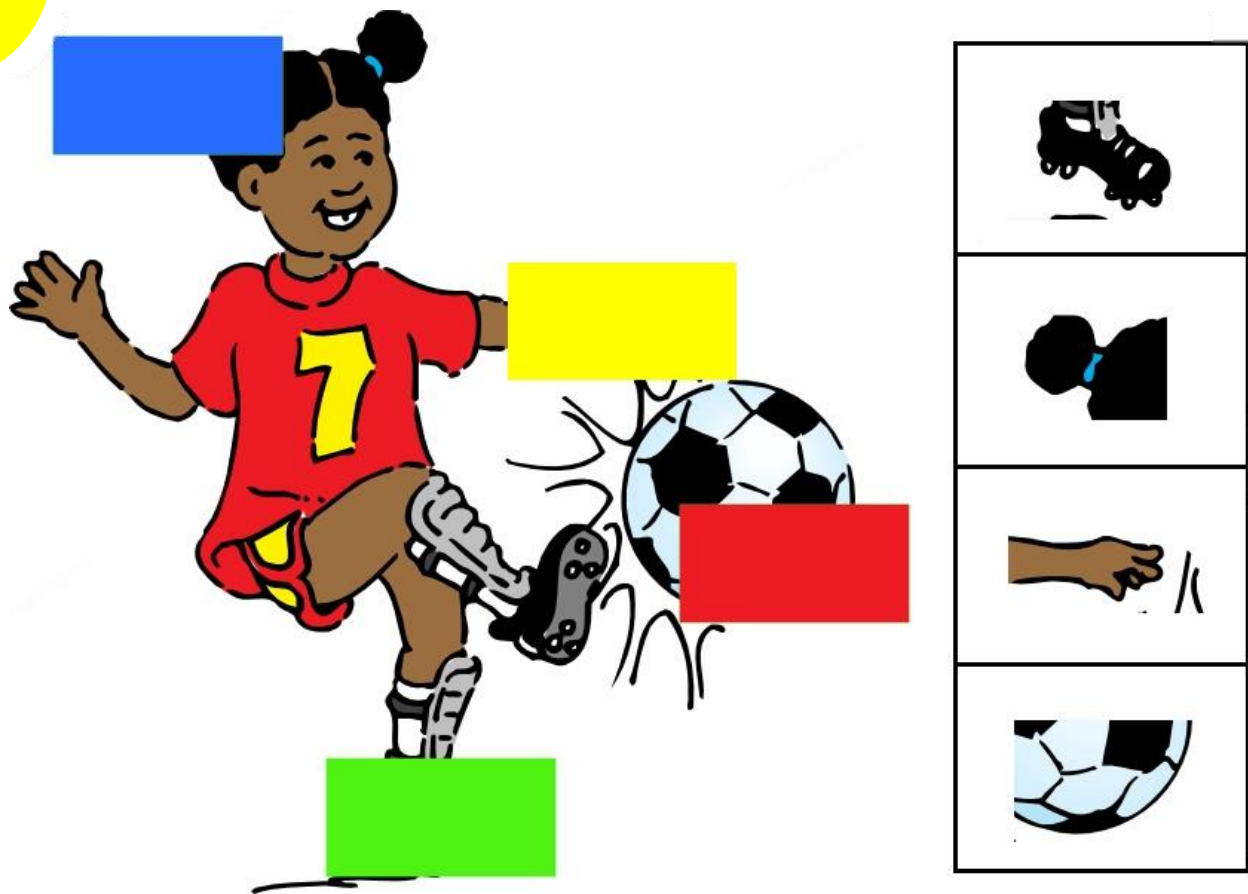
*Your games will last much longer if they are laminated. You can laminate your peg cards at any of the zonal and district resource centres in Kitwe and Ndola districts. Alternatively, you can protect your sheets by covering them with see-through tape or sticking them on thin cardboard.*



1. You can think of many different problems for the children to solve. You can think of problems where children have to match, count, work with size or shapes, complete a puzzle etc.
2. Draw out a problem to solve on a piece of paper. Assign a colour code to it, using the same colours as the pegs. In the examples provided in the resource pack, we have worked with green, yellow, blue and red.
3. If you cannot find coloured pegs, you can paint or colour plain pegs, or stick a small piece of coloured paper to the top of the pegs.
4. If you cannot find pegs, you can work with folded pieces of paper in different colours. The children can fold the piece of paper around the edge of the paper and stick it on with sticky stuff (see picture). This way, they can still check the solution when turning over the page.



