Language Learning for Young Children

Experiments & the KIKUS Method

A Handbook



Petra Schüler and Christina van der Riet foreword by Dr Edgardis Garlin (KIKUS founder) This handbook is a joint venture project between the Siemens Stiftung, the Centre for Multilingualism in Early Childhood (zkm), and KIKUS SA.







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language learning for children

KIKU

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Both Christina and Petra have bilingual children of their own. While working together at the Deutsche Internationale Schule Kapstadt, Petra and Christina first came into contact with the KIKUS Method and Experimento 4+.

They have been the KIKUS Coordinators in South Africa since 2011, presenting KIKUS workshops and seminars and coordinating the KIKUS courses being implemented at various schools and pre-schools in and around Cape Town. At the same time, they each continue to offer their own KIKUS language courses – whether employing the traditional KIKUS Method or KIKUS in combination with experiments – to children in disadvantaged pre-schools in Cape Town. This handbook is drawn from their extensive practical experience.

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List of Lesson Plans

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Lesson Plans

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Foreword

Mimi says 'HELLO'...







Foreword

The idea of combining experiments with the KIKUS Method of language learning originated with the Siemens Stiftung. The first training programme for primary school teachers – conducted jointly by the Stiftung and the Centre for Multilingualism in Early Childhood – was run in 2011 in Germany. As the teachers began to implement this innovative technique in their courses, it soon became clear that the opportunity for children to experiment was hugely motivating not just for their study of the world around them, but also for their second language development. The pictures in this book speak for themselves!

We are grateful to the Siemens Stiftung for financing this project in South Africa. Petra Schüler and Christina van der Riet, the local KIKUS experts, have devoted themselves to the task of producing this handbook with great energy and passion. Sincerest thanks are due to them, as well as to their supportive KIKUS colleagues, teachers and all the KIKUS children and their parents who have made this publication possible. We hope that it will be a source of inspiration to all those engaged in the rewarding work of helping children to become multilingual.

Dr Edgardis Garlin | KIKUS Founder | Centre for Multilingualism in Early Childhood (zkm)

What is KIKUS?



| What is KIKUS?

The goal of KIKUS is to support children in their acquisition of an additional language through stress-free play in a purposeful and systematic way. The KIKUS Method can be applied to teaching any second language and is particularly suitable for young children, with its emphasis on spoken rather than written language. The method utilizes highly effective linguistic teaching aids suitable for small groups.

KIKUS remains the only language learning programme in which the child's first language is actively incorporated into the method and materials, thereby promoting dialogue and respect between languages and cultures.

The success of KIKUS relies on a number of important structures, a detailed explanation of which can be found in 'The KIKUS Method – A Handbook' (Garlin 2008, English edition 2011). Lessons are based on an integrated and flexible approach to language learning, where the focus is on the development of various communication patterns, such as 'greeting', 'requesting', 'describing', 'guessing', etc. By increasing the children's repertoire of these communication patterns, their language is developed and expanded.

KIKUS stands for 'Kinder in Kulturen und Sprachen' – 'children of many cultures and languages'



What is experimentation ?

From an early age, children have a natural curiosity about their world. They learn and discover many new things by doing and playing. This discovery is the beginning of science. Experimentation is an especially motivating way for children to discover science *for themselves*. Recently, educators have been looking for ways of bringing scientific methods and content into pre-school education. The aim is for children not merely to learn the 'right' explanation of a particular phenomenon based on adult understanding, but rather to seek their own understanding of a phenomenon through experimentation.

In an experiment, the children essentially look for the connections and interrelationships in nature.

Meaningful experimentation must include three important phases:

- 1. The children need to hypothesize why something is the way it is. During this phase, we can observe how much prior knowledge the children possess.
- 2. This hypothesis is tested by means of an experiment. Here it is essential that the children are allowed and encouraged to try out the experiment for themselves instead of just watching someone else do it, since their own hands-on experience will lead to more effective learning.
- 3. Once the experiment has been completed, the children should compare their findings with their initial hypothesis. This may lead them to a conclusion about what happened or, alternatively, to another question for further experimentation.

What is Experimentation?



Our experience has shown that the above-mentioned phases need to be adapted according to the children's language level. Children attending Grade 1 in a mainstream school would probably cope with the linguistic demands placed on them in terms of:

- formulating a hypothesis
- · describing what happens during the experiment
- comparing the results with their initial predictions

This will not be the case for children who are still at the early stages of acquiring a second language.

For these children, the language content needs to be carefully planned and controlled, but the experiment itself can still be carried out – and can make a valuable contribution to their experience and understanding of the world around them.



How can KIKUS and experimentation be combined?

Looking at what children do during scientific experimentation, it soon becomes apparent that such activities offer excellent opportunities for language learning. At the same time, successful experimentation happens when the relevant language skills are present in order to predict, understand and explain.

By choosing a theme from science and building a KIKUS lesson plan around it, the KIKUS language programme is combined with experimentation. In order to choose appropriate experiments, it is important to bear in mind the environment in which the children live. Topics should be relevant to the children's background, real-world knowledge and experiences.

When using experiments in a KIKUS lesson, there are many opportunities for enhancing language, such as investigating, observing, comparing, making predictions, understanding cause and effect, teaching new vocabulary, making inferences and drawing conclusions, as well as teaching sequencing skills. The children also learn about how things work, e.g. in order for a torch to give light, it needs batteries.

Sometimes it may be useful to postpone a new experiment that was planned, because the children need more time to explore a certain activity. The KIKUS course should be flexible enough to accommodate this.





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Building a KIKUS lesson that incorporates an experiment

Once the experiment has been chosen, the Course Leader needs to find related teaching materials - such as books, songs, rhymes, toys, etc. - to assist in the planned language enhancement, part of which happens during the actual experimentation process. The carefully designed worksheets are intended to reinforce the children's experiences.

In this way, Course Leaders can put together a well-rounded KIKUS lesson that includes experimentation. We have included eleven examples of such KIKUS lessons in this handbook. As you will see, each experiment provides an opportunity for introducing new vocabulary and sentence structures.

Many of the KIKUS Principles discussed in the next section are naturally present during the experimentation process, e.g.

- The element of fun is a given.
- Children learn with all five senses and this has a positive effect on their general development, including language.
- Speech is embedded in an action and serves a purpose.
- The children can assume the speaker role while they experiment and each child gets a turn.
- Knowledge progresses from passive to active.
- Language content can progress from simple to more complex.

In addition, the children learn to get along and work in small groups. Social skills such as sharing attention, taking turns, listening to what others say, and learning how to take part in a discussion are all basic elements of the process. ©Zentrum für kindliche Mehrsprachigkeit e.V. (zkm), Munich/Germany



The KIKUS Principles

The KIKUS Principles

The KIKUS Principles have been adapted to incorporate experimentation within the KIKUS programme:

Create a dedicated learning space

Students need a protected space in which they feel secure enough to try out their emerging language skills.

- Learning through play in a stress-free environment
- Support the first language and allow it to be spoken

Since our own language is always connected to our identity, the KIKUS Method actively incorporates and supports the child's first language. Through this process children also expand their vocabulary in their mother tongue and language mixing can therefore be reduced.

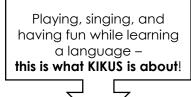
• Learning with all five senses

If possible, one should start with real objects and then proceed to coloured pictures, then to line drawings and finally to words. It is important to think about how one can enable the children to hear, see, taste, smell and touch their new language.

• Speech must be embedded in an action and always be used for a purpose

In the real world, language always serves a purpose. It is a tool for requesting, questioning, answering, instructing and so on. This must be considered when preparing a KIKUS lesson – language learning should never degenerate into mere pattern drill.

• Limit new vocabulary input





• Work with the child at his or her own individual level

There is no such thing as a group of children with perfectly matched language skills. We need to lovingly and respectfully try over and over again to motivate the 'tongue-tied' ones until finally the first word trips over their lips. We need to try to 'ground' the chatty ones who slur their words, so that they will speak more slowly and clearly. The linguistically stronger child needs to be given the chance to articulate a complex sentence, while the linguistically weaker child will need to be offered their utterance bit by bit.

• Help the children assume the speaker role as soon as possible

This is often the biggest challenge! It's not just about requesting the children to answer a question, because then they remain essentially in the 'hearer' role, in that they only re-act. The trick is to elicit a question instead of an answer or to get a child to express an instruction rather than simply to carry out an instruction.

• Establish a clear and specific target utterance

By 'utterance' we are referring to a meaningful unit of spoken language. In second language teaching it is important to carefully pre-select which concrete utterance will be practised in the exercise. The clear guideline is to first input one utterance and work towards fixing it in memory before the next utterance is chosen.

From passive knowledge to active knowledge

Knowledge is always passive at first and then becomes available for active use. This also applies to language learning. Understanding must be present first, before active speech can be employed. It normally takes quite a while before the newly acquired language is available for truly active use.

• From simple to complex speech

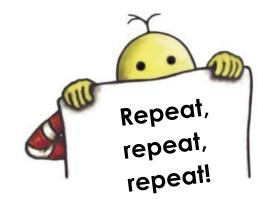
Children learning a first language operate at first with one-word and then two-word utterances, until their speech slowly becomes more and more complex. The learning of a second language happens in the same way. Start by building up vocabulary and then introduce simple exercises before eventually moving on to construction of complex sentences.



The KIKUS Principles

Remember:

- Use standard speech
- Speak slowly and clearly
- Maintain eye contact
- Make use of mime and gestures
- Change your intonation and play with your voice
- Each child gets a turn for all utterances
- Quickly provide assistance with utterances
- Correct mistakes (within limits)
- Praise praise praise!





Practice makes perfect. Give your children the practice time they need by reinforcing vocabulary and utterances.

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Safety and Hygiene

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General safety and hygiene for experimentation

- Utensils required for experiments should not be used for any other purpose.
- Make sure that children with long hair wear it tied back, and that the children's clothing is not too loose (especially sleeves).
- Children should not eat or drink anything while they are carrying out experiments (exceptions are possible, but only if you specifically waive this rule).
- Ensure that containers with chemicals (e.g. ink) or other materials for experimentation (sugar, cooking oil, as well as trash, etc.) are always precisely labelled and clearly marked as experimentation material. That applies in particular when material is transferred into other storage containers.
- Talk to the children about potentially dangerous materials and explain to them how to handle these substances safely.
- Label the containers with dangerous or toxic substances using appropriate symbols.
- The existing safety information should be discussed and if necessary the Course Leader, together with the children, should draw up new information and instructions.
- Always clean and pack away all materials and implements used for an experiment after the class.

Don't leave any such items lying around!



Using the Lesson Plans and Worksheets

How to use the lesson plans and worksheets

Lesson Plans

In the section below we present a number of ready-to-use, practical lesson plans which were designed for use with a group of six children. They are aimed at pre-school children (ages 4-6), but can be adapted for slightly older children as well. We have found that many of these lessons plans can also be used as part of the children's school curriculum during 'life skills' lessons.

Please note that the order of lesson plans can be changed. We have included more detailed plans at the beginning to highlight the complete lesson structure. Later lesson plans are abbreviated and, in some cases, only include the experimentation part.

For ease of reference, we have included the '*Standard Opening Ritual*' (Page 19) at the beginning of the Lesson Plan Section, which can be used and adapted to fit in with any of the lesson plans. There is also a blank lesson plan (Page 108) which can be used to develop further lesson plans.

For each lesson plan, there is a primary topic which contains the experiment, and an integrated learning topic (see Page 18). For example, in the 'Senses (Touch)' lesson plan, the integrated learning topic is 'Fruit'. We have found that combining language content with each experiment produces positive learning outcomes.

Most lesson plans are intended for 45–90 minute lessons. However, some of them (e.g. 'Sink & Float') could be divided up for use in two consecutive lessons instead.

The Course Leader uses Momo

& Mimi to help the children speak.

Worksheets

Worksheets related to several of the suggested lesson plans in this handbook are attached. Some of the worksheets can be used as a follow-up to a lesson, e.g. the worksheet for '*Sink and Float*' is based on the activity from the lesson, but the items used in the worksheet are different from those used in the lesson itself. The worksheets can be distributed to the children after the experimentation process has been completed. Either the children can take them home to complete them with the help of a parent or other family member, if possible, or else the course leader can make use of them within the actual lesson.

