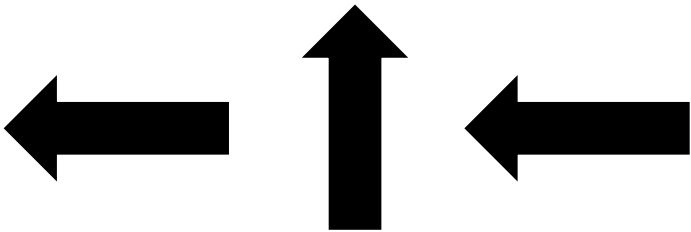


GRADE R TERM 2 CODING & ROBOTICS WEEK 1			
2 x 30 minute lessons per week			
TERM 2 WEEK 1	COMPETENCIES	TEACHER GUIDELINES for PRACTICAL ACTIVITY	RETRIEVAL PRACTICE
Learning Intentions: Learners will learn to ... ➤ Follow simple directions to move on a grid. ➤ Follow and use arrow instructions (codes). ➤ Say what a robot is in their own words.	C3	Problem Statement: Amo missed his transport and cannot get home. Work out a path across the grid, help Amo find his way home. Resources: 4x4 grid Coding arrows The teacher group the learners. Learners will use a (4x4) grid to help Amo find his way home. The teacher provides a coding solution. Learners take turns to walk on the grid.	The teacher can use different starting points for the different groups. Learners work together in the group to interpret and execute the given coding solutions. If the teacher used different grids, the learners can swap and execute more coding solutions.
	COMPETENCIES	TEACHER GUIDELINES for THEORY	
	R1	Explain what a robot is in simple terms. Riddle – I cannot move I cannot think, I cannot do anything. Unless you tell me to. Who am I?	Play thumbs-up, thumbs-down (Ask revision questions)
Success Criteria: I can	➤ Follow directions to move on the grid. ➤ Use arrows to follow a code. ➤ Say what a robot is.		

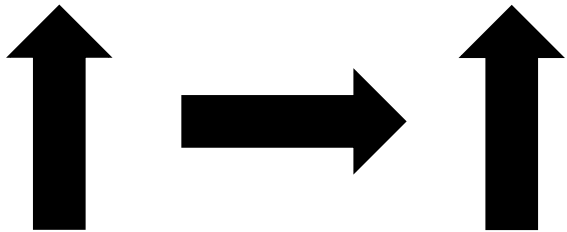
Practical activity: Big grid activity layout example



Retrival practise grid



GRADE R TERM 2 CODING & ROBOTICS WEEK 2			
2 x 30-minute lessons per week			
TERM 2 WEEK 2	COMPETENCIES	TEACHER GUIDELINES for PRACTICAL ACTIVITY	RETRIEVAL PRACTICE
Learning Intentions: Learners will learn to ... ➤ Follow steps in the correct order to solve a problem. ➤ Use instructions to help solve real-life problems. ➤ Name a robot that helps people with a job.	C1	Problem Statement: Elihle feels unsafe when crossing the road to school. Help Elihle to safely cross the road. Road safety, including how to cross a road safely, should be taught in a Life Skills lesson before being reinforced in a Coding and Robotics activity. During the activity, learners arrange picture cards in the correct sequence and explain their reasoning for the order they chose. Steps to follow: • Stop • Listen and think • Look right • Look left • Look right again • Cross when safe	Learners pack out the steps on a large 4 x 4 grid. Learner's 'code' each other verbally to get to each picture in a sequence of events.
	COMPETENCIES	TEACHER GUIDELINES for THEORY	
	R2	Identify different types of robots ➤ Has a job (purpose) – Helper robots, e.g. Vacuum robot ➤ Why will we want a vacuum robot? ➤ How will it help people?	Discuss the difference between a robot vacuum cleaner and the vacuum cleaner that we need to operate (an appliance).
Success Criteria: I can...	➤ Follow steps in the correct order. ➤ Help solve a problem using instructions. ➤ Name a robot that helps people.		

Print and cut out pictures for the learners to use for the lesson.



Theory pictures:



GRADE R TERM 2 CODING & ROBOTICS WEEK 3			
2 x 30 minute lessons per week			
TERM 2 WEEK 3	COMPETENCIES	TEACHER GUIDELINES for PRACTICAL ACTIVITY	RETRIEVAL PRACTICE
Learning Intentions: Learners will learn to ... ➤ Solve a problem by choosing the correct blocks. ➤ Copy a model from memory and then improve it. ➤ Use kind words and good manners when using technology.	C1	Problem statement: Lebo's dog doesn't have a place to stay — let's help Lebo build a better home for his dog.	Work in groups of 6 learners. Each group has 6 different coloured blocks. The teacher places the 6 blocks in a specific layout in a box. Each learner in the group is responsible for one colour. - Learners go one by one and look at the layout for a few seconds. - Learners must go back to group and place their colour block in the correct position. - Each learner gets the opportunity to look at the layout and place their block. - Once all the blocks have been placed, the learners show their layout to the class and check it with the teachers one.
	Abstraction	Resources: Different size wooden blocks. Learners will work in groups of 4 to 6. Each group will receive a set of blocks to use, including some extra blocks that will not fit. The teacher will build a model and show it to the learners. The teacher may use different models for each group.  In their groups, learners will - decide which blocks to use. - recreate the model from memory, using their blocks. Once all groups have finished, they will compare their models to the teacher's original model. Learners will then rebuild and improve their models based on what they've learnt.	If they get the layout incorrect, ask them: Did you remember where to place your block? Which block is a bug? Can you place it correctly?
	COMPETENCIES	TEACHER GUIDELINES for THEORY	
	D2	Discuss what screen-time means. What is being kind or good manners when we speak to people. How should we speak online? Can we say anything? How should we answer a phone	Role play and discuss
Success Criteria: I can:	➤ Choose the correct blocks to build a model. ➤ Copy and fix a model if needed. ➤ Show kind behaviour when using technology.		