5. On the back of the sheet, draw out the answer to the problem. For this you need to use the colour code. When children turn the sheet to see the solution, the pegs should match the colour code – so make sure you put the colour code in the right position.
6. Try out the game yourself to make sure it works!

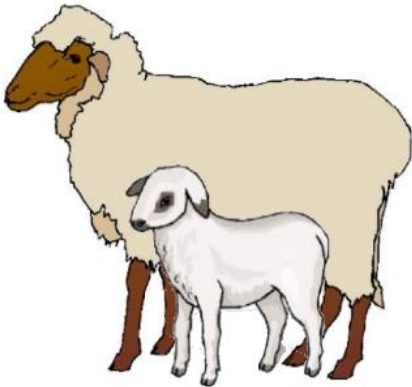
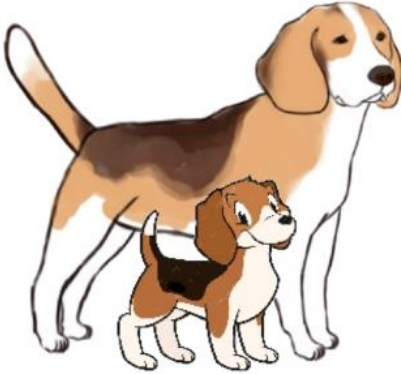
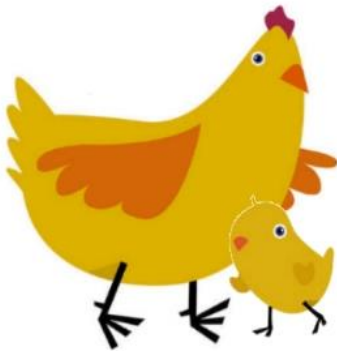
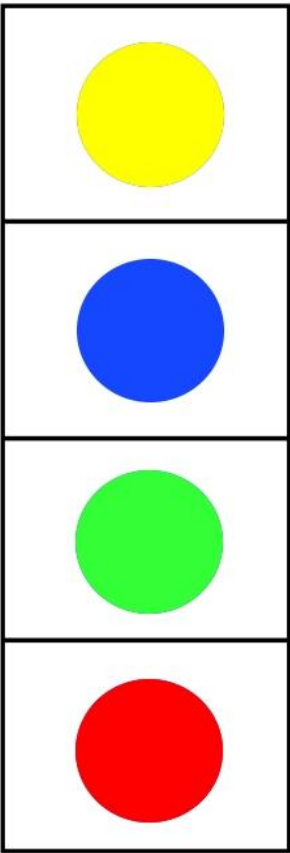
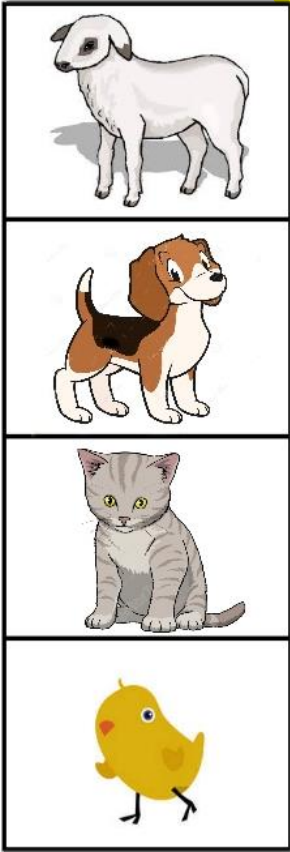
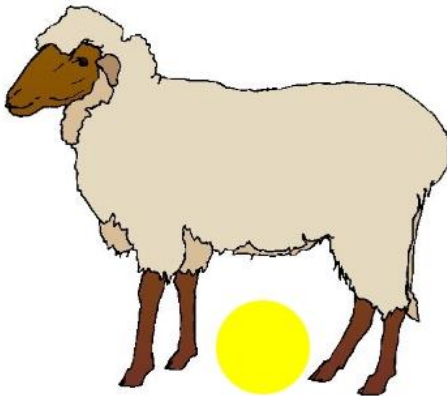
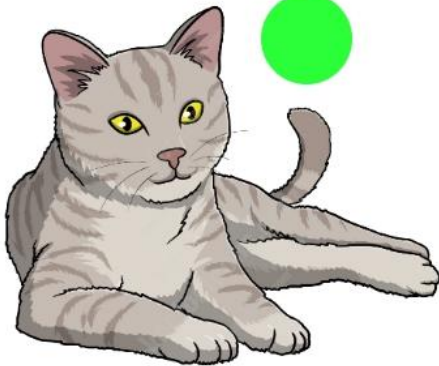
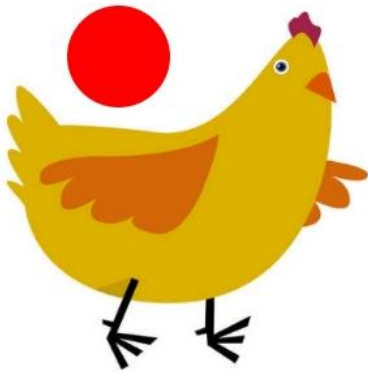


