List of Science and Mathematics Lesson Plans

Science

	District	Торіс	Page	Торіс	Page
DЗ	Tano South	Waves	134	Soil	135
гЗ	Assin North	Waves	136	Water Purification	137
D /	Akatsi	Source of Energy	138	Interaction of Matter	139
Г4	Adansi North	Grouping of Animals	140,141	Electric Circuit	142
DE	Wa Municipal	Types of Soil	143-145		
РЭ	Akuapem North	Soils	146,147	Heat Energy	148,149
	Kassena Nankana	Mixtures	150-152		
De	Tamale Metro	Diversity of Matter	153,154		
P 0	Mpohor Wassa East	Seeds	155		
	Dangme West	Heat	156-158		

Mathematics

	District	Торіс	Page	Торіс	Page
	Tano South	Collecting and Handling Data	159,160	Fraction	161
Ρ3	Assin North	Multiplication of Numbers	162-64	Measurement of Time and Money	165
	Akatsi	Fraction	166,167	Fraction	168,169
Ρ4	Adapai North	Measurements of	170	Investigation with	171
	Adansi North	Length and Area	170	Numbers	171
	Wa Municipal	Collecting and Handling	172		
P 5		Data	172		
1.5	Akuanam North	Measurements of	173	Factors and Prime	174-176
		Length and Area	175	Numbers	174-170
	Kassena Nankana	Chang and Chang	177 178	Collecting and Handling	170-181
			177,170	Data	179-101
	Tamala Metro	Addition (BS 2)	182 183	Collecting and Handling	184
P 6			102,103	Data	
	Mpohor Wassa East	Fractions	185,186		
	Danama Wast	Investigation of	197 199	Chanco	180
	Dalighte West	Numbers	107,100	Chance	109

TANO SOUNTH

References: MOESS, Sept. 2007 Primary School Natural Science Syllabus Primary School Natural Science Pupil's book

Class: Primary 3 Subject: Natural Science

Day/ date / duration	Topic/ subtopic	RPK/ OBJECTIVES	TEACHING –LEARNING ACTIVITIES	TLMs	CORE POINTS	EVALUATION
Day:	Topic:	RPK:	INTRODUCTION:			
Wednesd	Waves	1. Pupils can	Introduce the lesson through questions:			
ay		beat drums to				
-	Subtopic:	produce	1. How does a drum produce sound?			
Date:	Creating	sound.	2. What happens to the surface of a river if a stone is			
17/10/'07	waves	2. Pupils have	thrown into it?			
		been throwing				Fill in the gaps
		objects e.g.				
Duration		stones into				
<u>:</u>		rivers			CORE POINT 1	
60 mins			<u>ACTIVITY 1:</u>	Drum	Particles on drum which	
			- Sprinkle some chalk particles on a drum and ask a pupil	Chalk	is being beaten move up	1. When the drum is
		Objectives: By	to beat it while others observe.	Particles	and down rapidly.	beaten, the chalk
		the end of the	- Ask pupils to observe carefully the movement of the		This motion is called	particles move
		lesson pupil will	particles. Let pupils talk about the type of movement		vibration.	and .
		be able to;	observed.			
				Pan	<u>CORE POINT 2</u>	
		i) Demonstrate	<u>ACTIVITY 2:</u>	Water	Water produces waves	2. Water
		how a drum	- Give a pan full of water to each group.		when it is disturbed.	produces ,
		produces waves.	- Ask pupils to beat the side of the pan full of water.			when it is
			- Ask pupils to observe carefully the movement of the			disturbed at one
			surface of the water in the pan.		<u>CORE POINT 3</u>	end.
				Dry wood	The piece of wood moves	
		11) Demonstrate	ACTIVITY 3:		from the middle to the	
		how water	- Let pupils put a floating object (piece of dry wood) in the		side of the pan. Energy	a .
		produces waves.	middle of the pan full of water.		from the waves moved the	3. <u>carries</u>
			- Ask them to beat one side of the pan again vigorously.		piece of wood. Therefore	energy.
			- Let pupils observe carefully the movement of the dry		waves carry energy.	
			wood and talk about what they see.		ADDI ICATION	1 Montion tors
					APPLICATION Energy from waves helt	4. Mention two
		iii) Evolain heur			Energy from waves help	unings that can be
		m) Explain now			Swimmers sometimes	
		waves cally	CLOSUDE.		make use of energy from	waves.
		energy.	CLUSUKE:		make use of energy from	
		1	Summarize the lesson and assign pupils exercises.	1	waves when swimming.	

TANO SOUTH

References: Natural Science Syllabus pg24

Subject: Natural Science

Class: P3

Day/ date / duration	Topic/ subtopic	RPK/ OBJECTIVE S	TEACHING-LEARNING MATERIALS (TLMs) TEACHING-LEARNING ACTIVITIES (TLAs)	CORE POINTS	EVALUATION
Day/ date / duration Day: Wednesd ay Date: 17/10/'07 Time: Duration : 45 mins	Topic/ subtopic <u>Topic:</u> Soil <u>Subtopic:</u> Compositi on of soil	RPK/ OBJECTIVE S Pupils grow crops in the soil and have seen ants, earthworms, pieces of stones in soils. Objectives: By the end of the lesson pupils will be able to; i) List at least 3 things a sample of soil contains	TEACHING-LEARNING MATERIALS (TLMs) TEACHING-LEARNING ACTIVITIES (TLAs) TLMs: Sample of garden soil, transparent containers, stick, pencil, worksheet and water. Introduce the lesson by revising pupils RPK through questions. e.g. Where do you grow crops? Expected answer: In the soil. 2. What are some of the things found in soils? Expected answer: ants, stones, worms, dead leaves. ACTIVITIES: 1: Put pupils into groups and provides them with the TLMs. 2: Let pupils observe a given sample of soil and record the things they can see in the soil sample on work sheets provided. 3: Guide pupils to fill the transparent containers with the garden soil. 4: Guide pupils to pour water into the container and observe what happens after a few seconds then stir, shake and allow it	CORE POINTS Composition of soil A given sample of soil contains: - Air - Water - Rock Dead plants and animal remains. Bubbles of air are seen in the soil	EVALUATION List the components of soil.
			to stand. 5: Pupils observe the different layers of soil and discuss their observation. <u>CLOSURE:</u> Ask pupils questions to check their understanding of the lesson.	<u>APPLICATION</u> Soil contains materials which helps plants to grow well (plant food).	<u>REMARKS</u>