A special mention needs to be made about the Little Books that are used as homework activities for some of the lessons (e.g. '*Chocolate Pudding*'). The children really enjoy taking these home and explaining the experiment to their family. In some cases, they may even decide to repeat the experiment at home. On the other hand, the teacher may want to make and use the booklets during the lesson.

Sequencing Cards for group work have also been provided.



Please note that worksheets and booklets have been printed in lower case so as to not confuse children who are learning to read and spell.

Using the Lesson Plans and Worksheets



Standard Teaching Aids used in the KIKUS Lesson

Momo and Mimi, the Magic Bag and the Magic Cloth are standard teaching aids that are used in a typical KIKUS lesson.

Momo and / or Mimi



Any two dolls can be used.

Magic Bag



Ideally use a cloth bag that looks interesting.

Magic Cloth



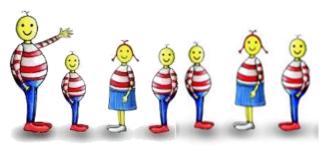
Any piece of cloth or a small blanket can be utilised.



Overview of Experiments



Торіс	Experiment	Researcher Question	Integrated Learning Outcome
I. Colours	Naming and Mixing Colours	What colour do you see? What will happen if you mix two primary colours?	Sorting
II. Sink & Float	Objects That Sink or Float	Which objects will sink and which objects will float?	Naming Sea Animals & Colours
III. Senses (Touch)	Feeling Memory Game	What do we use our hands for? Can we 'see' with our hands?	Fruit
IV. Measuring Weight	Using a Scale	What feels heavy and what feels light?	Opposites with Fruit
V. Senses (Vision)	Reflections in a Mirror 🛛 🇌	Why do we see many reflections in a mirror?	Making Patterns
VI. Leaf Shapes & Patterns	Leaf Shape Patterns 1	Do all leaves have the same shape?	Magnification
VII. Leaf Shapes & Patterns	Leaf Shape Patterns 2 (follow-up lesson)	Can you find leaves that match a pattern?	Counting & Sorting
VIII. Water Pollution	Water Hodgepodge	How does water become polluted?	Sink & Float
IX. Air Power	Making Bubbles	How can we make bubbles?	Naming Farm Animals
X. Weather	Rain Cloud in a Vase	Why is it raining? Where does the rain go?	Sequencing
XI. Mixing Ingredients	Chocolate Pudding	How do we make pudding?	Verbs



Standard Opening Ritual



This is the standard opening ritual to be used with all lesson plans. This ritual can be adapted slightly to suit each individual lesson.

PHASE	ACTIVITY		UTTERANCES		VOCABULARY, GRAMMAR, COMMUNICATION PATTERNS
INTRODUCTION	Greet each child at the door and let him / her find something yellow or blue on the chairs. The children can discuss items / colours while the Course Leader (CL) is busy.	Сн:	Good morning, NAME! Good morning, teacher! Find a chair with something yellow / blue and sit down.	V: G: CP:	good morning, something, yellow, blue imperative; adjectives greeting, instructing
REVISION	Sit on chairs in a circle. One yellow box and one blue box (with relevant KIKUS Adjective Cards) are in the middle. Each child puts his / her item into the correct box.	CH 1: CH 1: CH 1: CH 2:	NAME (CH1), what do you have? I have (something) yellow / blue. NAME (CH2), what do you have? I have (something) yellow/blue. [Repeat with each child]	V: G: CP:	what, have, something, yellow, blue question word: what; adjectives; verb: to have question-answer pattern
TAKING ATTENDANCE	Attendance list – one child checks the attendance using gesture.	CH 1: CH 2:	I am here, you are all here, is NAME (CH2) here? Yes I am. [Repeat for each child]	V: G: CP:	here, I, you verb: to be; adverb of location: here, personal pronouns: I, you roll call, taking attendance
COUNTING	Counting off with each child standing up and then sitting back down (either forwards only, or forwards and then backwards, with the 'rocket' blasting off at 0).	Сн 1-6: Сн 1-6:	Let's count! 1, 2 ,3, 4, 5, 6 Can we count in Xhosa?	V: G: CP:	one, two, three, four, five, six imperative; modal verb: can counting
'HELLO' SONG	Incorporate the home language. Sing the 'Hello' song and act out the movements.	V	Song text (see Appendix)	V: G: CP:	jump, walk, run, talk, sing, play pronoun: we; modal verb: can greeting

A

Course Leader

Mimi Vocabu

.0

Momo

(сн)

Child / ren

Vocabulary Grammar

V

(G)

(CP)

Communication Patterns







Description of Experiment

STEP 1:	Pour water into two cups.
STEP 2:	Drip blue food colouring into
	one cup.
STEP 3:	Drip yellow food colouring int

the other cup.

STEP 4: Pour the coloured water from both cups into a big jug.

Discovery

Mixing clear water with colour creates a lighter shade of the same colour. If two primary colours are mixed (e.g. blue and yellow), a secondary colour (e.g. green) is created.

Worksheet

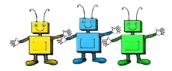
Mixing Colours (Page 68)

Materials to be Provided

- food colouring (yellow & blue)
- 6 cups
- 6 pipettes
- 6 spoons (for stirring)
- jug of water and empty jug

Additional Material

- yellow mat
- blue mat
- green mat
- blue/yellow item placed on each chair before the lesson (e.g. clothes pegs, crayons, bottle tops, blocks)
- Magic Cloth (MC)
- Momo or Mimi
- KIKUS Picture Cards 'adjectives' (see Resource List)



What colour do you see? What will happen if you mix two primary colours?



Experiment: Naming and Mixing Colours - Pg. 2 of 4

PHASE	ACTIVITY		UTTERANCES		VOCABULARY, GRAMMAR, COMMUNICATION PATTERNS
INTRODUCTION	Greet each child at the door and let him / her find something yellow or blue on the chairs. The children can discuss items / colours while the Course Leader (CL) is busy.	О Сн:	Good morning, NAME! Good morning, teacher! Find a chair with something yellow / blue and sit down.	V: G: CP:	yellow, blue imperative; adjectives
REVISION	Sit on chairs in a circle. One yellow box and one blue box (with KIKUS- Cards - adjectives) are in the middle. Each child puts his/her item into the correct box.	СН 1: СН 2:	NAME (CH 1), what do you have? I have (something) yellow / blue. NAME (CH 2), what do you have? I have (something) yellow / blue. [Repeat with each child]	V: G: CP:	what, have, something, yellow, blue question word: what; adjectives; verb: to have question-answer pattern
TAKING ATTENDANCE	Attendance list – one child checks the attendance using gesture (pointing to him / herself and then others).	CH 1: CH 2:	I am here, you are all here, is NAME (CH 2) here? Yes I am. [Repeat for each child]		here, I, you verb: to be; adverb of location: here, personal pronouns: I, you roll call, taking attendance
COUNTING	Count from 1 to 6 with each child standing up and repeat sitting down, with the rocket blasting off at 6.		Let's count! 1, 2, 3, 4, 5, 6	V: G: CP:	one, two, three, four, five, six imperative; modal verb: can counting
'HELLO' SONG	Incorporate the home language. Sing the 'Hello' song and act out the movements.	() ()+ СН	Can we count in Xhosa? Song 1 text (Page 74)	G:	jump, walk, run, talk, sing, play pronoun: we; modal verb: can greeting
INTRODUCTION OF NEW TOPIC	Magic Cloth (MC) covering food colouring, pipette, cups. Children can feel what might be under the MC.	CH 1: CH 2:	What can you feel? I can feel What can you feel? [Repeat for each child]	V: G: CP:	feel question word: what; modal verb: can guessing, question-answer pattern





Experiment: Naming and Mixing Colours - Pg. 3 of 4

PHASE	ACTIVITY		UTTERANCES	VOCABULARY, GRAMMAR, COMMUNICATION PATTERNS
MAGIC SPELL	Magic spell: Children and CL cast the magic spell to build up excitement and in the end all objects under the MC are revealed.	О́ СН	Abra-ca-dabra, 1, 2, 3. Abra-ca-dabra, let us see!	V: one, two, three G: imperative form of verb: to let CP: counting, requesting
NAMING ITEMS USED IN THE EXPERIMENT	Take off the MC and name (shout, whisper, etc.) each item (1 pipette, 1cup, 1 spoon, 1 bottle of yellow/blue food colour, water in a bottle). CL takes an item (and passes it around).	Сн: Сн: Сн: Сн:	l see a pipette, We see a pipette, (too). I see a We see a, (too).	 V: water bottle, pipette, cup, spoo yellow bottle, blue bottle G: personal pronoun: I, present tense of verb: to see, indefinite article: a CP: naming, describing
EXPERIMENT	Each child gets his / her items from the material table (Momo = 'shopkeeper'). Children sit at the activity table. Jug of water is on the table. Each child fills his / her two cups with water and puts a drop of yellow food colouring into one cup and stirs. Then puts a drop of blue food colouring into the other cup and stirs (a lighter shade of the same colour is visible). Each child pours the yellow and the blue water into one big jug. They observe that mixing yellow and blue makes green.	СН 1-6: Х СН 1-6: Х СН СН	May I have a pipette please? Here it is. Thank you! Pleasure. Open Conversation [Children share observations and thoughts] Look. What happens now? Green. Yellow and blue make green. What is yellow / blue / green in your	 V: pipette, cup, spoon G: modal verbs: can, may; pronoun: it; verb: to be CP: requesting V: yellow, blue, green CP: describing
MOVEMENT	Jumping sentence:	Сн: Сн: Сн:	other language? [Jumping to yellow mat] Yellow and [Jumping to blue mat] blue [Jumping to green mat] make green.	V: yellow, blue, green G: present tense of verb: to make; conjunction: and



Experiment: Naming and Mixing Colours - Pg. 4 of 4

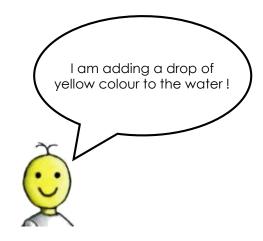
PHASE	ACTIVITY	UTTERANCES	VOCABULARY, GRAMMAR, COMMUNICATION PATTERNS
HOMEWORK	Mimi comes in and wants to know what the children did. The children explain the experiment with the CL's help. Distribute worksheet.	What did you do? Open Conversation CH 1-6: Can I have a worksheet, please?	
CLOSING RITUAL	Farewell Song: sung by all (to the tune of 'Good Night, Ladies'). Sing 'Good-bye, NAME', using the name of each of the children in turn. Variation: show KIKUS cards (yellow, blue, green) and first sing the song using the colour words. Then switch to the names of the individual children.	 Good-bye COLOUR (x3). It's time for us to go. CH 1-6: Good-bye COLOUR (x3). It's time for us to go. 	 V: good-bye G: pronouns: it, us; verb: to go; contraction: it's CP: farewell

Notes

If the children already know the names of the colours one can introduce more colours at the same time and let them experiment with the mixtures (e.g. red & blue = purple, red & yellow = orange). However, it is advisable to use only two colours if the group does not know the colours, as in the example lesson above.

Alternatively, or as a follow-up experiment, one can introduce Crazy Clay or Finger Paint to the group. The children can mix yellow and blue colours together and the result is the same! Further ideas for target utterances one could use:

- I am / we are pouring water into the jug.
- We are mixing yellow and blue.







Materials to be Provided

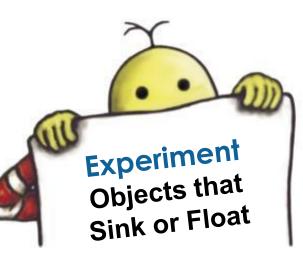
- large clear container
- toy boat
- coin
- jug of water
- natural beach objects:
 - sink: stone, sand, shell
 - float: feather, seaweed, sponge, piece of wood or a stick

Additional Materials

- Book: 'Little White Fish' (see Resource List)
- Song 2: 'Five Little Ducks' (Page 107)

Toys or paper cut-outs:

- little white fish
- bigger fish with rainbow colours
- red crab, orange starfish, yellow snail, green turtle, blue whale





Which objects will sink and which objects will float?

Description of Experiment

STEP 1:	Fill the container with water.
STEP 2:	Demonstrate that the coin sinks
	and the boat floats.
STEP 3:	Choose an object.
STEP 4:	Predict what will happen when
	the object is placed in the
	water.
STEP 5:	Put the object in the water to
	see if it sinks or floats.
STEP 6:	Describe what happens.

Discovery

In water, some objects float at the top, some objects sink to the bottom and others dissolve. This depends on the shape, weight and material of the object.