Solution





Peg cards: animals and their babies



Solution

Not





Expressive Arts



## Drawing your journey

### What is it?

This is an A5-sized book with blank pages. Each child in the class has one such book that the child uses to draw his/her own pictures of what the child finds interesting. The book is used for communication with the parents of the child.

### What do children learn?

This activity stimulates and creates confidence and creativity, which is very important for the development of the child. The children learn to express themselves freely.

Children also practise their fine motor skills. They learn to observe and appreciate their surroundings and themselves.

Links to the topics in the syllabi: Art and Craft (page 29 and 64 of the syllabi).

### How can you use it?

1. Give each child their own book. If you are using children's symbols (explained on page 6) you can draw the child's symbol on the cover so they can recognise it easily.
2. You can use the book to:
  - Let children draw freely. Children can choose what they draw. If a child gets stuck, you can stimulate their creativity and offer a prompt by linking drawing to the lesson or to the child's life.
  - Link the drawing to an aspect or a topic on which the children are learning that week. For example, if you have been working around the topic 'domestic animals', you can let children draw a domestic animal in their book. Let the children draw freely, do not draw an example for them to copy.
  - Link the drawing to the child's life. For example, ask the children to draw something that happened during the week or weekend that they liked; ask them to draw their biggest dream; ask them to draw themselves doing their favourite thing, etc.
3. Stimulate and encourage each child while drawing. This enhances their confidence. There are no mistakes possible in this activity. Every child expresses him/herself in a different way and these are all correct.
4. Reflect together with the whole group about the process and the final product. Let all or some of the children tell the others about their drawing.
5. Tell the children how beautiful their drawings are and let them take their book home so they can show their parents.
6. The children can also draw at home and show their drawings to you the next day. This improves the communication between the parents and the school/ teacher.

### Differentiation



If some children are only just starting with free drawing and do not feel very confident, you can draw part of a picture in their books. You can then encourage them to finish the drawing.

For example, you can draw part of a bird, and ask the children to complete it.

When the child has a story to tell to accompany the picture, you can write out the story next to the drawing in familiar language.

### What do you need and how do you make it?

An example of a book is part of the resource pack. If you want to use this activity, every child in your class will need a book. If you have the means, you can make use of exercise books, preferably without lines. To make your own books you need:

- Paper - this can be white paper, but you can also reuse one-sided.
- Scissors
- Stapler, hole punch, string.

Children can use a variety of items to draw with. A few examples are; a pencil, a pen, charcoal, paint made of coffee or tea, crayons...



Make A5 booklets of between 30 and 50 pages each. You can fold A4 paper in half and cut along the fold. Staple the sheets of paper together. Alternatively, you can punch holes on the left-side of the book and hold the pages together with string. For the covers of the book, you can use slightly thicker paper, or coloured paper, if you have this available.