ASSIN NORTH

6th WEEK-ENDING:- 24th October 2007 SUBJECT: NATURAL SCIENCE CLASS: B.S. 3 NO ON ROLL: REFERENCES:

AVERAGE AGE: 1. MOE (2007), PRY NATURAL SCIENCE SYLLABUS PP 2. PRY INTEGRATED SC PUPILS BK 3 PP

Day/ Duration	Topic/ Sub-topic	R.P.K. Objectives	Teaching/Learning Activities	T.L.M.	Core Points	Evaluation/ Remarks
Wednesday 24/10/07 60 mins	<u>Topic</u> Waves <u>Sub-topic</u> Waves	<u>R.P.K.</u> Pupils have seen how some Creatures move e.g. maggots, caterpillars, etc. <u>Objectives</u> By the end of	INTRODUCTION (5 mins) Ask pupils to demonstrate and draw how caterpillar moves. Answer: Caterpillars move up and down <u>ACTIVITY 1</u> Pupils work in groups. Pupils drop small object/ e.g piece of dry wood at the surface of water in a container and observe what happens <u>ACTIVITY 2</u>		There is up and down movement from the centre - where the object was dropped - towards the sides of the container	 i) What happened to the water surface? The surface moved up and down. ii) When a bigger object was dropped, what happened? The waves move faster. iv) In what direction did the wave move? Away from the source.
		the stipulated time, the pupils will be able to: 1. Create waves	Let pupils pour some powder / chalk particles on a drum and beat it. Pupils observe and describe the patterns made by the vibrating particles. <u>ACTIVITY 3</u>	Drum, powder	The particles move up and down away from the surface where it was beaten.	v) How did the particles move? Ans. They move up and down away from the source.
		2. Explain that waves carry energy	Let pupils tie a rope to a post and move one end up and down and observe what happens	Rope, post	There is movement of the rope up and down towards the post. The up and down movement from a source is what is called wave. Waves can be created in the following ways: - dropping objects in water - causing / making particles on drum surface to vibrate -moving one end of a rope up and down when the other end is tied to a post	vi) Describe the movement of the rope and it moved up and down.vii) What name is given to the up and down movement of the rope waft surface/particles?Ans. Waveviii) How do we create waves?Ans. By dropping object in water, move rope up and down etc.x) What makes the leaf to move?Ans. Waves
			Let pupils observe a light object e .g .a dry leaf on the surface of water.	Dry leaf	Waves cause objects / things to move e.g. dry leaves, pieces of paper etc. Waves carry energy which makes drums, speakers, sound (have high sound).	xi) When do we say somebody/something has energy? Ans. When work is done.
			<u>CLOSURE</u> Discuss with pupils how sound gets to the ear		<u>APPLICATION</u> Light and tough materials are suitable for drums, speakers, etc.	<u>Written exercises</u> Let pupils draw waves.

ASSIN NORTH LESSON PLANS - ASEI & PDSI WORKSHOP

6th WEEK-ENDING:- 19th October 2007 SUBJECT: NATURAL SCIENCE

NO ON ROLL: 60 REFERENCES: AVERAGE AGE:

S: 1. MOE (2007), PRY NATURAL SCIENCE SYLLABUS PP

CLASS: B.S. 3

Day/ Duration	Topic/ Sub-topic	R.P.K. Objectives	Teaching/Learning Activities	T.L.M.	Core Points	Evaluation/ Remarks
Duration Tuesday 23/10/07 40 mins	Sub-topic Sub-topic Water Purification	Barbon Stress R.P.K. Pupils have been fetching water from different sources Objectives By the end of the stipulated time, the pupils will be able to: 1. Mention at least two methods of purifying water 2. Demonstrate how to make dirty water clean using filtration (sand bed) method.	INTRODUCTION (5 mins) Ask pupils to mention some sources of water in the locality and compare how clean they look they look. EXPECTED ANSWERS River, Stream, Bore-hole, pipe-borne. The pipe-borne water looks cleaner PRESENTATION/DEVELOPMENT (30 mins) 1. Ask pupils to mention the various ways of making the dirty looking water(stream water) to look clean 2.Guide pupils to demonstrate filtration of dirty water using a clean cloth /handkerchief. 3.Guide pupils to demonstrate filtration using the filter bed/ model filter with instructions from a work sheet 4. Discuss with pupils other methods of making water pure <u>CLOSURE (5 mins)</u> Summarise lesson with the pupils through questions. E.g. Why do people prefer drinking 'pure' water to ordinary water?	Unclean water, handkerchiefs, cotton wool, (filter paper), empty voltic containers, knife	Methods of purifying Wateri) Filtration, ii) Boiling, iii). DistillationImage: Dirty waterVery fine sand particleImage: Small stone particleSmall stone particleImage: Small stone pa	Describe how unclean water can be filtered

<u>AKATSI</u>

Class: Primary 4 **Subject:** Integrated Science

Day/ date / duration	Topic/ subtopic	RPK/ OBJECTIVE S	TEACHING-LEARNING ACTIVITIES (TLAs)	TLMs	CORE POINTS	EVALUATION
	Source of energy	<u>RPK:</u> Pupils can explain why they eat food.	<u>Introduction</u> : (5mins) Teacher asks pupils to give reasons why they eat food.			
		Objectives: By the end of the lesson , pupils will be able to:	Some Expected answer: i) because we are hungry. ii) to help us to work. iii) to grow. iv) to get energy.			
		4.1.1.: explain the term 'energy'.	<u>Activity 1:</u> (10 mins) Through teacher led discussion pupils explain the term energy.	Syringe, water, lens, dry cell, bulbs, copper wire.	Energy is the ability or capability to do work. Some sources of energy are; 1.Water, 2. Wind, 3. Dry cell, 4. Sun (Solar) 5. Fuel	Explain the term 'energy' . List 4 sources
		4 sources of energy. 4.1.3.: demonstrate two uses of	Activity 2: (20 mins) Teacher provided materials and task cards to pupils to perform activities in order to discover various sources of energy. Activity 3: Let pupils draw table showing the sources of energy		Source of energy Type of energy produce 1) 2) 3) 4)	Pupils draw table showing
		solar energy.	Activity 4: With the use of hand lens, carbon paper, evaporation disc and water.	Hand lens, carbon paper, evaporation	Solar energy can produce heat with dries or burns substances. <u>Application:</u> 1. Solar energy can be used to	energy and type of energy produced.
			<u>Closure:</u> Summarize lesson, using questions and answers.	disc and water.	warm water.2. Solar energy can be used to preserve food e.g. fish and cocoa beans.	Pupils copy correct answers to question.