Worksheet

Objects that Sink or Float (Page 70)



Experiment: Objects that Sink or Float - Pg. 2 of 5

PHASE	ACTIVITY		UTTERANCES		VOCABULARY, GRAMMAR, COMMUNICATION PATTERNS
INTRODUCTION	Saying 'Hello' at the door.	СН 1: СН 1: СН 1:	Hello NAME. Hello Christina How are you? I am fine. [Repeat for CH 2-6]	V: G: CP:	hello question word: how; subject-verb agreement: I am / you are greeting, question–answer pattern
TAKING ATTENDANCE	Attendance list.	CH 1:	Is NAME here? Yes, I am here. [Repeat for CH 2-6]	G: CP:	question inversion; verb: to be; adverb of location: here roll call
REVISION	Mimi instructs the Course Leader (CL) where to sit (demo). Thereafter, the children instruct each other. Integrate home languages.	4	Christina, please sit on the blue chair. NAME, please sit on the COLOUR chair. Let's hear what the colours are called in your other languages.	V: G: CP:	blue, red, green, yellow, chair preposition: on; imperative; adjectives instructing
SONG / MOVEMENT	'Hello' Song.		[Listen to the music, sing the song together and act out the movements]	V: G: CP:	jump, walk, run, talk, sing, play pronoun: we; modal verb: can greeting
INTRODUCTION OF NEW TOPIC / BOOK	Book: 'Little White Fish'. CL reads the book and encourages the children to join in. N.B.: Do not read the story straight from the book – use the utterances as shown here.	С Сн: С	Mimi and I went to the beach the other day. Have you been to a beach before? Open conversation Are you my mommy? No, I am the SEA ANIMAL. [Chorus while reading] The SEA ANIMAL is COLOUR.	V: G: CP:	fish, crab, snail, turtle, whale, starfish, octopus question inversion; verb: to be; personal pronouns: you, 1 question-answer pattern





Experiment: Objects that Sink or Float - Pg. 3 of 5

PHASE	ACTIVITY		UTTERANCES		VOCABULARY, GRAMMAR, COMMUNICATION PATTERNS
	CL goes to each child with the Magic Bag (MB).	() Сн:	What can you feel? I can feel	V: G: CP:	feel question word: what; modal verb: can guessing, question-answer pattern
MAGIC BAG	Each child takes something out of the MB.	CH:	I have the SEA ANIMAL and it is COLOUR. [Repeat with each child]	V: G:	red crab, orange starfish, yellow snail, green turtle, blue whale, purple octopus verb: to have; conjunction: and; adjectives describing
MOVEMENT	Acting out the book – one child is the little white fish and asks the others.	CH 2: CH 1:	Are you my mommy? No, I am the crab and I am red. Are you my mommy? No, I am the starfish and I am orange.	G:	crab, starfish, snail, turtle, whale, octopus, red, orange, yellow, green, blue, purple question inversion; verb: to be; subject-verb agreement: I am / you are question-answer pattern
	Magic Cloth hiding bucket with beach objects & large container with water plus coin and toy boat.	CH:	[Chorus] Abra-ca-dabra, 1, 2, 3. Abra-ca-dabra, let us see!	V: G: CP:	one, two, three imperative form of verb: to let counting, requesting
EXPERIMENT	Demonstration: CL puts boat in the container.	6 6	I am going to put the boat in the water. What do you think will happen? Let's see: Will it sink or will it float? [Using gestures] It floats. [Using gesture]	V:	boat
	Demonstration: CL puts coin in the container.	6 6	I am going to put the coin in the water. What do you think will happen? Let's see: Will it sink or will it float? [Using gestures] It sinks. [Using gesture]	V:	coin

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Experiment: Objects that Sink or Float - Pg. 4 of 5

PHASE	ACTIVITY	UTTERANCES	VOCABULARY, GRAMMAR, COMMUNICATION PATTERNS
	Experiment with things found outside. Children are free to experiment with objects they have found. The children show each other what happens with their objects.	 Now all of you can try it out. We'll go outside to collect some things to try out in our experiment. Open Conversation 	
EXPERIMENT CONTINUED	CL shows all the things that she and Mimi found on the beach the other day. Each child chooses something from Mimi's beach bucket and predicts whether it will sink or float. Then s/he experiments.	 CH 1: Can I have this please? Yes, this is seaweed. Here you are. CH 1: Thank you! Pleasure. What do you think will happen? Will it sink or will it float? [Using gestures] CH 1: It will sink. [Puts it in the water] CH 1: It sinks. [Repeat for all children] 	 V: stone, sand, shell, seaweed, sponge, feather, wood / stick G: question inversion; modal verb: can; object deixis: this CP: requesting, choosing V: sink, float G: personal pronoun: it; present and future tense of the verb: to be CP: predicting, describing, concluding
SONG	'Five Little Ducks' - Song 2 (Page 86)	Five little ducks went out one day, over the hills and far away. Mother duck said: quack, quack, quack, quack, and only four little ducks came back. Four little ducks went out one day	 V: ducks, hills, mother duck, five, little G: plurals: ducks, hills; past tense: went, said, came CP: counting, sequencing
HOMEWORK	Distribute worksheet.	 CH 1-6 Can I have a worksheet please? [CL hands out worksheet] CH 1-6 Thank you. Pleasure. 	 V: worksheet G: question inversion; modal verb: can CP: requesting
CLOSING RITUAL	Farewell Song: sung by all (to the tune of 'Good Night, Ladies'). Sing 'Good-bye, NAME', using the name of each of the children in turn. Variation : sing the song using the sea animal words. Then switch to the names of the individual children.	 Good-bye SEA ANIMAL (x3). It's time for us to go. CH 1-6 Good-bye SEA ANIMAL (x3). It's time for us to go. 	 V: good-bye G: pronouns: <i>it</i>, us; verb: to go; contraction: <i>it</i>'s CP: farewell
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Notes

This lesson plan includes many vocabulary items (sea animals, colours etc.) and is therefore useful for slightly more advanced learners. At a lower level, one could reduce the amount of vocabulary as well as the expectation in terms of utterance, for instance:

• The stone will sink. The feather will float, etc.

The lesson plan includes many ideas and could also easily be divided into various parts to fill a number of lessons. For example, the first lesson could end after the children have experimented with the objects they have found outside.

In the next lesson, the CL could introduce the beach materials and the experiment would then be repeated using these. Similarly, one could sing the 'Five Little Ducks' song in one lesson and the 'Farewell' song in the next.







For more advanced learners, the experiment could be extended to explore whether something that sinks can be changed to make it float, e.g. a ball of modelling clay will sink, but if you mould the modelling clay into a boat, it will float.



Materials to be Provided

- fruit: banana, pineapple, guava, granadilla, mango, orange, avocado (2 of each)
- 7 boxes or tins
- basket
- blindfold

Additional Materials

- Book: 'Handa's Surprise' (see Resource List)
- Magic Cloth (MC)
- Momo or Mimi



What do we use our hands for? Can we 'see' with our hands?

Description of Experiment

- STEP 1: Observe, describe and name the fruit.
- STEP 2: Each child chooses a different piece of fruit.
- STEP 3: Place one of each pair of fruit in a box, then line up the boxes.
- STEP 4: Place a blindfold on the child.
- STEP 5: Each child gets a turn to feel the fruit in each box and predict which one matches his or her fruit.

Discovery

If we pick up an object we notice how it feels. We can compare objects by feeling their size, shape, weight and surface characteristics.

Worksheet

Fruit Memory Game (Page 72)



Experiment: Feeling Memory Game - Pg. 2 of 3

PHASE	ACTIVITY		UTTERANCES	VOCABULARY, GRAMMAR, COMMUNICATION PATTERNS
OPENING RITUAL	<u>Ľi șii și</u>			
INTRODUCTION OF NEW TOPIC	Fruit is placed under the Magic Cloth (MC). The children feel what might be hidden under the MC.CL asks Momo which fruit he likes. Then the children ask each other.Each child keeps the piece of fruit they have chosen.	 	Do you want to know what is under the magic cloth? Let's say our magic spell! Abra-ca-dabra, 1, 2, 3. Abra-ca-dabra, let us see! Momo, what do you like? [Momo picks a fruit] I like the FRUIT. NAME, what do you like? I like the FRUIT. NAME, what do you like?	 V: banana, orange, avocado, mango, guava, granadilla, pineapple G: question: do-support; definite article: the CP: question-answer pattern
BOOK	Book: 'Handa's Surprise'. CL reads the book and encourages the children to comment on each page.	() Сн:	Look at the monkey! The monkey took the banana! The monkey took the banana. [Chorus while reading]	 V: banana, orange, avocado, mango, guava, granadilla, pineapple, monkey, ostrich, zebra, elephant, giraffe, buck, bird, goat G: past tense of irregular verb: to take CP: describing
EXPERIMENT	Feeling Memory Game	0	What do we use our hands for? Can we see with our hands? Everybody, close your eyes and feel the fruit that you are holding. Now we'll play a feeling memory game.	





Experiment: Feeling Memory Game - Pg. 3 of 3

PHASE	ACTIVITY		UTTERANCES	VOCABULARY, GRAMMAR, COMMUNICATION PATTERNS
EXPERIMENT CONTINUED	Preparation of experiment: Momo shows the children that he has a basket filled with fruit (use the same types of fruit that were hidden under the MC). These are placed in the feely boxes which he then shuffles. CL and Momo demonstrate what to do next.	Ť	CL, find your FRUIT! [CL goes over to the boxes, Momo puts a blindfold on her and then she feels the fruit in each box. She chooses the one that matches hers] My FRUIT is in this box! [Places her fruit in front of this box] NAME, find your FRUIT!	
	Each child experiments and predicts where his/her fruit belongs.	CH 1: CH 2:	My FRUIT is in this box! [Places his / her fruit in front of this box] NAME, find your FRUIT! My FRUIT is in this box. [Repeat for all children]	 V: banana, orange, avocado, mango, guava, granadilla, pineapple G: possessive pronoun: my; preposition: in; deixis: this CP: describing
DBSERVATION / CONCLUSION	Contents of boxes are revealed. Do they match?		Open Conversation	
HOMEWORK	Distribute worksheet.	CH 1-6: CH 1-6:	Can I have a worksheet please? Thank you. Pleasure.	V: worksheet, thank you G: question with modal: can CP: requesting
This lesson, wh other material when you touc	See lessons 1, 2 or 9 for ideas. Tom this experiment, one could develop f hich focused on the sense of touch, co s and games in which the children can ch them. Similarly, one could focus on th experiment (see Resource List – Experimen	ould be ex n further ex ne sense of	panded by incorporating xplore the way things feel f taste, e.g. by conducting	

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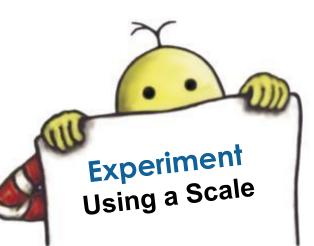
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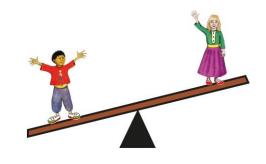
Communication Patterns

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Vocabulary







Materials to be Provided

- heavy gym weight (dumbbell)
- feather
- balancing scale
- fruit:
 - heavy: pineapple, mango, orange
 - o light: strawberry, grape, lemon

Additional Materials

Magic Cloth (MC)



What feels heavy and what feels light?

Description of Experiment

- STEP 1: Choose two different types of fruit.
- STEP 2: Place one in each hand and try to predict which one is heavy / light by feeling their weight.
- STEP 3: Place the fruit in the scale and test your prediction.
- STEP 4: Describe what happens when the fruit is in the scale.

Discovery

When two objects are placed in a balancing scale, the side with the heavier of the two objects will go down and the side with the lighter of the two objects will go up.