## Bean Bag Games

### What is it?

Many different movement games can be played with bean bags. These help children practice different movements:

- Movement games in one place: balancing, picking up, putting down, stretching arms and legs.
- Movement from one place to another: walking, running, jumping, hopping, skipping.
- Manipulative movement: Tossing up, catching, throwing.

A set of nine bean bags (in three different colours and three different sizes) is part of your resource pack. Because of the different sizes and colours, you can also use them for sorting by colours and shapes.

### What do children learn?

Bean Bag Games develop gross motor skills in children. Gross motor skills involve the large muscles of the body. Play activities are key to stimulate the development of motor skills in children between 3 and 6 years old.

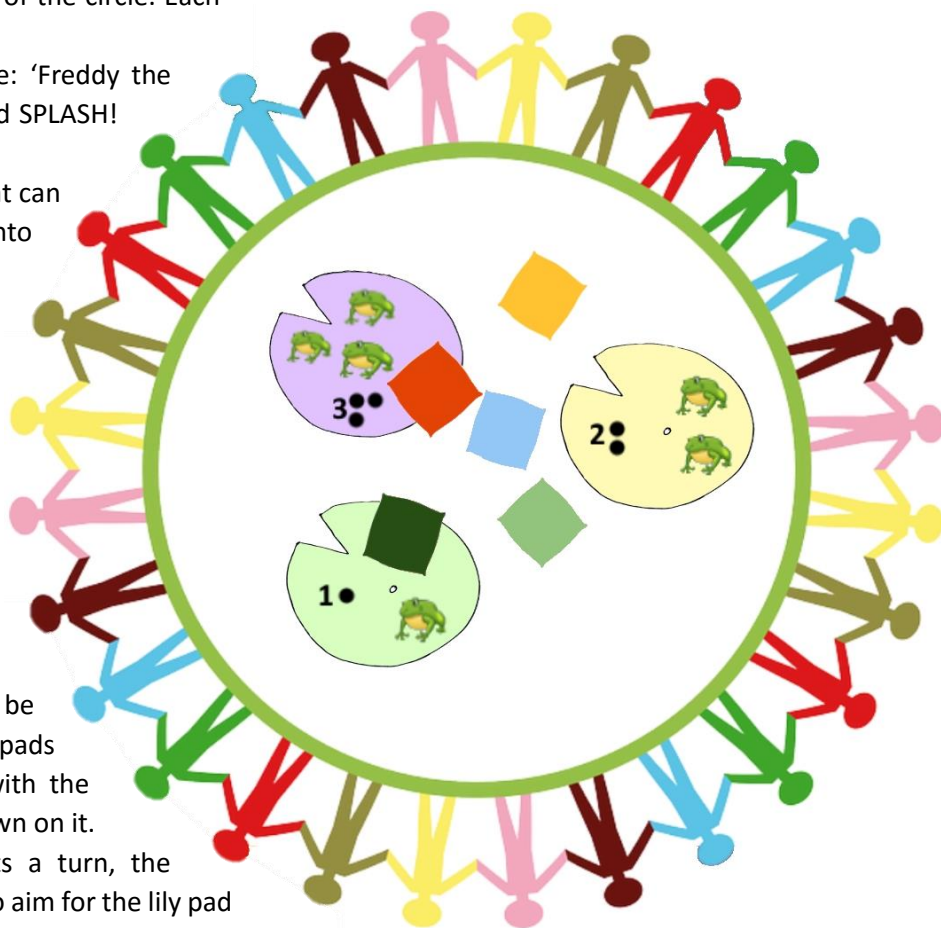
Whilst playing these games, children can develop holistically, as they learn and practice language and use social skills to play together.