<u>AKATSI</u>

Class: P4 Subject: Integrated Science **References:1**. Wiredu M.B.et al, Primary Integrated Science pupils book pages 126-130 2. Primary Integrated Science Syllabus page 9.

DAY/ DATE	TOPIC/ SUBTOPIC	RPK/ OBJECTIVES	TEACHING-LEARNING ACTIVITIES (TLAs)	TLMs	CORE POINTS	EVALUATION
DATE	SUBTOPIC TOPIC: Interaction of matter. SUBTOPIC: Forces	OBJECTIVESRPK:Pupils pull andpush objects.OBJECTIVES:By the end ofthe lessonpupils will beable to:i) explain theterm "Force" .ii) 5.1.2describe atleast twodifferent typesof force.	 INTRODUCTION (5mins): Ask a pupil to push a door to close it and another pupil to open the same door. Ask another pupil to push his desk and also pull a colleague. Let them describe their observations 15mins <u>ACTIVITIES</u> (1) Lead pupils through discussions to come out with the explanation of "force". 15mins (2) a) Let pupils throw various objects e.g stones, oranges up and observe them fall back to the ground. b) Let them say and discuss their observations. (3) a) Guide pupils to put their two palms together and rub them quickly and observe what happens. 		A force is a push or a pull. An object thrown up always comes down due to a force. This force is called <u>gravitational force</u> It is the force that pulls everything to the earth. The friction between the palms makes the movement difficult. Oiling the palms reduces the friction.	Explain the term 'force' . Explain the term. a) gravitational force. b) frictional force.
			b) Let them smear pomade in their palms now and rub them together again and feel it and discuss.10mins	Magnet	Frictional force is the force which slows down the movement between two objects in contact. Magnetic force is the force found in magnets	
			 (4) a) Guide pupils to bring a magnetic material(e.g. a nail) towards a magnet b) Let pupils say and discuss their observations. <u>CLOSURE (2mins):</u> Ask pupils some oral questions based on the topic treated. 	Nails	that attracts magnetic materials. <u>APPLICATION:</u> A person jumping out from an airplane uses a parachute to reduce the gravitational force.	<u>REMARKS</u>

ADANSI NORTH

SUBJECT: integrated Science **CLASS:** B.S. 4

REFERENCES:

J.W. Lssiah, et al, Integrated Science doe Pri.Sch. book 4, page 35
 M.Baah, Man and his environment, page 4-9

Day/	Topic/	R.P.K.	T.L.M./	Core Points/Application Evaluation/ Remarks
Duration	Sub-topic	Objectives	Teaching Learning Activities/Closure	
Wednesda y 24/10/07 60 mins	Sub-topic Topic Groups of Animals Sub-topic Grouping of animals	pic Objectives R.P.K. Children play and care for animals and also use animals in ng animals in various ways Objectives By the end of the lesson, the pupils will be able to: 1. Group animals according to their	T.L.M. T.L.M. Pictures of animals that live in water, in air and on land. Examples are tilapia, mud fish, goat, lizard, vulture, cat, horse, rabbit, tortoise, dog, snail, and frog. Introduction: 1. Pupils give names of some animals they know. 2. Pupils group animals into two according to those that live in the home and those that live outside the home. 3. Pupils give two differences between a dog and a fish. Activity 1. Give pictures of animals to pupils for grouping using their own criteria. 2Pupils give reasons to their grouping of the animals. 3. Guide pupils to regroup if necessary, the animals according to their movement, living places and body covering.	Expected answers Snake, cat, lizard, dog, cockroach, fowl/heu, duck, tilapia.Animals at home include: hen, duck, and cockroach.Animals outside home include: snake, tilapia.Dog walks but fish swims.Dog walks but fish swims.Dog lives on land but fish lives in water.Animals and types of movementswimflyWalktilapiaCockroach, Cricket, Fowl, Crow, vultureAnimals and their living placesIn waterIn airOn landWaterIn airOn landWaterIn airOn landWith their living placesIn waterIn airOn landWith their living placesState <t< td=""></t<>
		living places and body coverings. 2. Give an importance of body coverings in animals 3. Mention 2 uses of named animals	 4 Discuss uses of body covering to animals. 5 Discuss with pupils the uses of the animals listed, as well as the meaning of some new terms e.g. cuticle 	tilapia Vulture, Crow, Cricket, Cockroach, snail, Goat, Fowl, dog Animals and their body covering cuticle shell feathers cuticle shell feathers Cockroach, Tortoise, Vulture, crow Tilapia, Dog, goat, horse, rabbit, cat, bat Some uses of body coverings in animals 1. For protection of the parts inside the body 2. To prevent heat from entering and leaving the body 3. Act as water proof Some uses of animals 5. Vitte down 2 uses of 3 named animals. 5. Some animals are used for games (horse for horse racing) 5. Some animals are used for research (to find out position and shape of certain body parts) Application Remarks

Science (Adansi North)

WORK SHEET

Activity (1) Group the animals listed in the table below according to their type of movement.

Animals that swim	Animals that fly	Animals that walk

Activity (2) Group the animals according to their living places.

Animals in water	Animals in air (on tree)	Animals on land

Activity (3) Group the animals according to their type of body covering.

Cuticle	Shell	Feathers	Scales	Fur

ADANSI NORTH

References: New Syllabus for BS 4, pg10. Course Book BS 6, pg77.