Worksheet

Heavy or Light (Page 74)



Experiment: Using a Scale - Pg. 2 of 3

PHASE	ACTIVITY	UTTERANCES	VOCABULARY, GRAMMAR, COMMUNICATION PATTERNS
OPENING RITUAL	Ét șit și		
INTRODUCTION OF NEW TOPIC	The Course Leader (CL) demonstrates the difference between 'heavy' and 'light' using the dumbbell and the feather: dumbbell in one hand held down low and feather in the other hand held up high. Each child takes a turn to experience and demonstrate.	This is heavy and this is light.CH 1-6: This is heavy and this is light.	 V: heavy, light G: object deixis: this; verb: to be; conjunction: and CP: describing
	Fruit is placed under the Magic Cloth (MC). Children take turns guessing what is under the MC.	What can you feel?CH 1-6: I can feel What can you feel?	 V: feel G: question word: what; modal verb: can CP: guessing, question-answer pattern
	Magic spell. Children and CL say the magic spell to build up excitement and in the end all objects under MC are revealed.	CH: [Chorus] Abra-ca-dabra, 1, 2, 3. Abra-ca-dabra, let us see!	V: one, two, threeG: imperative form of verb: to letCP: counting, requesting
EXPERIMENT	CL chooses two different types of fruit, holds one in each hand and predicts which one is heavy and which one is light (holds heavy one down low and light one up high). Then the fruit is placed in the balancing scale to test the prediction. Children take turns doing the same.	 I choose the FRUIT and the FRUIT. The FRUIT feels heavy and the FRUIT feels light. [Places fruit in scale] The FRUIT is heavy and the FRUIT is light. CH 1-6: I choose the FRUIT and the FRUIT. The FRUIT feels heavy and the FRUIT feels light. [Places fruit in scale] The FRUIT is heavy and the FRUIT is 	 V: choose, feel, heavy, light, pineapple, mango, orange, grape, strawberry, lemon G: personal pronoun: I; verbs: to choose, to feel, to be; definite article: the; adverbs: heavy, light; conjunction: and CP: describing, predicting, concluding
HOMEWORK / CLOSING RITUAL	See lesson 1, 2 or 9 for ideas.	light.	

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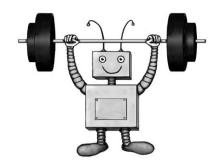
Notes

This lesson plan can be used in conjunction with the 'Senses (Touch)' lesson plan, since both include fruit. Or one could replace the fruit with vegetables if this is the chosen vocabulary topic. Similarly, it could be done using other types of everyday objects. The lesson could also be expanded to look at what combination of objects might balance the scale. It would be interesting for older children to experiment with objects that contradict expectations, e.g. a small heavy ball vs a large light one. A further idea would be to use the lesson in conjunction with a more general lesson on opposites.

In the earlier part of the lesson one could use a 'shopping' activity to 'buy' the fruit / vegetables / objects needed for the experiment.

In terms of utterances, one could include comparatives and superlatives for more advanced language content, e.g.

- The FRUIT is heavier than the FRUIT.
- The FRUIT is lighter than the FRUIT.
- The FRUIT is the heaviest.
- The FRUIT is the lightest.









- 18 small, square mirrors (3 mirrors per child or pair of children)
- sticky tape
- bright items (eg. beads, glitter, straws, scrap)

Additional Materials

- Magic Bag (MB)
- Momo or Mimi
- optional: 6 fake glasses on a stick (Template for Glasses - see Page 78)



Why do we see many reflections in a mirror?

Description of Experiment

- STEP 1: Take three small, square mirrors (10-15 sq cm).
- STEP 2: Put one of the mirrors flat on the table and stand the other two mirrors up alongside the flat one.
- STEP 3: Use sticky tape to hold them together (you might need to do this preparation before your lesson, depending on your time frame).
- STEP 4: Arrange small bright items on the bottom mirror.

Discovery

An arrangement of objects placed on a mirror is repeated continuously as it is reflected in other mirrors.

Worksheet

Reflection in the Mirror (Page 76)



Experiment: Reflections in a Mirror - Pg. 2 of 3

PHASE	ACTIVITY		UTTERANCES		VOCABULARY, GRAMMAR, COMMUNICATION PATTERNS
OPENING RITUA					
INTRODUCTIOI OF TOPIC	Place mirrors in Magic Bag (MB). The children feel and guess what might be in the MB.	() CH 1-6:	What can you feel? I can feel What can you feel?	V: G: CP:	feel, can question word: what, modal verb: can question-answer pattern, guessing
MAGIC BAG	Take out one mirror and name it (shout, whisper, etc.) Include the home language.	Сн: СН:	It is a mirror. Mirror. [Chorus] What do you call a 'mirror' in your other language?	V: G: CP:	mirror pronoun: it; verb: to be; indefinite article: a describing
	The children move to the experiment tables. Six sets of 'magic mirrors' are already prepared. The children experiment with the mirrors and see their own faces reflected in the mirrors	() ()	Please go to the experiment table. What can you see?		
EXPERIMENT	Materials like beads, stones, etc. are on the tables for sharing. The children are free to arrange items on the bottom mirror. They show each other what they create through the arrangement of items.		Open Conversation		





Experiment: Reflections in a Mirror - Pg. 3 of 3

PHASE	ACTIVITY		UTTERANCES		VOCABULARY, GRAMMAR, COMMUNICATION PATTERNS
OBSERVATION / CONCLUSION	Each child can show the group his / her arrangement and they see that it repeats again and again as each mirror reflects it.	Ô	How many beads can you see? Let's count.		
MOVEMENT	The children go outside with a pair of fake glasses. They can look for something interesting and tell the group what it is. All the children have to look for an object with their own glasses.	О СН 1-6:	What can you see with your eyes? I can see ITEM with my eyes. What can you see with your eyes?	V: G: CP:	see, eyes plural: eyes; verb: to see; question: what; modal verb: can; pronouns: you, your; preposition: with guessing
HOMEWORK	Return to class. Distribute worksheet.	Сн: СН:	I have some worksheets for you. Can I have a worksheet, please? Here it is.	V: G: CP:	worksheet question; modal verb: can requesting
CLOSING RITUAL	See lesson 1, 2 or 9 for ideas.				

Notes

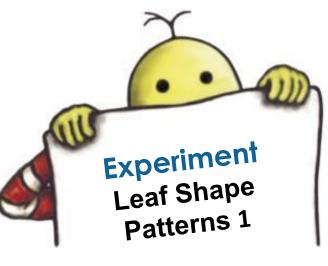
This science activity is ideal for introducing singular and plural forms, e.g. if the lesson topic is 'animals' the children can be made aware of the difference between singular and plural by placing one animal on the magic mirror, where it is reflected numerous times.

In the language exercise, the children take one animal out of the magic bag and a possible target utterance could be: "I have one elephant!" After each child has chosen an animal the group goes to the 'magic mirror'. Now each child has a turn to put his/her animal on the bottom mirror and to count the animals s/he sees in the mirror. The target utterance would change to: "I see four elephants!"









- 6 magnifying glasses
- different shapes of leaves from plants or trees
- wax crayons
- paper

Additional Materials

• Magic Cloth (MC)



Do all leaves have the same shape?



Description of Experiment

STEP 1:	Choose a leaf and study the shape and texture with a magnifying glass.
STEP 2:	Lay a leaf under a piece of paper.
STEP 3:	Rub a crayon over the paper until the leaf pattern appears. Do more rubbing with different leaves.
STEP 4:	Compare what different kinds of patterns the leaves show.
NOTE:	Keep these patterns for the follow- up lesson!

Discovery

Leaves come in different shapes and sizes (to help plants to survive in different conditions). Magnifying glasses are used to make objects appear larger and to see more detail.

Worksheet

Matching Game – Leaves (Page 80)



Experiment: Leaf Shape Patterns 1 - Pg. 2 of 3



PHASE	ACTIVITY		UTTERANCES		VOCABULARY, GRAMMAR, COMMUNICATION PATTERNS
OPENING RITUAL	<u>Ľi șii și</u>			_	
INTRODUCTION OF NEW TOPIC	Various leaves are hidden under the Magic Cloth (MC). The children touch and guess what might be under the MC. The magic words are chanted and the leaves are revealed. The children study the different leaves. The Course Leader (CL) makes children aware of singular and plural of the word 'leaf'. CL asks the children about the word for 'leaf' in their home language.	Сн 1: Сн 2: Сн:	What can you feel? I feel something What can you feel? I feel something, etc. [Chorus]: Abra-ca-dabra 1,2,3, Abra-ca-dabra, let us see (2x) [Chorus : loudly & whispering]: one leaf. [Chorus: loudly & whispering]: many leaves. What is the word for 'leaf' in your other language?	V: G: CP: G: CP: V: G: CP: CP:	modal verb: can; personal pronouns: I, you guessing one, two, three imperative form of the verb: to let counting, requesting leaf, leaves, one, many singular / plural: leaf / leaves
EXPERIMENT	Momo joins the group and distributes magnifying glasses. Each child is given the opportunity to experiment with the magnifying glasses and look at various leaves. CL gives ideas about what to look for (e.g. veins, colours, size of the leaf stems).	U	I would like a magnifying glass, please! I would like a magnifying glass, please! Can you find the same leaves? What is the difference between the leaves? What colours, sizes, etc. are the different leaves?	V: G: CP:	magnifying glass personal pronoun: I; auxiliary and verb: would like requesting





Experiment: Leaf Shape Patterns 1 - Pg. 3 of 3

PHASE	ACTIVITY	UTTERANCES	VOCABULARY, GRAMMAR, COMMUNICATION PATTERNS
ARTS AND CRAFTS	Momo shows an example of his worksheet with a traced leaf and demonstrates how he made it. Children ask for materials. Children put a leaf under the paper and rub a crayon over the paper until the leaf pattern shows. CL may assist children.	 First I put the leaf under my paper. Then I rubbed a crayon over the paper until my leaf / pattern showed. CH 1-6: May I have a paper / crayon, please? Here it is. Open Conversation CH: Can you help me? 	 V: paper, crayon G: modal and verb: may have; personal pronoun: <i>I</i>; indefinite article: <i>a</i> CP: requesting V: <i>help</i> G: question inversion; modal and verb: can <i>help</i>; personal pronouns: <i>you, me</i> CP: requesting
OBSERVATION / CONCLUSION	Children see what different kinds of patterns the leaves produce.	[Share observations and compare leaves - patterns, sizes, colours, etc.]	
HOMEWORK / CLOSING RITUAL	See lesson 1, 2 or 9 for ideas.		





 leaves of four different shapes from plants or trees

Leaf Memory Game (prepared in advance):

- 4 different leaf patterns, with 2 of each shape from previous lesson
- cardboard squares (10x10 cm), scissors, glue
- leaf patterns pasted onto the squares so that there are 2 matching patterns of each type of leaf

Additional Materials

- Magic Bag (MB)
- Momo or Mimi

Experiment Leaf Shape Patterns 2 (follow-up lesson)



Can you find leaves that match a pattern?

Description of Experiment

STEP 1:	Spread leaves from 4 types of plants on the table (5 or more of each type).
STEP 2:	Each child is given 4 cards from the Leaf Memory Game (1 card of each type).
STEP 3:	Find the matching leaves, count and sort them.
STEP 4:	Play a game using the Leaf

Memory Game prepared in advance for this experiment.

Discovery

A traced leaf pattern can be matched with the corresponding type of leaf. Leaves from the same plant look slightly different, but have a similar pattern.



Experiment: Leaf Shape Patterns 2 - Pg. 2 of 3

PHASE	ACTIVITY		UTTERANCES		VOCABULARY, GRAMMAR, COMMUNICATION PATTERNS
OPENING RITUAL	Ét șit și			_	
INTRODUCTION OF NEW TOPIC	The Course Leader (CL) presents the Magic Bag (MB), which is filled with leaves. Each child can feel and guess what might be in the MB.	CH 1: CH 2-6:	What can you feel? I feel something What can you feel?	V: G: CP:	to feel, something question word: what; modal verb: can; personal pronouns: I, you guessing
	CL spreads out all the leaves from the MB. Four different types of leaves can be identified. CL gets the children to think about the different types of leaves.	0	Are these leaves all the same? Can you see different shapes? Can you see different patterns?	V:	same, leaves
COUNTING / SORTING	CL presents four different leaf patterns from the Leaf Memory Game. Children work in teams, sorting and counting how many matching leaves they find. Children count in their home language.	СН 1-6:	Open Conversation one leaf, two leaves Can you count in your language?	V: G: CP:	numbers one to six (English) singular: leaf; plural: leaves counting
GAME	Leaf Memory Game: CL sets out two of each kind of leaf and the children must find the matching ones.	CH 1-6:	These leaves are the same / not the same.	V: G: CP:	leaves, same deixis: these; verb: to be describing
MOVEMENT	Game: 'Hide and Seek the Leaf' Children cover their eyes and Momo hides a leaf. The first child to spot the leaf hides it for the next round. Each child gets a turn.	х Сн 1-6:	Turn around and close your eyes. [Hides the leaf] Open your eyes. Where is the leaf? Turn around and close Your eyes. [Hides the leaf] Open your eyes. Where is the leaf?	V: G: CP:	leaf, close, open, where imperative: turn around; close your eyes; open your eyes; conjunction: and; question word: where; verb: to be instructing
CLOSING RITUAL	See lesson 1, 2 or 9 for ideas.				