Links to the syllabus topics: Motor development (page 27 and 64 in the syllabus)

### How can you use it?

#### *Freddy the Frog*

1. This activity can be done with the whole group and can be played outside or inside. Children stand in a circle with a box in the middle of the circle. Each child has a bean bag.
2. They sing a song. For example: 'Freddy the Frog went to jump on a log and SPLASH! he fell into the pond'.
3. The teacher chooses a child that can try to throw their bean bag into the box.
4. Each child gets a turn.
5. To challenge older children, there can be several targets (lily pads) to aim for.
  - a. These targets can be sheets of paper with a different colour and a number of objects drawn on it (also include the number value).
  - b. For example, there can be (more or less) five lily pads numbered from 1 to 5 with the same number of frogs drawn on it.
  - c. When an older child gets a turn, the teacher can tell the child to aim for the lily pad with a specific number on it.





### Balancing tricks

1. The children balance a beanbag on the head while walking along a line marked out on the ground.
2. If this is easy, make it more difficult by doing a heel-to-toe walk (no space allowed between the feet as the child walks).
3. A more challenging activity is to walk around obstacles, or to touch an object on the floor along the way while keeping the beanbag on their heads.

### Bean Bag Toss

1. This develops hand-eye coordination. Show your children how to toss a bean bag gently into the air and then catch again. Younger children can do a very gentle toss, older kids can toss just above head level.
2. Increase the challenge by introducing a hand-clap between tossing and catching (ie toss, clap, catch), or a one-handed catch for older kids.

### Bean Bag Relay

1. Get a group of children to stand in a line, one behind the other.
2. Put a pile of beanbags in the front, and a box at the back. The child in front grabs a bean bag and passes it overhead to the child behind and so on, until the last child pops it in the box, and then runs to the front to repeat the relay.
3. The children will be using hand-eye coordination to accurately receive and pass the bean bag without dropping it, and bilateral coordination by using both hands together.
4. You can make this into a fun competition by having two groups of equal numbers of children (and with equal numbers of bean bags) to start at the same time. The group that has all bags in the box first has won.

### What do you need and how do you make it?

A set of nine bean bags (three different colours and three different sizes) is included with the resource pack. For some games, each child in your class will need a bean bag.

To make bean bags you need:

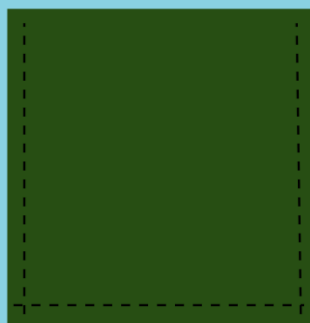
- Pieces of fabric
- A ruler
- Needle
- Thread
- Scissors
- Dry beans, rice or seeds

### Making your own bean bags



1. cut two pieces of fabric - about 10 to 15 cm square

2. sew together on three sides



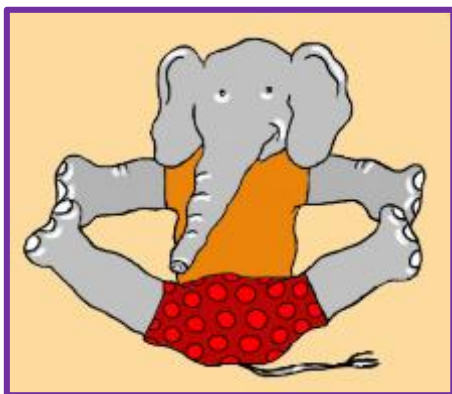
3. fill pouch with dry beans, rice, maize or other hard seeds

4. sew the fourth side together to close the bean bag - done.



Use strong, colourful fabric and strong stitching for the best and longest lasting results!

## Eddie the Elephant



### What is it?

This is a game that you can play with the whole group of children. You use a dice (cardboard box) with pictures stuck on each side. The children mimic the pose that Eddie the Elephant makes on the picture that is facing up.

A set with six different pictures of Eddie is included with your resource pack.

### What do children learn?

This game develops gross motor skills in children. Gross motor skills involve the large muscles of the body. Play activities are key to stimulate the development of motor skills in children between 3 and 6 years old.

Whilst playing these games, children can develop holistically, as they learn and practice language and use social skills to play together.

Links to the syllabus topics: Motor development (page 27, 28, 29 and 62, 63, 64, 65 of the syllabus).