Resources:

Examples of block models



GRADE R TERM 2 CODING & ROBOTICS WEEK 4			
2 x 30 minute lessons per week			
TERM 2 WEEK 4	COMPETENCIES	TEACHER GUIDELINES for PRACTICAL ACTIVITY	RETRIEVAL PRACTICE
Learning Intentions: Learners will learn to ... ➤ Give and follow simple instructions to solve a problem. ➤ Follow and check instructions (codes). ➤ Say what a computing device is and give an example.	C2 C3	Problem statement: Peter is going on a school camp, and it might rain. Help Peter choose the clothes he will need to stay warm and dry. Resources: Pictures for the big grid Arrows The teacher gives the learners a grid and instructs them to interpret and execute the given instruction.	The teacher changes the starting point on the grid. Each group develops a code to collect all the necessary clothes and pack out the code beneath the grid. Groups then swap their codes and execute one another's instructions.
	COMPETENCIES	TEACHER GUIDELINES for THEORY	
	D3	What is a computing device? What do we do on our phones? What information can we get from our phones? Numbers of people, Music, videos, photos - that is what makes it a computing device.	
Success Criteria: I can:	➤ Give and follow instructions. ➤ Follow a code correctly. ➤ Say what a computing device is.		

Practical Activity:

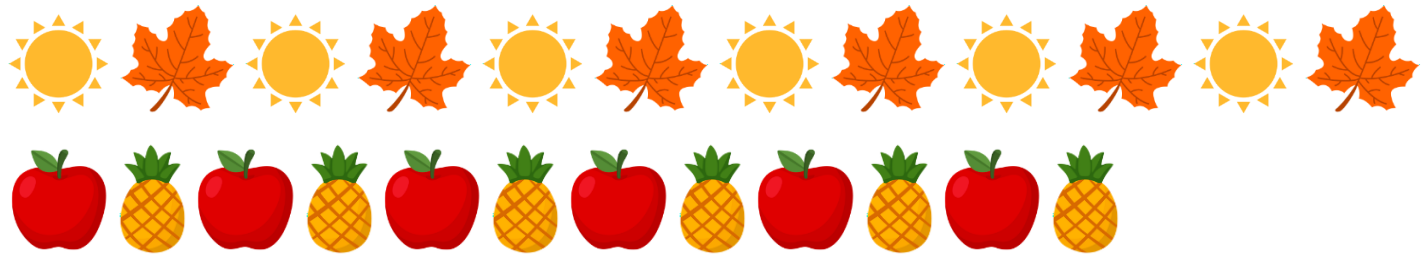
			
			
			
			



GRADE R TERM 2 CODING & ROBOTICS WEEK 5			
2 x 30 minute lessons per week			
TERM 2 WEEK 5	COMPETENCIES	TEACHER GUIDELINES for PRACTICAL ACTIVITY	RETRIEVAL PRACTICE
Learning Intentions: Learners will learn to ... ➤ Explain repeating patterns. ➤ Use simple codes to solve a problem. ➤ Explain what a robot is in their own words.	C2 C6	Problem statement: We have a pattern, but Ziah is not sure which parts must be added to the pattern. Find the part that repeats so she can find the missing parts of the pattern. Use the example grid below with different pattern options on the grid. Learners work together in pairs to pack out the coding solution to get to the correct repeating part of the pattern.	Activity: The teacher uses the same problem statement but changes the starting point and patterns.
	COMPETENCIES	TEACHER GUIDELINES for THEORY	
	R1 R2	What is a robot? What makes it a robot? Learners' own words. What makes the vacuum cleaner robot a robot?	Ask questions: What can it do? What can't it do? Why do we call it a robot and not an appliance?
Success Criteria: I can:	➤ Find and continue a pattern. ➤ Use a simple code to solve a problem. ➤ Explain what a robot is.		

Pattern Grid: Look at the pattern below and find the repeated part of the pattern.