Subject: Integrated Science

Class: BS 4

Day/ date / duration	Topic/ subtopic	RPK/ OBJECTIVES	TEACHING –LEARNING ACTIVITIES	TLM	CORE POINTS	EVALUATION
	Topic: Inductors and capacitors in an electric circuit Subtopic: Simple electrical circuit in series and the functions of the component.	 RPK: Pupils have been using torchlight and other electrical appliances. Objectives: By the end of the lesson pupil will be able to; 1. Construct a simple circuit in series. 2. State the functions of at least two parts of components of the circuit. 	INTRODUCTION Use questions and answers to introduce the lesson. e.g, What do you use in the night to see in darkness? Answer: lamp, torchlight. What are the parts of the torchlight that makes it to produce Answer: bulb, wire, dry cell, switch Acctivities 1. Introduce the components of the circuit to the pupils Group the pupils and give the TLMs and work cards to them to follow the instructions to make a simple electric circuit in series 2. Assist pupils to state the functions of the components of the circuit they have constructed.	Bulb, wire nails, dry cells, stones and board.	Wire bulb Simple electrical circuit Functions of the components of the circuit. Key – it is used to close or open the circuit, Bulb – it shows that current is flowing through the circuit Dry cell – it is the source current round the circuit Connecting wire – it is used to transfer current from the dry cell to the bulb	What is the function of the following components of a circuit? 1. key 2. wire 3. bulb in a circuit
			Summarize the functions of the components of the circuit with pupils. What happens if the circuit is opened?		APPLICATION There will be no light of the circuit is opened.	

WA MUNICIPAL

References: Integrated Science Syllabus, pg38-39, Pupils textbook, pg48-49, Teacher's guide, pg 42-43

Class: P5 Subject: Integrated Science

Day/	Topic/	RPK/	TEACHINC LEADNING MATERIALS (TLMg)		
date /	subtopic	OBJECTIVE	TEACHING-LEARNING WATERIALS (TLWS) TEACHING-LEARNING ACTIVITIES (TLAS)	CORE POINTS	EVALUATION
duration		S	TEACHING-LEARNING ACTIVITIES (TEAS)		
Day:	Topic:	<u>RPK:</u>	$\frac{\text{TLMs}}{1000}$		
	Types of	Pupils work in	Loamy, sandy and clayey soils, funnels filter paper / cotton		
Datas	SO11.	the school	wool, beakers (plastic) water etc.		
Date:	Subtonio	garden.	INTRODUCTION.		
	Broportios	Objectives	<u>INTRODUCTION:</u> Through question and answer method, pupils state they types		
Time	of soil	By the end of	of soil in their locality		
<u>Ime.</u>	01 3011.	the lesson	Expected answer: garden soil clayey soil sandy soil black		
		nunils will be	soil		
Duration		able to:	5011		Oral questions
:			ACTIVITIES		what type of soil
-		i) Determine at	1.		is in the school
		least two	- Put pupils into groups of five and give them the 3	Sandy soil has larger particles, is rough and	garden?
		differences in	samples of soil.	is brownish in colour	-
		and clavey	- Pupils touch, feel and describe the soils samples provided	Loamy soil has small particles, is smooth	What is the color
		soil.	in terms of color, texture and particles size and record	and is black in colour.	of the soil?
			their observations in a table.	Clayey soil is has very small particles, is	
			Type of Color Size of Feel/Texture	very smooth and is whitish brown in colour	
			Sold particles		
			Clavey		
			Loamy		Writton
					questions
			2		which soil type
		ii) Demonstrate	- Using the same type of soil samples, pupils find out if the	Different soils allow water to drain through	will dry up
		the water	types of soil allow water to pass through them at the same	them at different rates. Sandy soil allows	quickly and
		capacity of	time by following instructions on a work card.	water to pass through easily. Loamy soil	why?
		sandy, loamy	- Ask the group leaders to read out their observation and	allows water to pass through it better than	5
		and clayey	discuss their group fining with the class.	clayey soil.	
		soil.	Type of Soil What happened to the water after 3 minutes.		Which soil will
			Clavey		be best for
			Loamy		growing crops in
			<u>CLOSURE:</u>	APPLICATION	the garden?
			- End lesson through question and answer method.	Loamy soil holds sufficient water for	
			C 1	pleasant growth.	

ASEI/PDSI WORKSHOP AJUMAKO 14TH - 19TH OCTOBER, 2007

WATER HOLDING CAPACITY OF SOILS (P5)

ACTIVITY 2

MATERIALS NEEDED:

COTTON WOOL, PLASTIC CONTAINERS, SAMPLES OF SOILS, FUNNELS

THINGS TO DO

- 1. Put equal amount of tissue /cotton/toilet roll in the neck of the 3 funnels provided for your group.
- 2. Measure equal volumes of the 3 soil samples provided.
- 3. Pour the measured soil into the 3 different funnels.
- 4. Tap/ shake the funnels to allow the soil to settle.
- 5. Place the funnels with the soil on the plastic mineral water containers provided.
- 6. Measure equal volumes of water using the containers provided.
- 7. Pour the measured volume of water into the funnels containing the soil samples.
- 8. Allow the set up to stand for about 10 minutes.
- 9. Observe and record what happens after 10 minutes in the table provided below.