Course Leader Child / ren Momo Mimi Vocabulary Grammar Communication Patterns



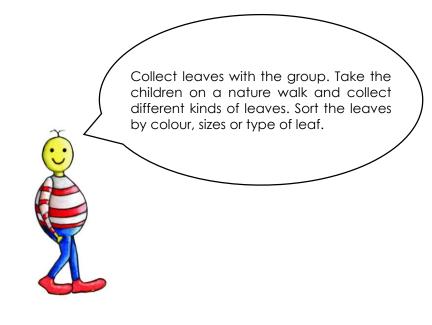
Experiment: Leaf Shape Patterns 2 - Pg. 3 of 3

Notes

In the lesson plan as shown above, the CL prepares the leaf memory game before the lesson.

Should time allow it, it would be far more rewarding for the children to make their own memory game.

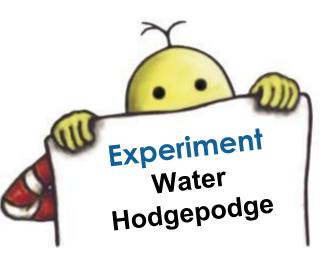














- 6 cups (see-through)
- 6 magnifying glasses
- teaspoon
- small amounts of sand, stones, soil, oil
- jug of water

Additional Materials

- Magic Bag (MB)
- Mimi



Description of Experiment

STEP 1:	Think about how water can become polluted.
STEP 2:	Fill the measuring cups about half full of water.
STEP 3:	Add various materials to the water and watch carefully.
STEP 4:	Observe which materials float, which sink, and which dissolve.

Discovery

Materials that are added to water behave in different ways.

Heavy materials, e.g. sand and stones, sink to the bottom after a while. Oil floats at the top because it is lighter than water.



Experiment: Water Hodgepodge - Pg. 2 of 3



PHASE	ACTIVITY	UTTERANCES	VOCABULARY, GRAMMAR, COMMUNICATION PATTERNS
OPENING RITUAL	<u>Ľŧ</u> ĵįŧĵj		
INTRODUCTION	The Course Leader (CL) has one glass of clear water and one glass of dirty water. CL encourages the children to think about how water gets polluted.	 Look at the water in this glass (clean). Now look at the water in this glass (dirty). How does water become dirty? Open Conversation 	V: dirty, clean
OF NEW TOPIC	Magic Bag (MB) with cup, magnifying glass, sand, stones, soil, oil. After the children have felt what might be in the MB, each child takes one item out. Then s/he gives the bag to the next child.	CH 1-6: I have the ITEM. NAME, take one thing out!	 V: cup, magnifying glass, sand, stones, soil, oil G: imperative form of the verb: to take CP: describing, instructing
	Children move to the experimentation table and Mimi joins them with more cups and magnifying glasses. Each child asks Mimi for a cup and a magnifying glass.	CH 1-6: Mimi, can I have a cup please? Can I have a magnifying glass please? Yes, here you are. CH 1-6: Thank you!	V: cup, magnifying glassG: question; modal verb: canCP: requesting
EXPERIMENT		 Now, let's see how water becomes dirty. Open Conversation You can ask Mimi for what you need. 	
	Preparation of experiment: Each child asks for some water to be poured into his / her cup.	Yes, here you are.	 V: water G: question; modal verb: can; object deixis: some CP: requesting





Experiment: Water Hodgepodge - Pg. 2 of 3



Furthermore, one might

vocabulary, e.g. clear

polluted water, dissolve

water, murky water,

want to use more complex

PHASE	ACTIVITY	UTTERANCES	VOCABULARY, GRAMMAR, COMMUNICATION PATTERNS
	Mimi shows the children that she has material that they can put in their water – sand, soil, stones, oil. The teaspoon is also available. Each child simulates water pollution. One or more children may have the idea of stirring with the spoon.	CH 1-6: Mimi, can I have some MATERIAL please? Here you are. Open Conversation	 V: sand, soil, stones, oil G: question; modal verb: can; object deixis: some CP: requesting
EXPERIMENT CONTINUED	The children observe what happens when they add the materials and arrive at their own conclusions.	 So what happens when you add the MATERIAL? Does it sink? Does it float? Or does it get mixed in? CH 1: The stones sink. CH 2: The oil floats. [Repeat for CH 3 - 6] 	 V: sand, soil, stones, oil, sink, float, mix G: plural: stones; subject-verb agreement CP: describing
OBSERVATION / CONCLUSION	CL asks the children about the water in their cups.	Is the water in your cup clean? Open Conversation Can you drink it? Open Conversation	
HOMEWORK / CLOSING RITUAL	See lesson 1, 2 or 9 for ideas.		

Notes

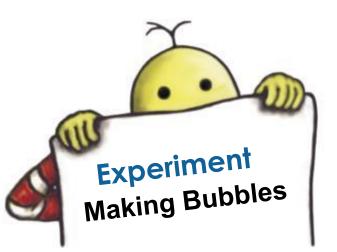
If the children have already had the 'Sink & Float' lesson, it is useful to include the experiment from that lesson again at the end of this lesson, as shown above. If not, this part of the current lesson may have to be more unstructured.

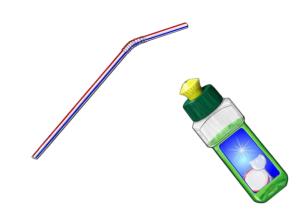
For more advanced children, one might use more complex utterances for describing the experiment, e.g.:

- CL: What are you doing?
- **CH 1:** We are putting stones into the water. What do you think will happen?
- CH 2: I think the stones will sink.

 Course Leader
 Child / ren
 Momo
 Mimi
 Vocabulary
 Communication Patterns







- toy bathtub
- dishwashing liquid / liquid soap
- 6 straws
- little bucket of water

Additional Materials

- Book: 'Mrs. Wishy-Washy' (see Resource List)
- 6 farm animals: cow, dog, duck, pig (use doubles as required)
- Magic Bag (MB)
- Making Bubbles Sequencing Cards (Pages 94 - 96)



Description of Experiment

- STEP 1: Place all the animals into the bath.
- STEP 2: Pour water into the bath.
- STEP 3: Pour dishwashing liquid into the water.
- STEP 4: Blow air through a drinking straw into the water.

Discovery

When soap is added to water, the water becomes flexible and it can hold the shape of bubbles when air is blown into it.

Booklet

Making Bubbles Booklet (Page 88)



Experiment: Making Bubbles - Pg. 2 of 3

PHASE	ACTIVITY		UTTERANCES	VOCABULARY, GRAMMAR, COMMUNICATION PATTERNS
OPENING RITUAL	<u>Ľi ji ji</u>			
INTRODUCTION OF NEW TOPIC	Each child is given the opportunity to take a toy animal out of the Magic Bag (MB) . The Course Leader (CL) assists with new vocabulary and asks about the names of the animals in the children's home languages.	СН 1-6:	I have the ANIMAL. Take one thing out! What can we do with all of this now? Look, Momo has a book (Mrs. Wishy- Washy). Let's have a look at it.	cow, pig, dog, duck, bucket, bath verb: to have; definite article: the; imperative naming, describing
BOOK	The children and CL look at the book. CL reads the sentence/utterance. The children repeat it and the child who has the animal puts it on the table. CL draws the children's attention to all the bubbles in the bathtub (page 7 of the Booklet).	СН 1-6:	The cow is in the bath. The pig is in the bath. The dog is in the bath. The duck is in the bath. The water is in the bath. The soap is in the bath. Look at all the bubbles. That is interesting! Wishy-washy! Do you all want to wash your animals? Then let's do it!	cow, pig, dog, duck, bath, water, soap, bubbles verb: to be; preposition: in; definite article: the describing
EXPERIMENT	CL and the children move to the experiment table. The bathtub, a bucket with water and dishwashing liquid are on the table. CL and the children look at the sequencing cards and perform the corresponding actions. Each child gets a turn.	() and / or CH:	The cow is in the bath, etc.	cow, pig, dog, duck, bath, water, soap, bubbles verb: to be; preposition: in; definite article: the describing





Experiment: Making Bubbles - Pg. 3 of 3

PHASE	ACTIVITY	UTTERANCES	VOCABULARY, GRAMMAR, COMMUNICATION PATTERNS
EXPERIMENT CONTINUED	After the soap is poured into the bathtub CL acts confused because there are no bubbles. CL asks Momo for some help. Momo comes in with six straws. All the children are given a straw and experiment with it. The children blow through the straws into the water. They work as a team to produce the bubbles.	 Why don't we have bubbles like Mrs. Wishy-Washy has? Open Conversation We should call Momo. I am sure he has some ideas. You need a straw to make bubbles in the water. CH 1-6: Can I have a straw please? Here it is! Can we use the straws to make bubbles? How can we use them? Do we have to blow? Open Conversation Can everyone show me how we can make bubbles like Mrs. Wishy- Washy? Show me 	V: straw G: question; modal verb: can; pronoun: 1; verb: to have; indefinite article: a CP: question / answer pattern
HOMEWORK	Distribute worksheet or booklet sheet, depending on preference of the CL.	CH 1-6: Can I have a worksheet, please? or Can I make a little book, please?	 V: worksheet, little book G: question; modal verb: can; pronoun: l; verb: to have; indefinite article: a CP: requesting
CLOSING RITUAL	Farewell Song: sung by all (to the tune of 'Good Night, Ladies'). Sing 'Good-bye, NAME', using the name of each of the children in turn. Variation : sing the song using the farm animal words. Then switch to the names of the individual children.	Good-bye FARM ANIMAL (x3). It's time for us to go. CH 1-6: Good-bye FARM ANIMAL (x3). It's time for us to go.	 V: good-bye, cow, pig, dog, duck G: pronouns: us, it; verb: to go; contraction: it's CP: farewell



Note

Be sure to practise blowing through a straw in advance!







- shaving cream
- jug filled with water
- glass vase appro. 30cm tall
- blue food colouring
- toy tree (must fit into vase)
- small stones
- 1 pipette

Additional Material

- Magic Bag (MB)
- Momo or Mimi
- Book: 'Clouds' (see Resource List)
- Rain Cloud in a Vase Sequencing Cards (Pages 98 - 100)



Why is it raining? Where does the rain go?

Description of Experiment

- STEP 1: Put the toy tree into the vase.
- STEP 2: Fill the bottom of the vase with small stones so that the tree is secure.
- STEP 3: Fill the vase with water until the tree is well covered.
- STEP 4: Top up the vase with shaving cream (resembling a cloud).
- STEP 5: Allow a few minutes for the shaving cream to fully settle on top of the water.
- STEP 6: Fill the pipette with food colouring (resembling rain), and squeeze it onto the cloud.

As the cloud fills up, it will begin to rain onto the tree and the colour will find its way in between the stones to the bottom of the vase.

Discovery

Food colouring dripped over a cloud of shaving cream sitting on water will break through the shaving cream and drop into the water.

When a rain cloud becomes too full of water, the water has to go somewhere and starts to fall to the ground.