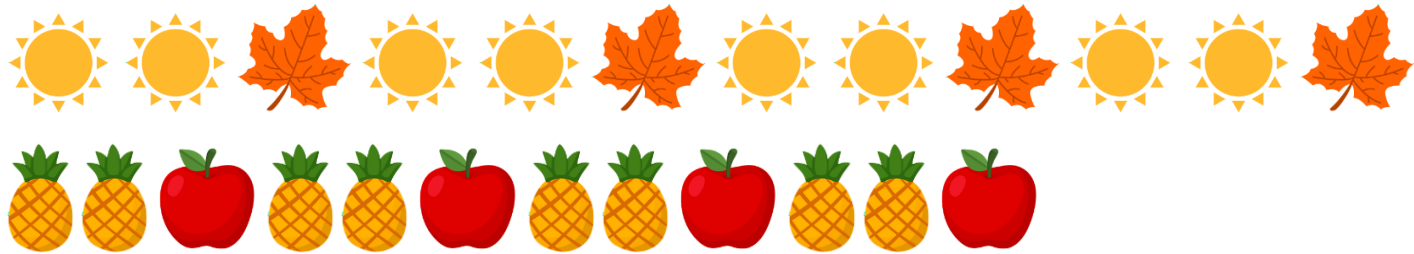
 			
	 		
		 	
 			



Retrieval Practise:





GRADE R TERM 2 CODING & ROBOTICS WEEK 6			
2 x 30 minute lessons per week			
TERM 2 WEEK 6	COMPETENCIES	TEACHER GUIDELINES for PRACTICAL ACTIVITY	RETRIEVAL PRACTICE
Learning Intentions: Learners will learn to ... ➤ Put events in the correct order. ➤ Follow and act out instructions. ➤ Say what personal information is and name something we should not share.	C1 C3	Problem statement: Sipho and his friends hear the animal sounds; they must now indicate the animals in the correct sequence of the story. Resources: Story (below), pictures, sounds symbols, (4X4) grid, coding card solution. Remind the learners about the animal story, all the sounds they made and see if they still remember which animal made the first sound, the second sound, etc. Ask the learners to code themselves in the order of the animal sounds and to pack it out in order, using the given pictures. Each child will get a coding card solution and follow the instructions on the 4X4 grid.	Activity: Learners take turns in retelling some parts of the story, imitating animal sounds and reminding each other which one was first, second and so forth. Learners start following instructions given using coding card solutions indicating which animal made the first sound.
	COMPETENCIES	TEACHER GUIDELINES for THEORY	
	D2 D3	What is personal information? What is a computing device? Our phone is a computing device It saves data – Discuss what it saves.	Discuss personal information - Will we share our name, surname, if we are alone at home or if daddy is not there, etc Discuss what a computing device is - Should you share all the numbers and the photos on your phone with other people? - Why not?
Success Criteria: I can...	➤ Put events in the correct order. ➤ Follow instructions correctly. ➤ Say what personal information is.		

The Noisy Forest Adventure

One bright, sunny morning,
Cow went walking through the green forest.

She walked past tall trees...
she walked over crunchy leaves...
she walked and walked...

Suddenly she heard:
"Woof! Woof!"

Cow stopped.
"Who is that?" she asked.

Out jumped Dog!
"Woof! Woof! It's me!" said Dog.

"Oh hello, Dog!" said Cow.
"Come on an adventure with me!"

So Cow and Dog walked and walked...
Cow said, "Moo! Moo!"
Dog said, "Woof! Woof!"

They walked past a bubbling stream...
they walked under shady trees...
they walked and walked...

Suddenly they heard:
"Meow! Meow!"

Cow and Dog stopped.
"Who is that?" they asked.

Down climbed Cat from a tree!
"Meow! Meow! It's me!" said Cat.

"Oh hello, Cat!" said Cow and Dog.
"Come on an adventure with us!"

So Cow, Dog, and Cat walked and walked...
Cow said, "Moo! Moo!"
Dog said, "Woof! Woof!"
Cat said, "Meow! Meow!"

They walked up a little hill...
they walked down the other side...
they walked and walked...

Soon the sun began to set.

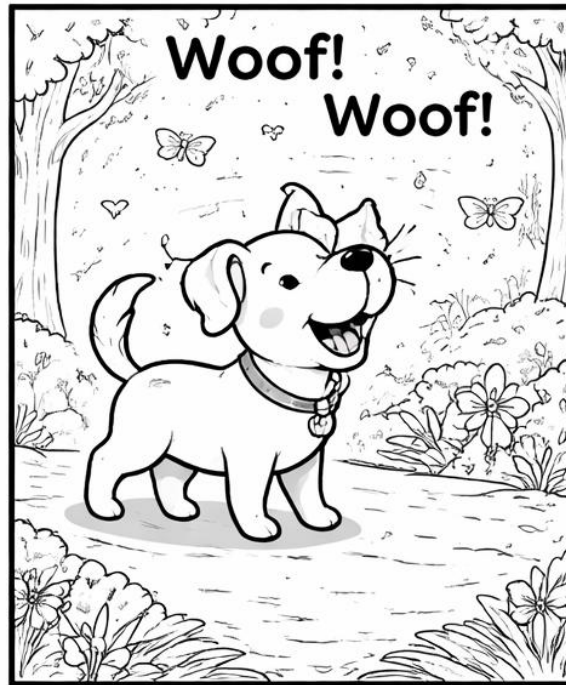
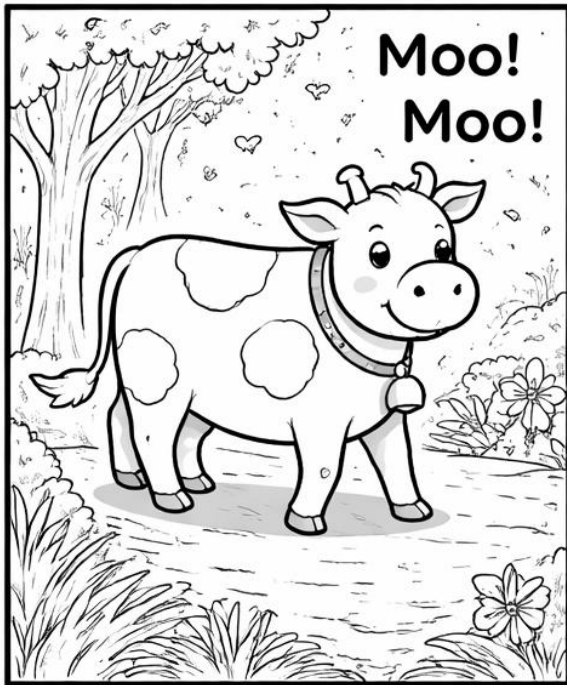
"It's time to go home," said Cow.
"Moo! Moo!"