TYPE OF SOIL	SANDY SOIL	LOAMY SOIL	CLAYEY SOIL
TIME TAKEN			
FOR WATER TO			
PASS THROUGH			
SAMPLE SOIL			

Result of the Experiment

Type of Soil	What happened to the water after 3 minutes?
Clay	
Sand	
Loam	

Properties of Soil Types

Type of Soil	Colour	Size of Particles	Feel or Texture
Sandy			
,			
Clavev			
, , , , , , , , , , , , , , , , , , ,			
Loamv			
,			

AKUAPEM NORTH

REFERENCE: 1. Primary School Science Syllabus, pg.38-39 2. Integrated Science Bk.5, pg. 103-107

Subject: Integrate	d Science		REFERENCE: 1. Primary School Scien	ce Syllabus, pg.38-39	
CLASS: P5			2. Integrated Science Bk	.5, pg. 103-107	
DAY/DATE/	TOPIC/	RPK/	TLMS/	CORE POINTS	EVALUATION/
DURATION	SUBTOPIC	OBJECTIVES	TEACHER LEARNER ACTIVITIES		REMARKS
Thursday	TOPIC		<u>TLMS</u> Samples of the three main types of soils funnels. Voltia		
25/10/07	Soil-		water bottles water stick cotton wool		
25/10/07	Types and		water bottles, water, stick, cotton woor.		
60minutes	properties of		INTRODUCTION		
	soil		Through questions, revise pupils' RPK to bring out the		
		<u>RPK</u>	topic. E.g. What do you use to mould/make cars,		
		Pupils have been	animals, human beings etc. when you are playing?		
		playing with soil.	Ans: Soil.		
			ACTIVITIES	Soil refers to the top layer of the	
			1. Lead pupils to explain the term 'Soil' and discuss the	ground in which plants can grow. Soil	
		OBJECTIVES	types of soil with them.	can be grouped into sandy, clayey and	
		By the end of the		loamy (garden soil).	(1) Name the 3 main types of
		lesson, the pupil			soil.
		will be able to:	2. (a) In groups, let children feel each sample of soil	The different types of soils have	
		(1) name the three (3) main types of	between their fingers in the dry form and record their observations	different textures. It is only the clayey	
		(3) main types of	(b) Let pupils repeat the activity in (a) above but with the	nicked up	(2) (i) Which type of soil is
		5011	soil samples wet. Ask them to try and roll each soil	Loamy soil can also keep its shape but	rough in texture?
			sample into a ball and try to pick each up. Let them	cannot be picked up.	(ii) Name the type of soil that is
			record their observations.	Sandy soil cannot keep its shape and	very smooth in texture.
		(ii) determine	(c). Discuss with pupils the types of soils they worked	cannot be picked up.	
		differences in the	with.		
		clayev and loamy			(3) (i) Which type of soil
		soils		The different samples of soil allow	allows water to pass through it
			3. Fill the three transparent containers to the same level	water to pass through them differently.	easily?
			with each of the three types of soil. Pour the same	Sandy soil allows water to pass	(ii) Name the type of soil which
			volume of water on each soil sample in the containers at	through it easily.	does not allow water to pass
			the same time. Observe which type of soil allows the	Loamy soil does not allow water to	through it easily.
			4 Discuss with pupils the type of soil which holds water	pass through it easily.	(11) soil holds water and it is difficult for water to pass
			best and therefore best for farming	is difficult for water to pass through it	through it.
		(iii) demonstrate		APPLICATION	PROJECT/
		water holding		Pupils can now tell the type of soil that	ASSIGNMENT
		soil clayey soil and		is good for farming purposes.	which types of soll (sandy, clavey or loamy) do you think
		loamy soil.	CONCLUSION		is good for farming? Explain
			Summarize the main ideas on the chalkboard to end the		why.
			lesson. Ask pupils to tidy up.		
					REMARKS

Science (Akuapem North)

ACTIVITY SHEET- SOILS

ACTIVITY ONE How does it feel?

How does it fe

INSTRUCTIONS

- 1. Pour little portion of the three types of soil on the sheet given to you. Rub each sample between your fingers.
- 2. How does each sample of soil feel?
- 3. Write Yes or No for your observations in the table below:

		How does it feel?	
Type of soil			Not smooth/
	Smooth	Rough	Not rough
Clayey			
Sandy			
Loamy			

ACTIVITY TWO

Which soil sample holds water longer?

INSTRUCTIONS

- 1. Fill each of the three funnels with one type of soil sample.
- 2. Pour the water given on the samples of soils in the funnel at the same time.
- 3. Watch which soil allows all the water to pass through it faster.
- 4. Write your results in the table below:

How water flows out of soil	Type of soil
1. Water flows out very fast	
2. Water flows out fast	
3. Water flows out very slowly.	

AKUAPEM NORTH

WEEKENDING: 26/10/07 SUBJECT: Integrated Science CLASS: BS 4 NO. ON ROLL: 36 AVERAGE AGE: 9-10years REFERENCE: 1. GES (2007). Integrated Science Syllabus for Primary Schools pg. 18

2. Macmillan Science for JSS pg. 155

3. Boateng-Ennimful, et al (2005). Integrated Science for Primary

Schools Bk 4 Teacher's Guide, pg. 49

4. Boateng-Ennimful et al (2005). Integrated Science for Prim. Sch. Bk 4, pg. 99-100.

DAY/ DATE/ DURATION	TOPIC/ SUB-TOPIC	RPK/ OBJECTIVES	TLM/TEACHER/ LEARNER ACTIVITIES	CORE POINTS	EVALUATION/ EXERCISES
Tuesday	<u>TOPIC</u>		<u>TLMS</u> Metallic spoon, tea cup, hot water, iron bar, shea butter,		
23-10-2007	Heat energy		candle		
60minutes	SUB-TOPIC Conduction	<u>RPK</u> Pupils can tell the effect of charcoal fire in a box iron	INTRODUCTION Find out from pupils how a box iron gets heated when they want to iron.	Heat moves from the charcoal fire to the iron.	
		OBJECTIVES By the end of the lesson, the pupil will be able to: (a) describe one	Let pupils predict what will happen if a metal spoon is put into a cup of hot tea. <u>ACTIVITIES</u> 1) (i) Let pupils test their	Tea Cup	1. Why does the metallic spoon gets hot in the hot water?
		method by which	prediction by pouring hot	The metallic spoon got heated because of the hot	
		heat energy travels	putting a metallic spoon in	spoon	
			it and observe what		
			happens and write their observations.		
			(ii) Let pupils place shea		
		(b) perform an	butter at intervals on the iron bar	A	
		experiment on how	(iii) Let pupils support the		
		heat travels in a	iron bar on a stand as shown		
		solid	in the diagram		

	(iv) Let pupils use a lighted candle to heat one end of the metal.	KEY: A- support B- copper wire C- shea butter D- burning candle E- wooden stand	2. Which shea butter melted first? Why?
	 2) (i)Let pupils describe the way the shea butter melted and suggest why. . (ii) Let pupils suggest a name for the process by which the heat traveled in the demonstration 	The shea butter closer to the candle melted first. Conduction is the process of heat transfer from one point to another through a material which is solid. <u>APPLICATION</u> Handles of household utensils are made of wood or plastic	3. How was the heat transferred?
	<u>CLOSURE</u> Discuss with pupils the activity they have performed and summarize the salient points of the lesson.		4. What is the name given to this method of heat transfer?
			Why are metallic ladles not used in cooking banku?
			REMARKS

KASSENA NANKANA

SUBJECT: INTEGRATED SCIENCE

REFERNCE: MOESS, Sept. 2007, Teaching syllabus for Integrated Science (Primary 4 - 6), (2007), pg21

CLASS : Primary Six.