### How can you use it?

1. Sit in a circle with all the children.
2. Let one child roll the dice with the pictures of Eddie the Elephant.
3. All the children now mimic the pose that Eddie takes in the picture that has landed facing up.
4. Give different children a turn to throw the dice.
5. When most pictures have passed one or a few times, you can change the game slightly. For example:
  - You can choose one child to stand in the middle and invent a certain pose. The other children must imitate him/her.
  - You can hold a little competition. Who can sit the longest in a certain position?

### What do you need and how do you make it?

A set with six different pictures of Eddie is included with your resource pack. These should be stuck to a dice (cardboard box). You can make new pictures with different poses.

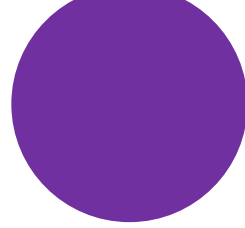
What you will need:

- Scissors
- Medium-sized cardboard box
- Big piece of paper (1 or 2)
- Tape, sticky stuff
- Pencils or crayons
- Paper

Make a dice from a medium-sized cardboard box.

1. Close the box and seal it with tape.
2. Optional: wrap the box with blank paper.
3. Stick the illustrations of Eddie on the box with sticky stuff or tape. Remove them after the activity and keep them safe.
4. You can use your dice for other activities as well (for example Dancing Ribbons on page 11).





## Musical instruments

### What is it?

There are different types of musical instruments that can be made with low cost material, to give children the opportunity to appreciate and make their own music in class.

An example of a low-cost shaker is included in the resource pack.

### What do children learn?

Through music, children develop listening skills that go beyond listening to the teacher's instructions. Listening to different sounds and rhythms will have a positive influence on language development. Children learn to express themselves in different ways.

When making music together with others, children also develop social interaction skills.

Links to the syllabus topics: Music, games and dances, motor development (page 27, 29, 30 and 62, 65 and 66 of the syllabus).

### How can you use it?

1. Sit together with the children in a circle.
2. Make sure that each child has one instrument. You need one as well.
3. First let the children play freely with their instrument. After a short time, you can tell them that they have to keep their instrument quiet.
4. Make an easy rhythm and let the children copy you.
5. If that works, you can slowly make the rhythm more difficult.
6. After practising several rhythms, you can divide the children into groups. Each group plays out a different rhythm.

The music gets better when you use different kinds of instruments.

### What do you need and how do you make it?

Every child in the class should have an instrument to make music with. The low cost resource pack only contains one example, so you will have to make more.

To make a low-cost shaker, you need:

- Toilet rolls and plastic bags, plastic bottles, plastic or metal containers with a lid.
  - Tape
  - Sand, seeds, rice, small stones etc.
1. You put some sand, rice, small stones, seeds or other material that will produce a sound when it is shaken in the bottle, container or toilet roll.
  2. Close off the container or bottle securely by taping the lid or top on. This will prevent the material spilling out.
  3. If you don't have bottles or containers, you can put the rice, seeds, sand, ... in a toilet roll, cover it with a plastic bag and close it with tape (see picture).





## Differentiation

Providing different instruments will allow for more experimentation and learning. You can use different size containers, and different materials inside them, to make different sounds. You can also make other instruments from low cost materials.



**A rattle:** Use a metal can with ridges and let the child move a stick along the ridges.

**A drum:** Use old pots and pans or plastic bottles and let the children beat them with a stick.



**A whistle:** Take a blade of grass and have the child hold it between the two thumbs. Blow onto the piece of grass and it will start to vibrate and make a sound. This takes some practice!

**Finger cymbals:** Cut a rectangular piece of cardboard and fold it in half. Stick two metal bottle tops on the inside of the cardboard. Children can make music by pushing the cardboard together so that the bottle tops hit each other.



Notes on Expressive Arts:

Lined area for notes.







**European Union:**

[europa.eu/index\\_en.htm](http://europa.eu/index_en.htm)

**EU delegation Zambia:**

<http://www.eeas.europa.eu/delegations/zambia/index.en.htm>

**VVOB:**

[www.vvob.be/vvob/en](http://www.vvob.be/vvob/en)

**VVOB Zambia:**

[www.vvob.org.zm/cms](http://www.vvob.org.zm/cms)