"Goodbye!" said Dog.
"Woof! Woof!"

"Goodbye!" said Cat.
"Meow! Meow!"

And off they went,
walking home through the quiet forest...

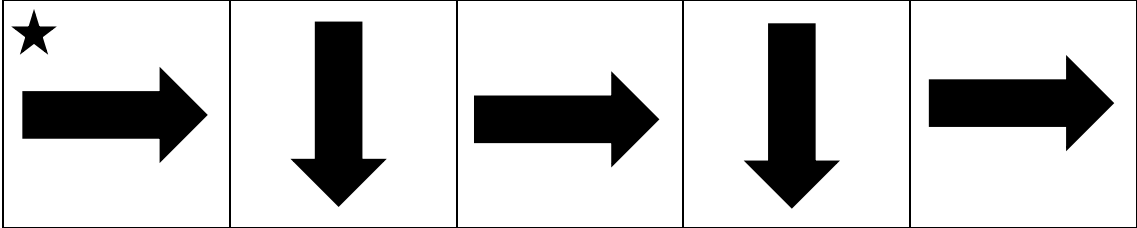
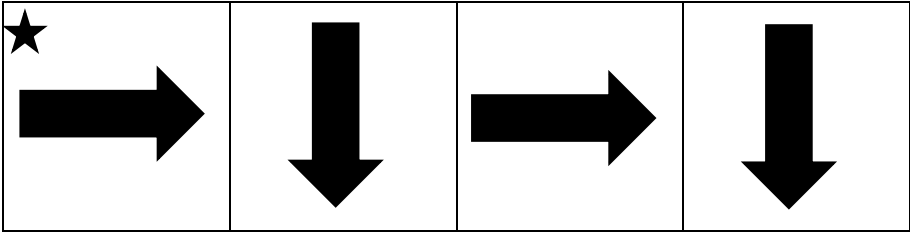
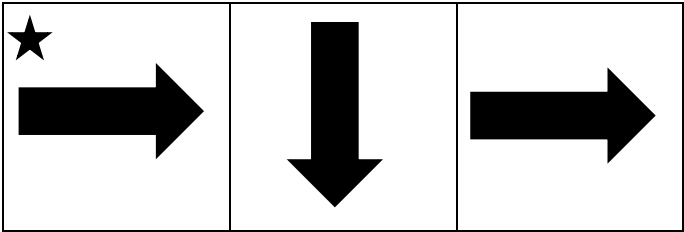
Animal cards for sequencing:



Practical Activity:



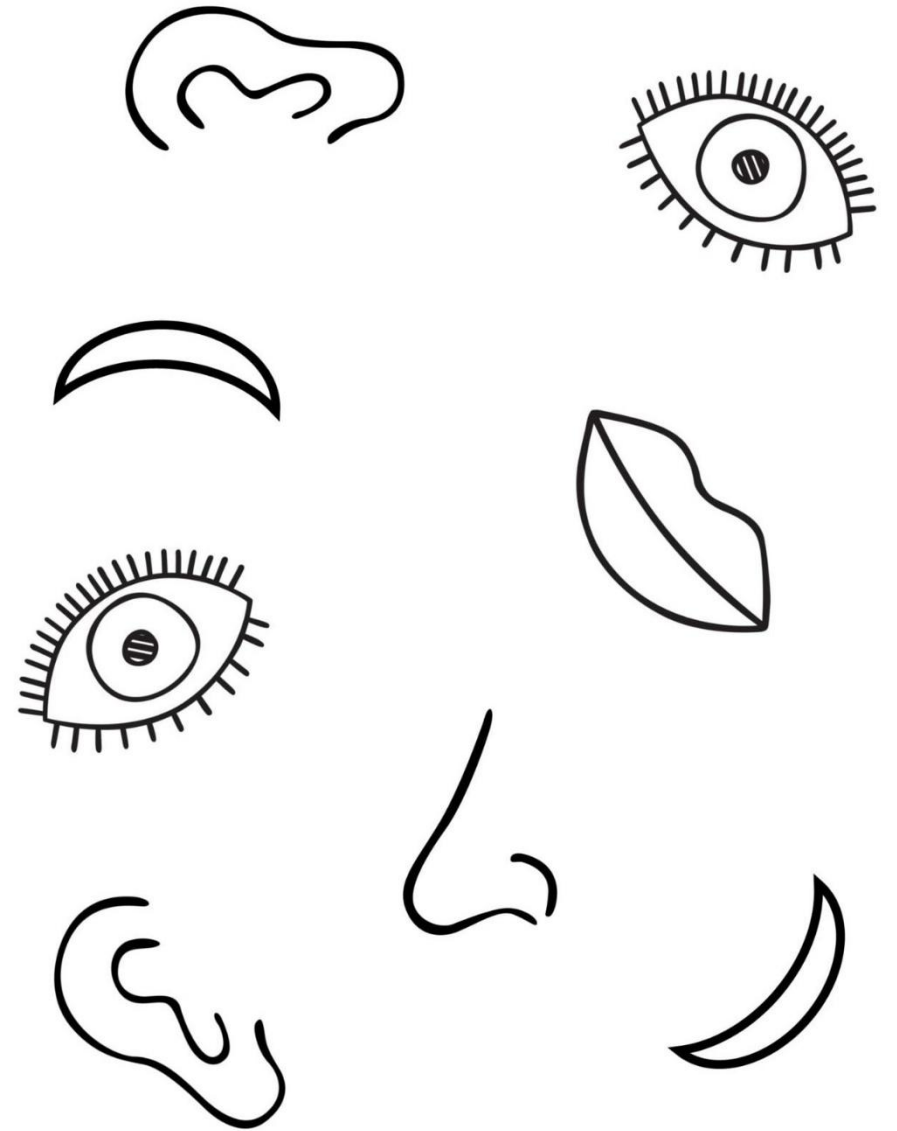
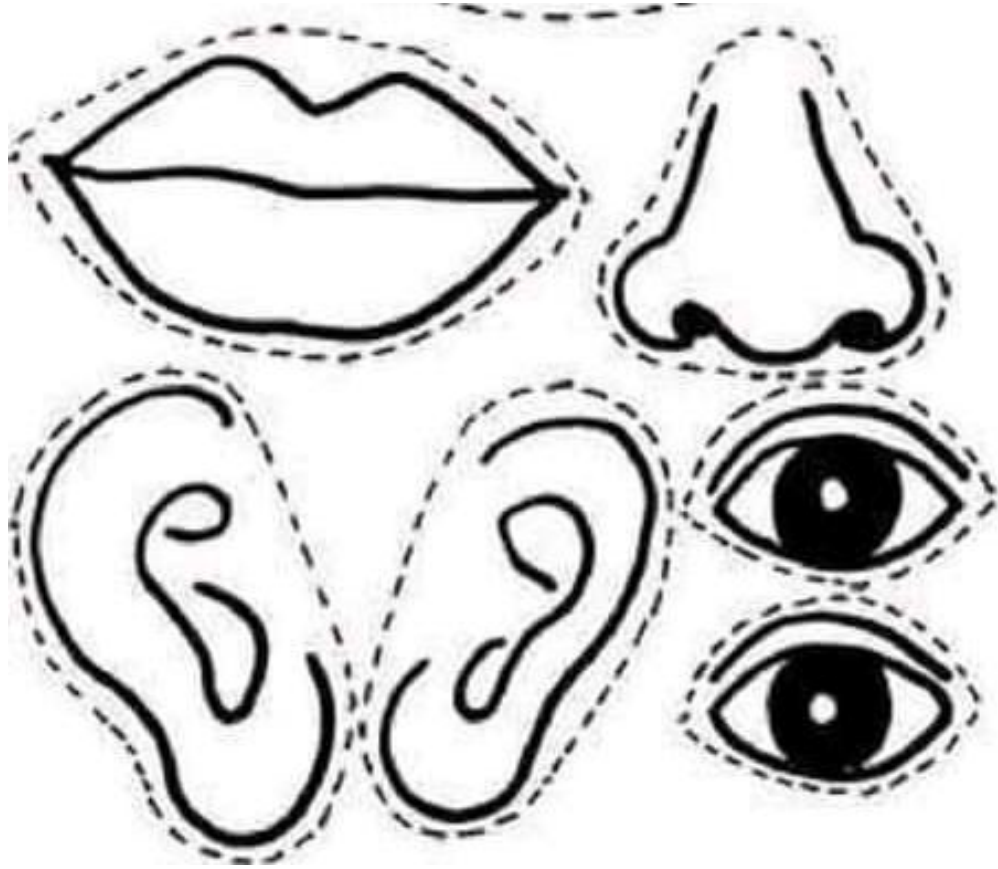
Coding solutions: Copy and cut the code below. Give one to each learner in the group and ask them which animal each landed on. Star indicates the start when in the top left corner.