DAY / DATE	TOPIC / SUBTOPIC	/ RPK OBJECTIVES	TEACHER. – LEARNER ACTIVITY	CORE POINTS	EVALUATION
	MIXTURES: preparation and separation of some mixtures.	<u>RPK</u> Pupils know some substances are soluble while others are insoluble in water.	TLMs Chalk powder, iron filings, 12 magnets, water, 1litre of edible oil, 12 cut- out frytol bottle bottoms, 12 cut- out frytol bottle tops, 12 nails, 12 camphor balls, perfume,		Answer the following
	(5 mins)	They prepare some meals by mixing varied food substances Objectives: By the end of the lesson a pupil will be able to : a). explain the concept mixture. b). demonstrate the formation of solid- solid mixture, liquid – liquid mixture and also separate these mixtures.	a) Pupils are asked to state the three states of matter. b) Some salt and a stone are placed in water which one will dissolve easily and why? c) State three different food items used for preparing fufu / soup /salad. d)Which materials are used to make mortar.? Discuss the concept 'mixture' with pupils	 a) Solid, liquid and gas. b) The salt will dissolve easily because its particles are more loose than that of the stone. c) <u>Fufu</u>: plantain, cocoyam, cassava, yam, <u>Soup</u>: meat, Salt, water, fruit/ root/ leafy vegetables, oil, etc. d) <u>concrete</u>: water, cement, stones, sand. <u>Mixture</u> : mixtures are substances produced from the physical combination of two or more.	 questions. What is a mixture? list two examples each of solid-solid and liquid-liqui d mixtures.
	(10mins) (10 mins)		Activity 1. Pupils identify the physical states of the TLMs given. They form a solid-solid mixture from iron filings and chalk powder. They separate the mixture using a magnet. Activity 2 Pupils identify the physical states of the TLM. They form a liquid - liquid mixture from water and oil. They separate the water from the oil Activity 3 Discuss with pupils more examples of solid- solid and liquid-liquid mixtures in their homes.	different substance. The components of mixtures can be separated using a physical method or processes. No new chemical substance is formed in mixtures. Type of mixture Substance formed : iron filings + chalk powder Method of separation: magnetization Type of mixture Liquid-liquid mixture	
				Method of separation: decantation	

Science (Kassena Nankana)

STUDENTS WORKSHEET

NAME OF SCHOOL: CLASS: Primary six

TOPIC: MIXTURESDATE:October 2007TIME.....

SUBTOPIC: PREPARATION AND SEPARATION OF SOME MIXTURES.

NAMES:.....

T/L MATERIALS:

iron filings, chalk powder, water, palm oil, stones, rice grains, magnet, perfume / camphor, powdered salt, two improvised beakers and trays.

NB: Identify to insure that the items written in the worksheet is what your group has been given

QUESTION

- 1. Predict:
 - Will the appearance or nature of two of your solids change if they are put/ combined together in a container?.....
- Predict : Will the appearance or nature of two of your liquids change if they are combined together in a container?.....

ACTIVITY 1

Materials: Use the iron filing , the chalk and magnet.

Question: what state of matter is the iron filings and the chalk powder?

Iron filings are.....and chalk powder is.....

Procedure

- (i) put the iron filings in the container,
- (ii) add the chalk powder to the iron filings in the container
- (iii) Stir the things in the container to form a uniform combination.
- (iv) What name is given to the uniform substance produced?
-
- (v) Can you separate the iron filings from the chalk powder?.....
- (vi) Put the magnet into the mixture and stir thoroughly.
- (vii) (a) Remove the magnet. What substance is on the magnet?......(b) What substance is left back inside the container?.....

ACTIVITY 2

Materials: use the water, the frytol oil, the cut- out frytol container top (A), The cut -out frytol container bottom (B) as a beaker and the nail.

Question:

- 1. What is the state of matter of the frytol oil and the water?
- 2. The oil is a and the water is a
- 3. Will the oil and the water combine to form one complete uniform substance? Yes/No

Procedure

- (i) Put the container **A** into the container **B**
- (ii) Pour the oil into the container A
- (iii) Add some of the water into the oil in the container A
- (iv) Stir the combination and allow it to settle as shown in the diagram
- (v) Has the two substances combined completely to form a uniform substance? <u>Yes/ no</u> Which substance settles at the top?.....

Which substance settles at the bottom?.....

Label the substance in the diagram as they have settled in your bottle.



Diagram of the activity

- (vi) Can you separate the oil from the water? YES / NO.
- (vii) Piece the nail through the lid of the container A and allow only the bottom liquid to drain down into container B.The liquid left in the container A is called

Thanks for your effort. Keep up.

By: Georgina and Eric Ajongba Kassena – Nankana District.