Booklet

Let's Make a Rain Cloud Booklet (Page 90)



Experiment: Rain Cloud in a Vase - Pg. 2 of 3

PHASE	ACTIVITY		UTTERANCES		VOCABULARY, GRAMMAR, COMMUNICATION PATTERNS
OPENING RITUAL	Čŧ ĵit ĝj				
INTRODUCTION OF NEW TOPIC	Each child is given the opportunity to feel what is in Momo's Magic Bag (MB). Momo takes a book about rain clouds out of the MB.	CH 1: I CI [Re Ch Lou	nat can you feel? an feel What can you feel? epeat for CH 2 -6] ok, Momo has a book. Let's have ook at it!	G:	feel question word: what; modal verb: can; personal pronouns: l; you guessing, question-answer pattern
BOOK	Momo and the children read the sentences / utterances. The children repeat them. The Course Leader (CL) assists with new vocabulary and asks the children about the word for 'cloud' and 'rain' in their home languages. CL discusses with the children when to expect rain (generally, white clouds = no rain, dark clouds = rain). Where does the rain come from? What happens with the rain?	 the [C] What we have a set of the constraint of the constr	buds, clouds give us rain (so e) horus] Clouds, clouds give us rain. nat is 'cloud' in your language? t raining today? Do you see buds? ny do we have clouds and no n? Look at the picture, what dour are the rain clouds?	V: G: CP:	cloud, rain plural: clouds; imperative of the verb to give; personal pronoun: us requesting
EXPERIMENT	CL and the children move to the experiment table. All the materials are ready on the table. CL prepares the sequencing cards in their correct order. Each child takes a card and describes what they see. The children perform the corresponding action and help each other with the task. CL asks a question to encourage the children to predict the next step.	OW CH 1: We CH 2: We CH 3: We CH 4: We CH 5: We O Ho CH 6: We	ok what we have for making our vn rain cloud. e need e put the tree into the vase. e put the stones into the vase. e pour water into the vase. e spray shaving cream onto the ater. w can we make it rain? e drip food colouring onto the bud. s raining.	V: G: CP:	tree, vase, stones, water, shaving cream, food colouring, put, pour, spray, drip personal pronoun: we; prepositions: into; onto; verbs: need, put, pour, spray describing

(СН) Ā (7) 1.6 Vocabulary Course Leader Child / ren Momo Mimi

(G)

Grammar

CP

Communication Patterns

V



Experiment: Rain Cloud in a Vase - Pg. 3 of 3

PHASE	ACTIVITY		UTTERANCES		VOCABULARY, GRAMMAR, COMMUNICATION PATTERNS
OBSERVATION / CONCLUSION	The children observe that the shaving cream cloud fills up and it begins to rain food colouring onto the tree and eventually the rain goes through the stones all the way to the bottom of the vase. CL shows the last sequencing card.	0	Look what's happening! Open Conversation		
		G	Let's see if these children saw the same thing. Open Conversation		
HOMEWORK	Mimi comes in and wants to know what the children did. The children explain the experiment with CL's help. Distribute booklet sheets.) () CH:	What did you do? Open Conversation Look at this little book. This is what we did first then Can I make a little book, please?	V: G: CP:	first, then, little book question inversion; modal and verb: can have; adjective: little requesting
CLOSING RITUAL	See lesson 1, 2 or 9 for ideas.				

Notes

The target utterance could be changed to include a different pronoun:

- I put the tree into the vase
- I put the stones into the vase, etc.

Depending on which tense form you want to practise, you could change the utterance, e.g. in order to practise the present continuous form, the children would say:

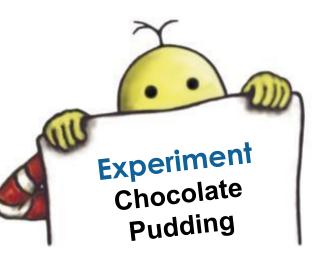
- I am putting the tree into the vase
- I am putting the stones into the vase, etc.



As an additional idea before Christmas, one could use a Christmas tree in the experiment.







- milk
- instant pudding powder (e.g. Moir's)
- mixing bowl
- mixer / whisk
- measuring jug
- scissors
- 6 small bowls
- 6 teaspoons
- 1 tablespoon

Additional Materials

- Magic Bag (MB)
- Chocolate Pudding Sequencing Cards (Pages 102 - 104)



How do we make pudding?

Description of Experiment

STEP 1:	Pour the pudding powder into the mixing bowl.
STEP 2:	Measure the required amount of milk.
STEP 3:	Add the milk to the pudding powder.
STEP 4:	Mix the powder and milk until the liquid slowly becomes more solid.

Discovery

When milk is added to pudding powder and the ingredients are stirred and mixed well, the mixture becomes thicker and thicker until it is a delicious pudding.

Booklet

I am Making Chocolate Pudding Booklet (Page 92)



Experiment: Chocolate Pudding - Pg. 2 of 3

PHASE	ACTIVITY	UTTERANCES	VOCABULARY, GRAMMAR, COMMUNICATION PATTERNS
OPENING RITUAL	<u>Ľŧ</u> jŧĵj		
INTRODUCTION OF NEW TOPIC	The Course Leader (CL) shows the 'I Am Making Chocolate Pudding' sequencing cards and discusses the sequence of events.	 I brought you some pictures to look at. Can you help me describe what you see? Let's talk about what the girl is doing in each picture. Open conversation 	
	The children take turns guessing what is in the Magic Bag (MB).	What can you feel? CH 1-6: I can feel What can you feel?	 V: feel G: question word: what; modal verb: can CP: guessing, question-answer pattern
MAGIC BAG	Each child takes something out of the MB. CL assists with new vocabulary. Child shows matching item on the sequencing card.	CH 1-6: I have the and it is here.	 V: milk, pudding powder, mixing bowl, measuring jug, mixer, scissors, bowl, teaspoon, tablespoon G: verbs: to have; to be; definite article: the; conjunction: and; deixis: here CP: describing
EXPERIMENT	CL prepares the sequencing cards in their correct order. Each child takes a card and performs the corresponding action.	 CH 1: I am opening the box. CH 2: I am taking out the packet. CH 3: I am cutting the packet. CH 4: I am pouring the powder. CH 5: I am pouring the milk. CH 6: I am mixing. 	 V: pour, cut, take out, mix, box, packet, powder, milk G: present progressive tense; auxiliary verb: to be; verbs: to open, to take out, to cut, to pour, to mix CP: describing





Experiment: Chocolate Pudding - Pg. 3 of 3

PHASE	ACTIVITY	UTTERANCES	VOCABULARY, GRAMMAR, COMMUNICATION PATTERNS
EXPERIMENT	The children have an opportunity to describe what they see.	() Look, the mixture is getting thicker! Open conversation	
CONTINUED	One child pours pudding into the bowls and another shares out the bowls.	CH 1-6: Can I have some of the pudding please? The pudding is delicious.	V: pudding, delicious G: question; modal verb: can CP: requesting
HOMEWORK / CLOSING RITUAL	See lesson plans 1, 2 or 9 for ideas.		

Notes

This lesson plan is ideal for use at the end of a term. The children could even be given a box of chocolate pudding powder to take home.

The booklet sheet (Page 92) can be sent home with the child for him or her to make into an instruction booklet, or this can be done with the help of the course leader at the end of class, both scenarios offering an opportunity for revision.

Repeating the activity at home will also help to reinforce the language content.





Appendix

Appendix

• Worksheets

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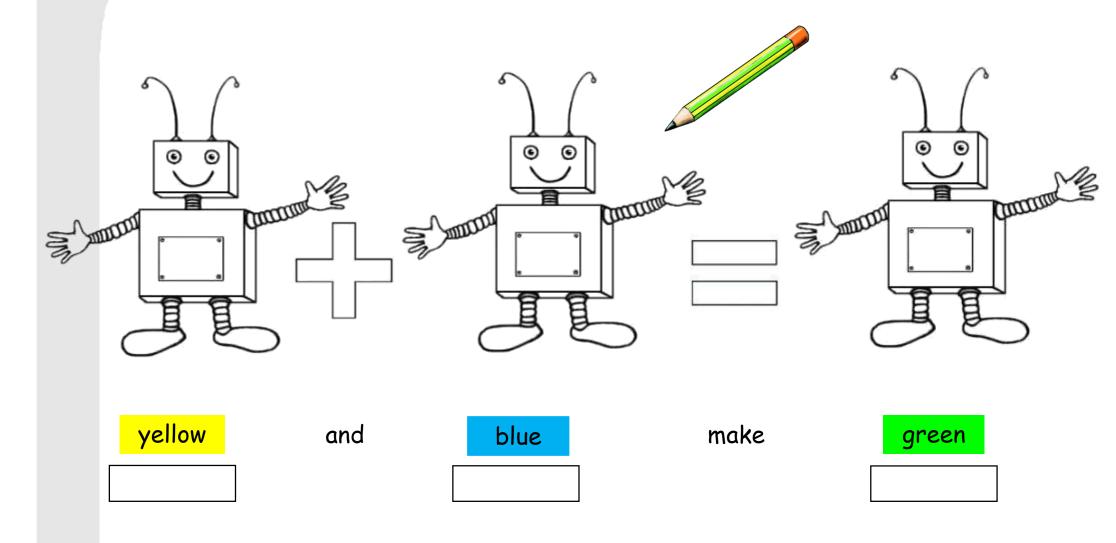


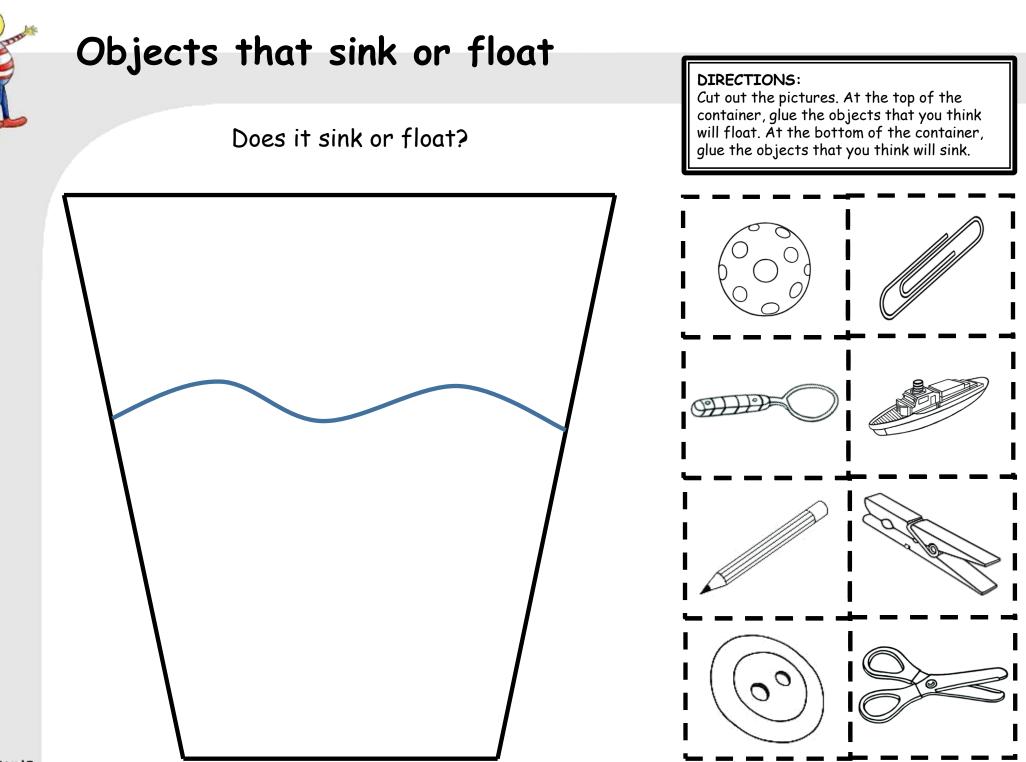




Mixing colours

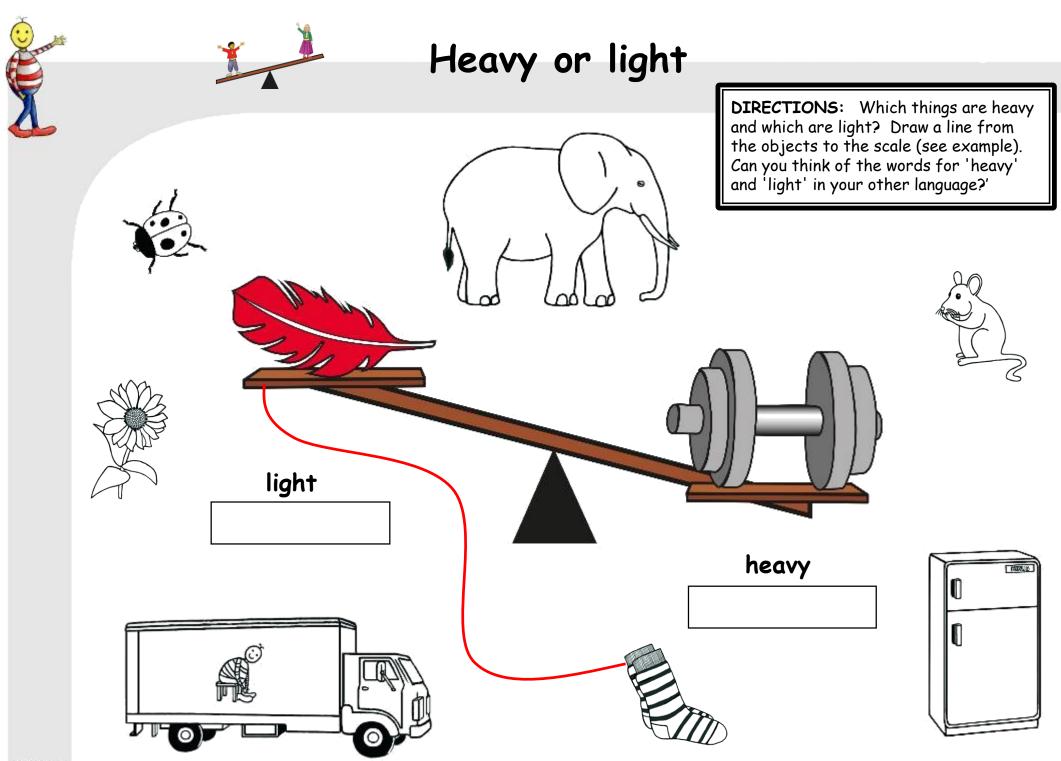
DIRECTIONS: Colour in each Addi using the correct colour. What are the colours called in your other language?