GRADE R TERM 2 CODING & ROBOTICS WEEK 7			
Topic: My senses 2 x 30 minute lessons per week			
TERM 2 WEEK 7	COMPETENCIES	TEACHER GUIDELINES for PRACTICAL ACTIVITY	RETRIEVAL PRACTICE
Learning Intentions: Learners will learn to ... ➤ Design and make a simple model. ➤ Show how something works using actions.	R5 R6	Problem statement: Amanda is confused about which sense to use for each object. Help her design a model that matches each object to the correct sense. Resources: Pictures Sticks Glue Scissors Paper plates (or cardboard as the face) R5: Give learners pictures of body parts representing different senses. Ask the learners to paste the pictures of the body part on the sticks or straws.	R6: Learners place their faces on a grid. The group then gives verbal instructions to get to their own face. Each learner gets a chance to be coded to get to their own face.
	COMPETENCIES	TEACHER GUIDELINES for THEORY	
Success Criteria: I can...	➤ Make a simple model. ➤ Show how the model works.		

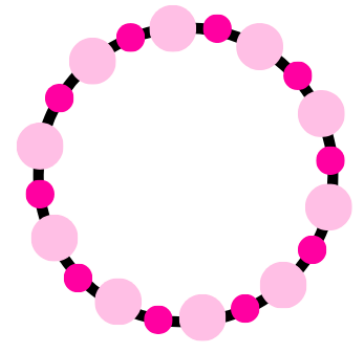
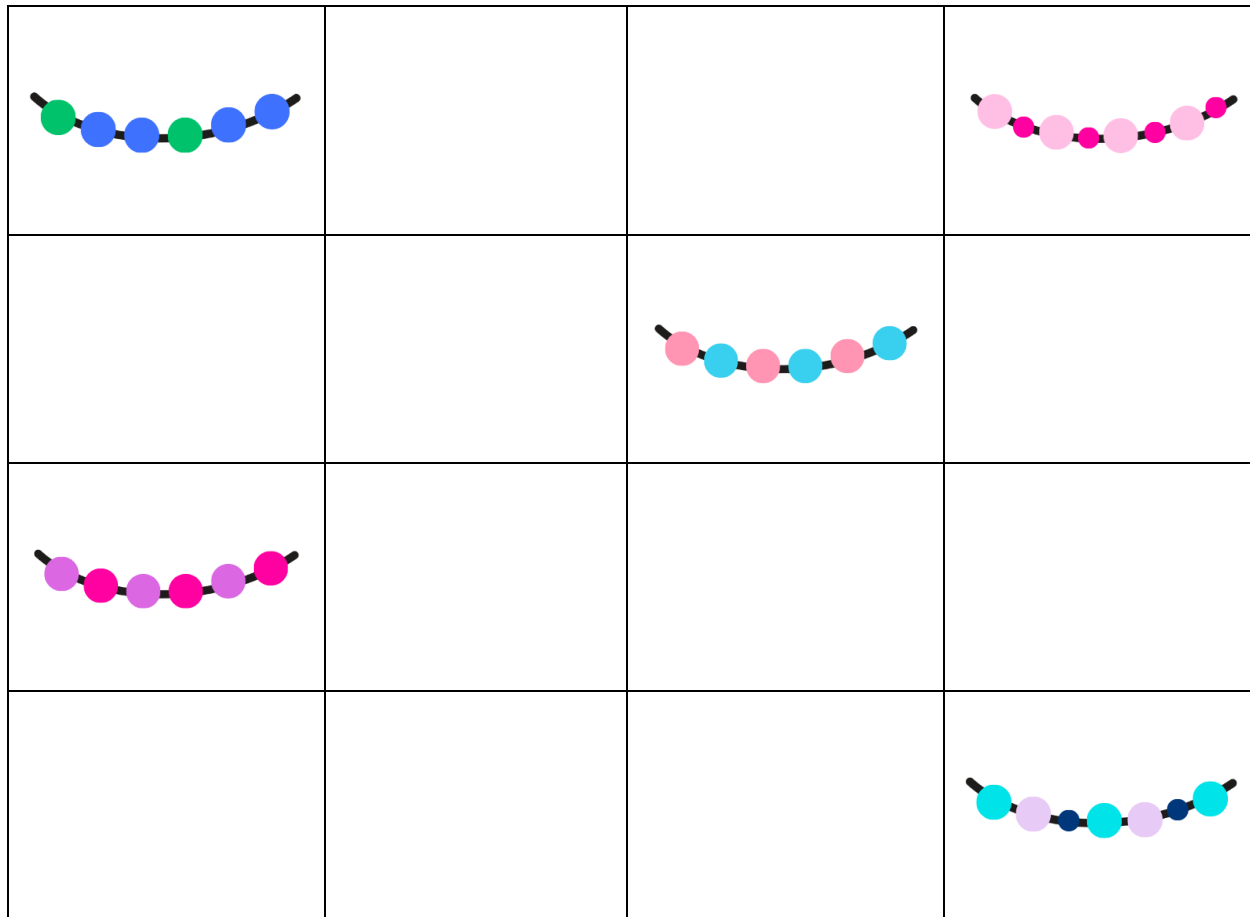
Artifact

There are 2 options below to choose from. Print one and give to the learners to cut out and stick on a plate or cardboard circle. Attach a stick to the back to finish.