TAMALE METRO

SUBJECT: Integrated Science **CLASS:** B.S. 6

REFERENCES:

Teaching Syllabus for Integrated Science (P4-6) pg 25, Unit 2
 SWL Integrated Science for Primary Schools Pupil's book 6 Page 19

3. A First Handbook of Science Activities for Teachers Page 25 to 26

DAY;TopicR.P.K.Introduction (5minutes):NetherState any four us air.ThursdayDiversity of matterPupils of observe burning1. Children to predict what happens when 2 chancoal pots of fire used for cooking; one is fanned while the second one is not fanned.Natches, Candles, beakers/transparent materialsState any four us air.DATE: 18thSub-Topic Air supportsObjectives: By the end of the lesson, the pupils will be able to:2. Pupils to identify TLMs on demonstration table with the help of the teacher. Eg. Candle, beakers.Matches, Candles, beakers/transparent materialsMatches, Candles, beakers/transparent materialsThe candle which is covered goes off while the candle left uncovered continues to burn.DURA- TION: 60 minutes.1.Demonstrate that air supports burning.Activities(40minutes): the experiment to show the behaviour of fire with airMatches, Candles, beakers/transparent materialsThe candle which is covered goes off while the candle left uncovered continues to burn.00 minutes.1.Demonstrate that air supports2. Using the worksheet, assist pupils to perform the experiment to show the behaviour of fire with airMatches, Candles, beakers/transparent materialsThe candle which is covered goes off while the candle left uncovered continues to burn.0.2. State other turg3. Burnit error their findings to gramest	DAY/DA- TE/DUR- ATION	TOPIC/ SUB-TOPIC	OBJECTIVES/ R.P.K.	TEACHER/LEARNER ACTIVITIES	TEACHING/ LEARNING MATERIALS	CORE POINTS	EVALUATION/ EXERCISE
1. Breathing1. BreathingMention four us airuses of Air3. Tupits report their minings to generate class discussions and draw conclusions.1. BreathingMention four us air4. Ask pupils to mention some other uses of Air in their daily life.3. Burning2. DryingMention four us air3. Burning4. Filling tyres/balloons4. Filling tyres/balloonsClass exercise: Draw and lab diagram to show air supports burningDraw and lab diagram to show air supports burningSet class exercises to assess pupils understanding of the lesson. Move run to assist pupils with difficulties.Set class exercises to assess pupils understanding of the lesson. Move run to assist pupils with difficulties.Mention four us air	TE/DUR- ATION DAY; Thursday DATE: 18th Oct, 2007 DURA- TION: 60 minutes.	SUB-TOPIC Topic Diversity of matter Sub-Topic Air supports burning	R.P.K. Pupils do observe burning fires. Objectives: By the end of By the end of the lesson, the pupils will be able to: 1.Demonstrate that air supports burning. 2.State other two uses of Air State	 TEACHER/LEARNER ACTIVITIES Introduction (5minutes): Children to predict what happens when 2 charcoal pots of fire used for cooking; one is fanned while the second one is not fanned. Pupils to identify TLMs on demonstration table with the help of the teacher. Eg. Candle, match box etc. Activities(40minutes): Put pupils into groups and distribute TLMs through group leaders. Using the worksheet, assist pupils to perform the experiment to show the behaviour of fire with air Pupils report their findings to generate class discussions and draw conclusions. Ask pupils to mention some other uses of Air in their daily life. Conclusion (15minutes) Through questioning and discussions, lead pupils to state at least 4 uses of air. Set class exercises to assess pupils understanding of the lesson. Move run to assist pupils with difficulties.	LEARNING MATERIALS Matches, Candles, beakers/transparent materials Matches, Candles, beakers/transparent materials	CORE POINTS The candle which is covered goes off while the candle left uncovered continues to burn. Air is necessary for burning/combustion. Air is used in 1. Breathing 2. Drying 3. Burning 4. Filling tyres/balloons Application 1. A room on fire when deprived of air, will stop burning 2. When a blanket is spread over fire, no air will be allowed in, thus, the fire will go off 3. A person whose clothes catch	EXERCISE State any four uses of air. Mention four uses of air Mention four uses of air Class exercise: Draw and label a diagram to show that air supports burning. What would you do if the clothes you were wearing caught fire





ACTIVITY: What happens when a burning candle is covered?

THINGS NEEDED: 3 candles of equal height, 3 transparent containers, matches

WHAT TO DO:

- 1. Place three short candles of equal height firmly on top of your desk and label them as A,B, C
- 2. Light the candles and allow them to burn for some time.
- 3. Cover two of the burning candles with the transparent containers at the same time. Leave one uncovered
- 4. Observe what happens and record your findings.

QUESTIONS:

- 1. Which candle burns for a longer time and why?
- 2. What happens to the candle covered with the shorter container and why?
- 3. Write down your conclusion.
- 4. Label the diagrams.

MPOHOR WASSA EAST

SUBJECT: INTERGRATED SCIENCE

CLASS: BS6

REFERENCE: 1. TEACHING SYLLABUS FOR INTERGRATED SCI. (4 - 6) PAGE 23

2. PRIMARY INTERGRATED SCI. PUPILS BOOK 6 PAGE 11 - 13

3. INTERGRATED SCI FOUNDATION FOR PRIMARY SCHOOL BOOK 6 PAGE 4 – 6

Day/ date / duration	Topic/ subtopic	RPK/ OBJECTIVES	TEACHING-LEARNING ACTIVITIES (TLAs)	TLMs	CORE POINTS	EVALUATION & REMARKS
Duration: 60 mins	Topic: Seeds	<u>RPK:</u> Pupils can define a flower and can name come fruits with	INTRODUCTION Let pupils mention fruits that contain seeds.		Fruits with seeds are: Orange, Pawpaw, Tomatoes etc	Answer the following questions
	Parts of seed	some truits with seeds. <u>Objectives:</u> By the end of the lesson pupils will be able to; 1. Identify parts of a seed.	ACTIVITIES 1. In groups let pupils observe arrangement of seeds in some main fruits in longitudinal section. Pupils pick a seed to identify where the seed was attached to the fruit wall. 2. Give cowpea seeds soaked overnight to the various groups with Leaders to press gently and identify where water comes out of the seed.	Soaked maize seeds and cowpea seeds.	Where seeds was attached to fruit wall is called <u>hilium</u> The tiny hole through which water drips out of the seed is called <u>micropyle</u> .	Which part of the seed is attached to the fruit wall?
		 Distinguish a monocotyledon ous seed from a Dicotyledonou s seed. 	 Let pupils try to remove the outer cover of the seeds, and also separate the seeds into two halves to identify other parts inside the seed. Again in groups lead pupils to remove the outer cover of maize soaked overnight. Pupils to cut through the maize longitudinally to identify the parts inside the maize seed. Guide pupils to identify the actual names given to these parts 		Actual names of parts of a seed are: -Hillium (Scar) where seed was attached to the fruit wall. - Micropyle (Tiny hole in the seed). -Plumule (young shoot). -Radicle (young root). -Embryo (young plant). -Cotyledon (seed leaf). -Endosperm (food store). -Testa (Outer cover)	Mention the parts of a seed.
			 Paste a chart of a well drawn diagram of maize and a cowpea seed on the chalkboard. Display cutouts of names of the parts of the of seeds on a table. Let pupils pick the cutout from the table and fix it on the corresponding part on the chart to give the right labelling. Through leading question guide pupils to distinguish monocotyledonous seed from a dicotyledonous seed. 	Seeds, mango seed, ground nuts, rice, orange, onion, coconut	Seeds with two cotyledons are called dicotyledonous seeds eg. Cowpea, Mango, Okra, Groundnut etc. Seeds with one cotyledon are called monocotyledonous seeds. eg. Maize, Onion, Coconut, Rice etc.	Fix a card with names of parts of seeds written on them to correspond to the parts of the diagram. Group the various seeds under monocot and dicot. Identify the parts of a Maize grain.