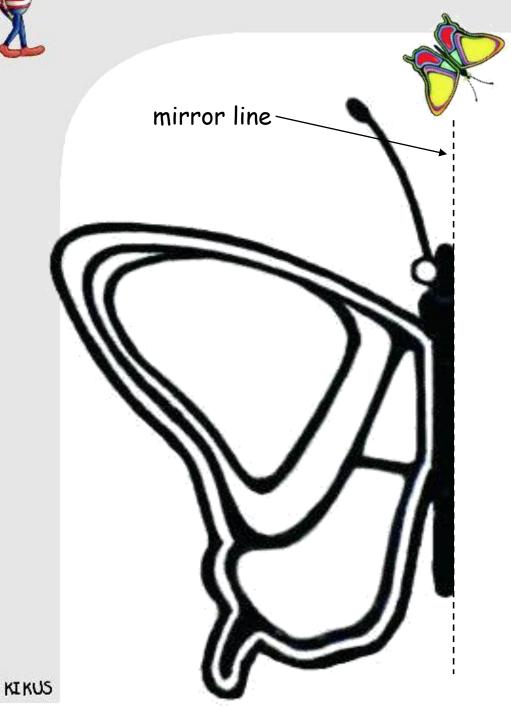
DIRECTIONS: Cut the	worksheet in two on the dotted line. Colour in all the fruit. Cut out all the cards from the bottom half.	end the formed formed the formed	the orange		ilemoni		iorenji
٩		the obt	the grapes		iapile		iidiliya
Fruit memory gar Playing the game: Step 1: Child 1 picks up a card and says the name	of the fruit. Step 2 : Child 2 finds the matching fruit on the worksheet and says the name in the other language. Step 3 : Child 1 places the card on the matching fruit on the worksheet.	elunced the	the pear		ipayinapile		ipere
Ån	4		 	Zentrum für kindliche Mehrst	prachigkeit e	e.V. (zkm), Munich/Germany	IKUS

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Reflection in the mirror



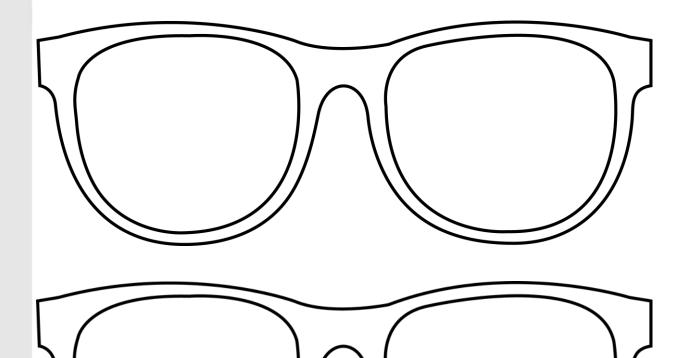
DIRECTIONS: Colour in the half-butterfly. Make it very colourful. Now place a mirror on the mirror line. See the reflection in the mirror. Then draw and colour in the mirror image to complete the butterfly.

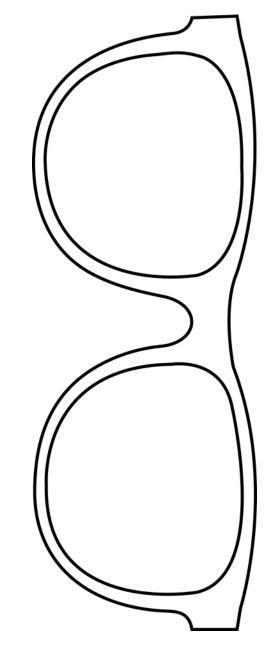


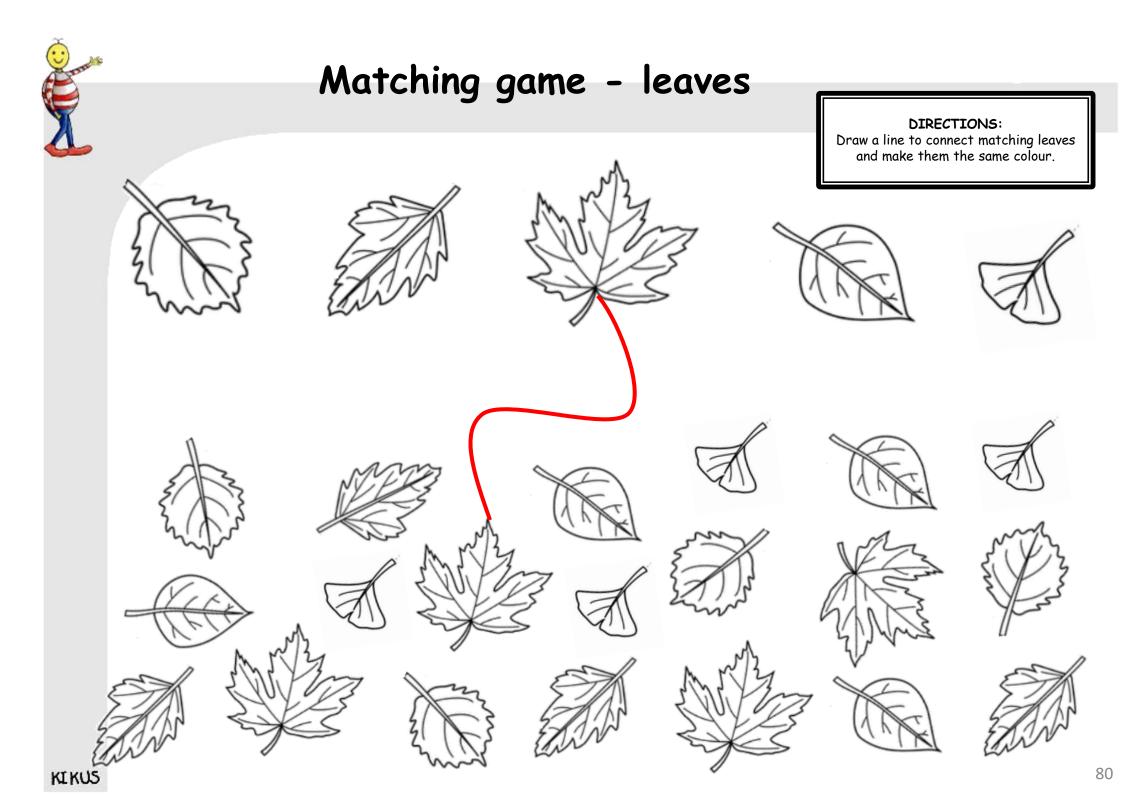


Template for glasses

DIRECTIONS: Print onto colourful cardboard. With the help of an adult cut out the frame and attach to a wooden stick .





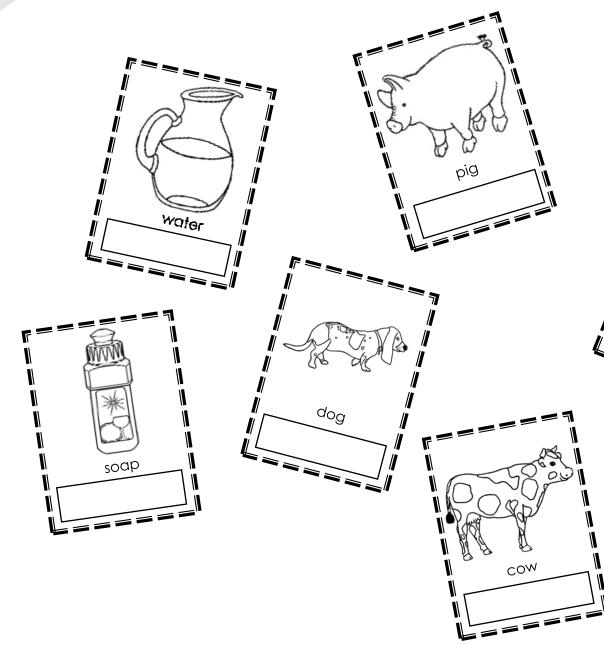




Making bubbles (1 of 2)

DIRECTIONS: What are these things called in your language? Colour in the pictures. Cut them out and glue them in the right spot on the next page. Talk about the experiment with your parent or friend.

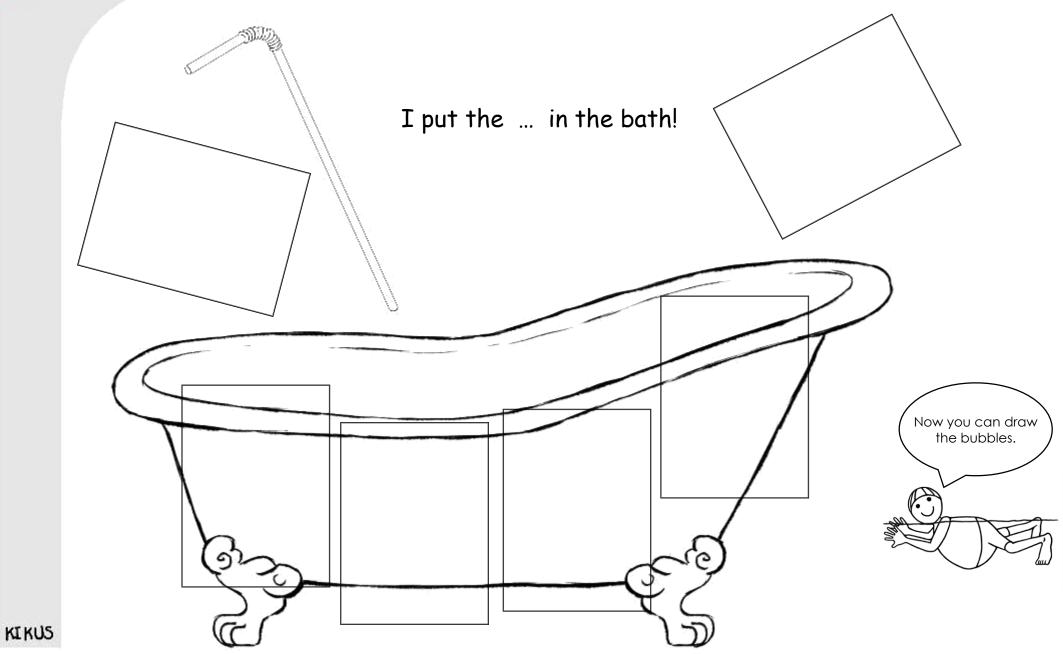
duck

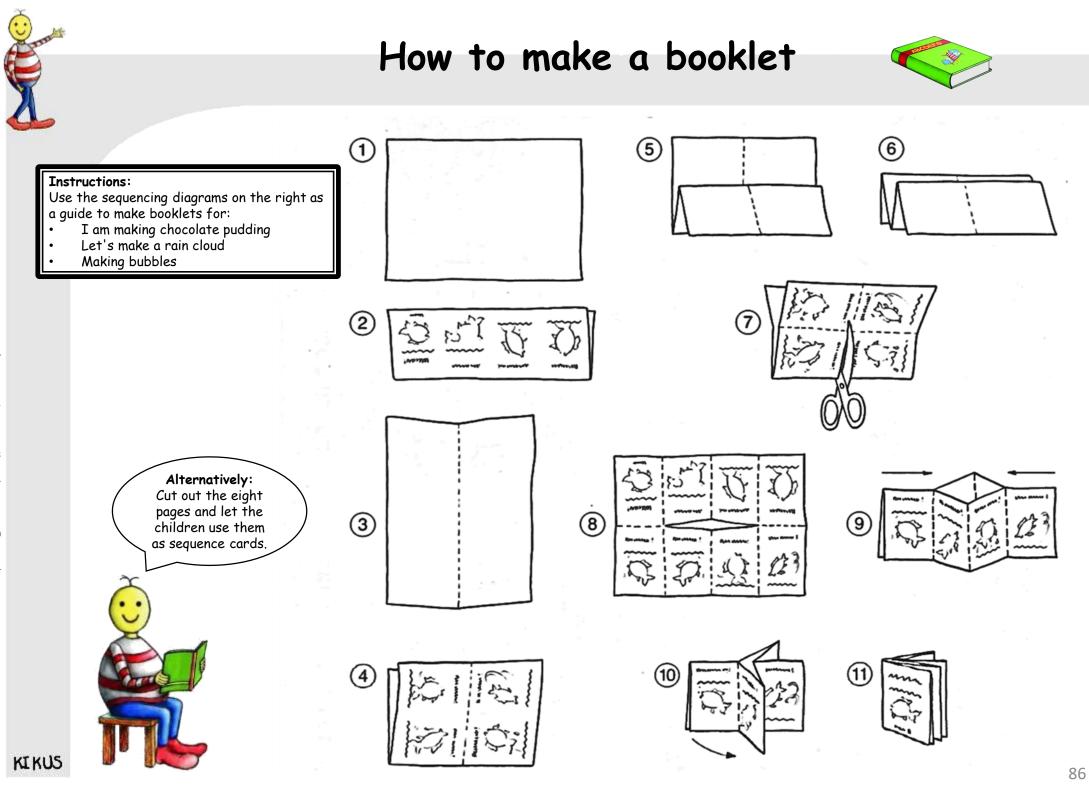






Making bubbles (2 of 2)