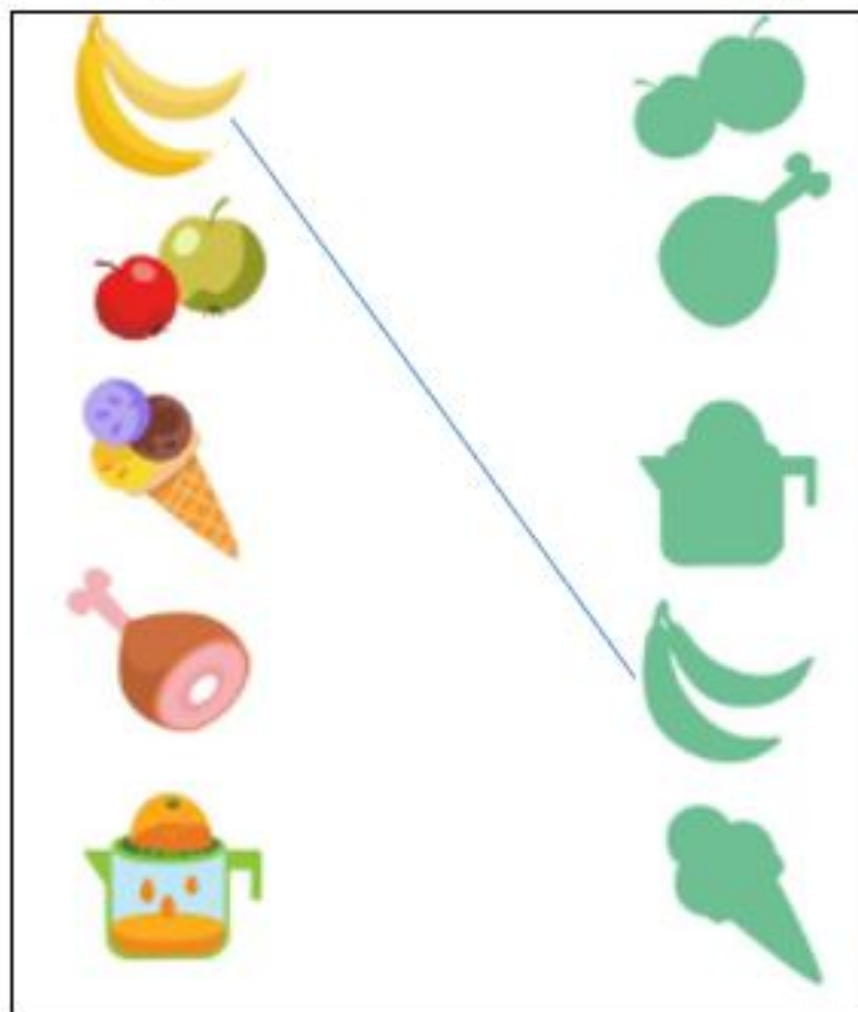


GRADE R TERM 2 CODING & ROBOTICS WEEK 8			
Topic: Touch		2 x 30 minute lessons per week	
TERM 2 WEEK 8	COMPETENCIES	TEACHER GUIDELINES for PRACTICAL ACTIVITY	RETRIEVAL PRACTICE
Learning Intentions: Learners will learn to ... ➤ Follow steps to make a pattern. ➤ Recognise the parts of a pattern. ➤ Name a job that a robot can do.	C1 C6	Problem statement: Timo wants to make a beautiful necklace but is struggling to follow the pattern. Let's help Timo to follow the correct pattern. On the grid, identify the sequence that repeats to make a pattern. Resources: Beads of different colours, shapes and sizes Pipe cleaners Use arrows A picture of the correct and incorrect sequence. Learners will choose one and complete the string of beads.	Activity: Use the activity cards or worksheet to identify the patterns. Activity cards: play a memory game with the learners where they must find and match the correct cards. Worksheet: Learners draw lines to match the patterns.
	COMPETENCIES	TEACHER GUIDELINES for THEORY	
	R1 R2	Role play: Robot and coder: Teacher plays Simon says... with the learners.	Ask questions about your vacuum cleaner robot. Does it have legs? Why not? Why is it small?
Success Criteria: I can:	➤ Follow steps to identify the sequence in a pattern ➤ Find and match patterns. ➤ Name a job a robot can do.		

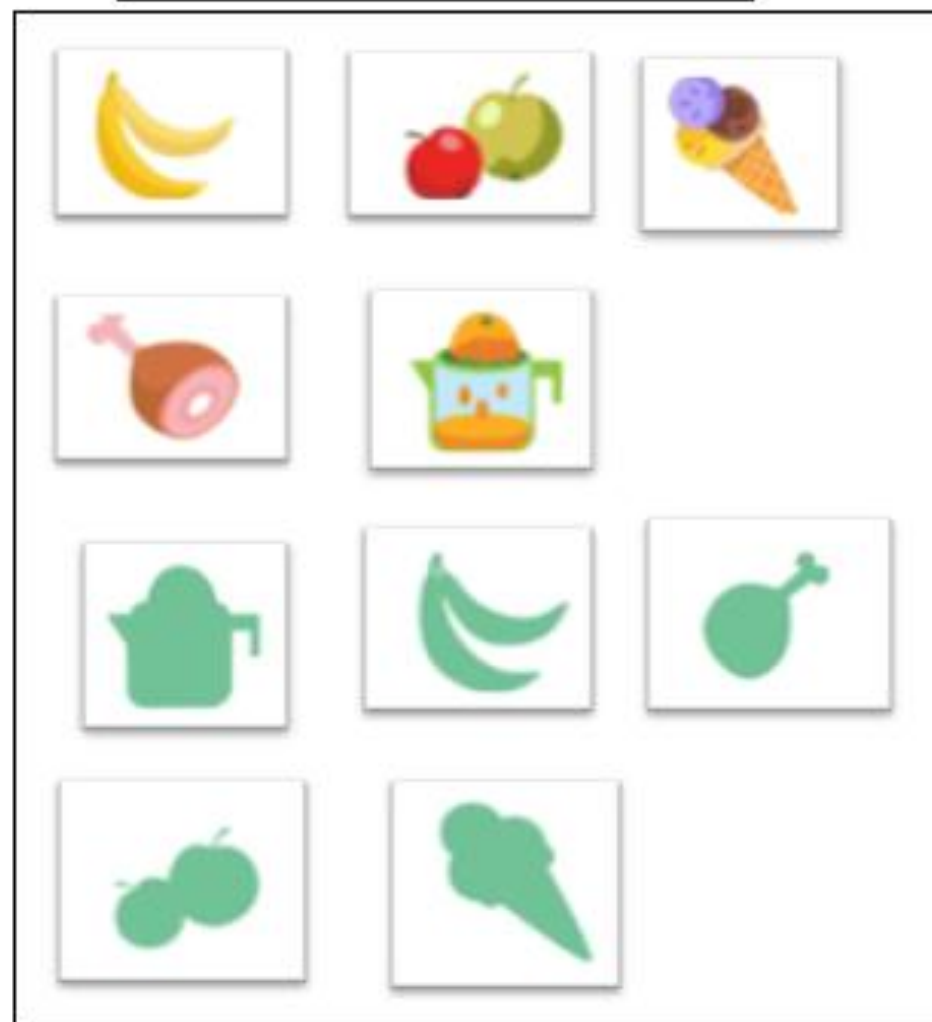
Create code to get to the necklace that matches the necklace on the right.



Matching Worksheet



Matching card game



GRADE 1 TERM 2 CODING & ROBOTICS WEEK 9			
2 x 30 minute lessons per week			
TERM 2 WEEK 9	COMPETENCIES	TEACHER GUIDELINES for PRACTICAL ACTIVITY	RETRIEVAL PRACTICE
Learning Intentions: Learners will learn to ... ➤ Put pictures in the correct order. ➤ Follow steps to solve a problem. ➤ Work together and take turns.	C1 C2 R6	Problem statement: John's animals are very hungry and now we must assist him to feed them by arranging the set of pictures in the correct order (from waking up to when he goes back to his house). Resources: Pictures 4x4 grid Use the grid below and pack out the 5 pictures of the shepherd. In groups of 5, learners take it in turns to give instructions (verbally) to collect one picture at a time in the correct sequence.	Activity: Have 5 learner standing in front of the class wearing different animal masks. Let them identify and say which animals it is and then the whole class imitates the sound. Move like different animals, on the instruction of their peers or teacher.
	COMPETENCIES	TEACHER GUIDELINES for THEORY	
	D2 D3	Revise what personal information is: Name, surname, address, time we get home, etc Don't put name of outside of suitcase.	For what are phones used: Photos, phone people, maps, etc
Success Criteria: I can...	➤ Put pictures in order. ➤ Follow steps to solve a problem. ➤ Work well with others.		







GRADE R TERM 2 CODING & ROBOTICS WEEK 10			
Topic: Festivals and Special Day		2 x 30 minute lessons per week	
TERM 2 WEEK 10	COMPETENCIES	TEACHER GUIDELINES for PRACTICAL ACTIVITY	RETRIEVAL PRACTICE
Learning Intentions: Learners will learn to ... ➤ Create and follow simple codes. ➤ Act like a robot by following instructions.	C2 C3 R6	Problem Statement: Sara is attending her sister's wedding this weekend. Help her to choose three appropriate items to wear for the event. Resources: 4x4 grid Coding arrows Learners will be provided with a 4x4 grid and coding cards/arrows to choose three items for Sara. One learner will take the role of coder and one will take the role of the robot. The coder creates a coding solution to program the "robot" to collect the items from the grid.	Activity: Learners now rotate grids. They then execute the previous groups' code to see which items they chose to select.
	COMPETENCIES	TEACHER GUIDELINES for THEORY	
Success Criteria: I can...	➤ Create a simple code. ➤ Follow a code like a robot.		