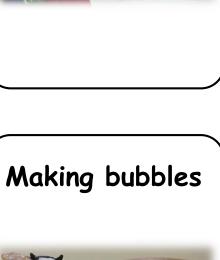




Salddud

Why don't we have

Let's make bubbles!



The cow is in the bath.

1

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The pig is in the bath.

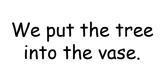
2



3









90 3



cream onto the water. We spray shaving

We put the stones

into the vase.

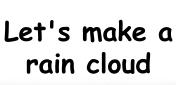
2



How can we make it

cloud. solouring onto the boot qinb sW

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We need:

shaving cream, jug filled with water,

1

vase, food colouring, tree, stones, pipette.

The cloud fills up and it starts raining!

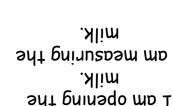


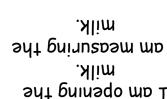


powder. I am pouring the



milk. I am measuring the milk. sht pninsqo mo I







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I will need:

• pudding powder

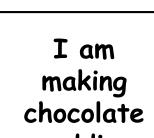
• mixer or whisk • measuring jug

2

mixing bowl

• scissors • small bowls teaspoons tablespoon

• milk



milk.

SAT pouring the

9

pudding







I am sharing out

the pudding.

I am opening the box. I am taking out the packet. I am cutting the packet. 92

L Making Bubbles L

L L I I. L I. I. L

Making Bubbles L I. I L I. L I I. L I.

L



The cow is in the bath. -

The pig is in the bath.

 \mathbf{N}

Making Bubbles

Making Bubbles





The dog is in the bath. S

The duck is in the bath. 4

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н Making Bubbles Т L L L L L I. L L

L L I.

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L



bath. in the <u>.</u> The water ٠ ß







bath. the 2. <u>s</u> soap The S

Making Bubbles L





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96

Let's make bubbles!

Ø

bubbles

have

don't we

Why

OSG Rain L

OSe Rair н



jug filled with water, vase We need: shaving cream, food colouring, tree stones, pipette

We put the stones

2

into the vase



Rain Cloud in a Vase



We pour water into the vase. タ



98

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We put the tree

 $\boldsymbol{\omega}$

into the vase.

Rain Cloud in a Vase

Rain Cloud in a Vase

Т

1

L



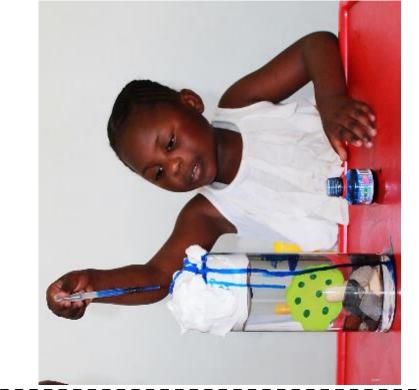
 We spray shaving cream onto the water.

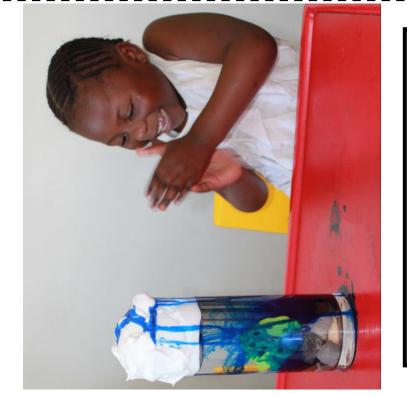
Rain Cloud in a Vase



6. How can we make it rain?

Rain Cloud in a Vase





 B. The cloud fills up and it starts raining!

We drip food colouring

て

onto the cloud.

Chocolate Pudding

Chocolate Pudding



Chocolate Pudding



Chocolate Pudding





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Chocolate Pudding

Chocolate Pudding



Chocolate Pudding

I am pouring the milk. Q





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104

Chocolate Pudding



Song 1: Hello

INSTRUMENTAL INTRODUCTION	Part I: March towards centre, form a circle Part II (trill): Hands on waist, twirl slowly on the spot
Hello! How are you, my friends?	Wave to one another
INSTRUMENTAL BREAK	Clap and say the name of a student as each cymbal clash is heard
It's nice to see you again!	With left hand point to eyes, with right palm facing up move arm around the circle to indicate all students
INSTRUMENTAL BREAK	Clap and say the name of a student as each sound effect is heard
Hello! How are you? Let's play together now! We can jump We can walk We can run We can talk We can sing until the sun goes down	Place hands on shoulder of person to the right and left All sway to the right, then to the left, then to the right Jumping on the spot Walking on the spot Running on the spot With both hands mime talking (like hand puppet) Starting with hands overhead, trace a circle by bringing hands slowly to your side
INSTRUMENTAL BREAK	Break out of circle and go to individual students, saying "Hello", "How are you?" and shaking hands
Hello! How are you, my friends? It's nice to see you again! We can jump We can walk We can run We can talk We can play until the sun goes down	Wave to one another With left hand point to eyes, with right palm facing up move arm along the circle to indicate all students Jumping on the spot Walking on the spot Running on the spot With both hands mime talking (like hand puppet) Starting with hands overhead, trace a circle by bringing hands slowly to your side
INSTRUMENTAL ENDING	Hands on waist, twirl slowly on the spot

Language Skills: communication pattern – greeting; vocabulary – action verbs (play, jump, walk, run, talk); grammar – first person plural (we)



Song 2: Five Little Ducks

Five little ducks went out one day	Hold up one hand (= duck-hand) showing all five fingers loosely separated, and swing hand left and right
Over the hills and far away	Use same hand to indicate rolling hills, then bring it to forehead as though shielding eyes while looking into the distance
Mother duck said quack. quack, quack, quack	On the first quack, bring fingers and thumb of the other hand together, then release – repeat for each "quack"
And only four little ducks came back	Hold up duck-hand, palm facing out and thumb tucked underneath, and swing hand left and right
Four little ducks went out one day Over the hills and far away Mother duck said quack, quack, quack, quack	Hold up duck-hand showing 4 fingers (thumb tucked underneath), and swing hand left and right As above As above
And only three little ducks came back	Hold up duck-hand showing 3 fingers (thumb and little finger tucked underneath), and swing hand left and right
Three little ducks went out one day	Repeat as above, ending with 'And only two little ducks came back'
Two little ducks went out one day	Repeat as above, ending with 'And only one little duck came back'
One little duck went out one day Over the hills and far away Mother duck said quack, quack, quack, quack And none of the five little ducks came back	Hold up duck-hand showing 1 finger (index finger), and swing hand left and right As above As above Hold up fist (no fingers showing) and swing hand left to right
Sad mother duck went out one day Over the hills and far away Mother duck said quack, quack, quack, quack And all of the five little ducks came back	Rub eyes with fists as though crying As above, but with the other hand (= mother-hand) As above Hold up duck-hand showing all five fingers loosely separated, and swing hand left and right

Language Skills: communication pattern – reporting, counting; vocabulary – numbers; grammar – past tense (went, said, came), plural / singular (ducks / duck); adverb placement (only), adjective placement and use (little, sad)



PHASE	ACTIVITY	UTTERANCES	VOCABULARY, GRAMMAR, COMMUNICATION PATTERNS

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Resource List



Resource List

SIEMENS Stiftung: (www.siemens-stiftung.org/en/projects/experimento/)

Experimento 4+ Experimentation Instructions

KIKUS Materials (HUEBER Verlag: www.hueber.de)

The KIKUS Method – A Handbook KIKUS Picture Cards KIKUS Mini Picture Card Worksheets KIKUS Worksheet Sets 1, 2 and 3 KIKUS 'Hello' CD and 'Hello' Songbook

Books (as used in the Lesson Plans)

Van Genechten, Guido (2014), Little White Fish, South Africa: Protea Book House, ISBN 978-1-4853-0007-6. Browne, Eileen (1994), Handa's Surprise, London: Walker Books Ltd., ISBN 978-0-7445-3634-8. Herbert, Barbara N. (1997), Clouds, New Successful English Story Book 4, Cape Town: Oxford University Press, ISBN 0-19-571443-1.

Cowley, Joy (2005), Mrs. Wishy-Washy's Tub, Australia: Mimosa McGraw-Hill, ISBN 0-7327-3970-5.

List of Materials Required for the Experiments (based on a group of 6 children per lesson)

Experiment	Materials	Alternative Materials	
Naming and Mixing Colours	 food colouring (yellow & blue) 6 cups 6 pipettes 6 spoons (for stirring) jug of water and empty jug 	teaspoon to measure the food colouring	
Objects that Sink or Float	 large clear container toy boat coin jug of water natural beach objects: sink: stone, sand, shell float: feather, seaweed, sponge, piece of wood or a stick 	 any small object that floats any six natural objects 	
Feeling Memory Game	 pieces of fruit: banana, pineapple, guava, granadilla, mango, orange, avocado (2 of each) 7 boxes or tins basket blindfold 	 any seven different types of fruit scarf 	
Using a Scale	 heavy gym weight (dumbbell) feather balancing scale fruit: heavy: pineapple, mango, orange light: strawberry, grape, lemon 	 a ruler supported in the middle by an eraser any three kinds of heavier fruit and three kinds of lighter fruit 	

List of Materials Required for the Experiments - Pg. 2 of 3

Experiment	Materials	Alternative Materials
Reflections in a Mirror	 18 small, square mirrors (3 mirrors per child or pair of children) sticky tape bright items (e.g. beads, glitter, straws, scrap) 	
Leaf Shape Patterns 1	 6 magnifying glasses different shapes of leaves from plants or trees wax crayons paper 	
Leaf Shape Patterns 2 (follow-up lesson)	 leaves of four different shapes from plants or trees Leaf Memory Game (prepared in advance, if necessary) 	
Water Hodgepodge	 6 cups (see-through) 6 magnifying glasses teaspoon small amounts of sand, stones, soil, oil jug of water 	≻ glasses
Making Bubbles	 toy bathtub dishwashing liquid / liquid soap 6 straws little bucket of water 	 plastic bowl or washing tub jug of water

List of Materials Required for the Experiments - Pg. 3 of 3

Experiment	Materials	Alternative Materials
Rain Cloud in a Vase	 shaving cream jug filled with water glass vase +/- 30 cm tall blue food colouring toy tree (must fit into vase) small stones 1 pipette 	 2-litre plastic beverage bottle, with label removed and top cut off water-colour paint twig placed into vase and stabilised with small stones teaspoon to measure the food colouring
Chocolate Pudding	 milk pudding powder (instant pudding, e.g. Moir's) mixing bowl mixer / whisk measuring jug 6 small bowls 6 teaspoons 1 tablespoon 	≻ large spoon