Subject:		Integrated Scienc	e		
Class:		P. 6 (BS 6)			
DAY/	TOPIC/				
DATE/	SUB-		TEACHER/LEARNER ACTIVITIES	CORE POINTS	EVALUATION/ EVEDCISES
DURATION	TOPIC	N.I .K.			EAERCISES
	Topic:	Objectives:	<u>TLMs:</u>		
Thursday	Heat	By the end of the	candle wax, matches, water, coal pot, charcoal,		
&		lesson, period,	metallic tins or rods, paper, box iron, ladles with		Answer the following
Friday		each pupil will	plastic handles etc.		questions
	Sub-topic:	be able to 4.2.7			
$25^{\text{th}} \& 26^{\text{th}}$	Transfer of	explain the three	INTRODUCTION :		
October,	heat	main types of	1. Introduce the lesson by asking the pupils to tell		
2007		heat transfer –	how heat is used in cooking their food. Example:		
		conduction,	How do we Have our foods cooked? Expected		
		convection and	answers: (i) we boil, roast, fry, cook, etc. When we		
		radiation.	boil, roast, fry or cook, which sources of heat do we		
60 minutes			often use? Expected answers: gas, charcoal,		
			firewood, etc.		1. Explain conduction.
		<u>R.P.K:</u>			
		Pupils can talk			
		about how heat	PRESENTATION:		
		energy is used in	<u>ACTIVITY I</u> :	Heat energy is transferred form the point of	2. What do you
		cooking food.		higher temperature to a point of lower	understand by
			Give out the materials and the worksheets to pupils	temperature. When it is transferred through	Convection?
			and let them carry out the instructions below:	solids as the medium e.g. metals, it is called	
			1. Put some pieces of shea butter or wax on top of	conduction.	
			2 Post the time of first for some form minutes		3. What do you
			2. Put the tin on life for some few minutes		understand by
			5. Observe what happens carefully and write your		radiation?
			Observations down.		
			4. While your observations.		
			5. Hold one end of the kine and put the other end		
			6 Write your observation	Heat anarow is transformed from the point of	Home work
			o. write your observation	higher temperature to a point of lower	Write two (2) activities
			Α СΤΙVΙΤΥ Π.	temperature through the liquid as its	each that show
			1 Pour cold water into the empty tin	medium This is called Convection	conduction convection
			2 Feel the temperature (how cold or hot it is)	incurum. This is cance Convection .	and radiation
			3 Put the tin on the fire to heat the content		ana raulauvii.
			4 Insert a straw to the bottom of the tin and pour a		
			small amount of food colour into it		
			5. Record the direction of the movement of the		
			food colour		
60 minutes		<u>R.P.K:</u> Pupils can talk about how heat energy is used in cooking food.	 often use? Expected answers: gas, charcoal, firewood, etc. <u>PRESENTATION:</u> <u>ACTIVITY I:</u> Give out the materials and the worksheets to pupils and let them carry out the instructions below: 1. Put some pieces of shea butter or wax on top of the empty tin 2. Put the tin on fire for some few minutes 3. Observe what happens carefully and write your observations down. 4. Write your observations. 5. Hold one end of the knife and put the other end into the fire for sometime 6. Write your observation <u>ACTIVITY II:</u> 1. Pour cold water into the empty tin 2. Feel the temperature (how cold or hot it is) 3. Put the tin on the fire to heat the content. 4. Insert a straw to the bottom of the tin and pour a small amount of food colour into it. 5. Record the direction of the movement of the food colour 	Heat energy is transferred form the point of higher temperature to a point of lower temperature. When it is transferred through solids as the medium e.g. metals, it is called conduction . Heat energy is transferred from the point of higher temperature to a point of lower temperature through the liquid as its medium. This is called Convection .	 Explain conduct What do understand Convection? What do understand radiation? Home work Write two (2) acti each that conduction, conve and radiation.

DANGME WEST

		Heat energy is transferred from a point of	
	<u>ACTIVITY III:</u>	higher temperature to a point of lower	
	1. Put the coal pot and the fire at the centre of the	temperature without any visible medium. It	
	table	may be air or vacuum. This is called	
	2. Feel the heat by drawing your hands closer to the	Radiation.	
	fire very carefully		
	3. Write your observations		
	4. Wet a piece of paper	APPLICATION OF CONDUCTION	
	5. With the aid of a stick, stretch it over the fire for	1. Use of plastic spoons	
	some minutes	2. Cooking pans with wooden or plastic	
	6. Observe what happens and write your	handles	
	observations	3. Wooden handle of a box iron	
	ACTIVITY IV:	APPLICATION OF RADIATION	
	Discuss with pupils their observations and findings.	1. Roasting of plantain and corn	
		2. Baking of bread, meat pie, cakes, etc.	
	CONCLUSION:	3. Drying of washed clothes and ironing.	
	Use oral questions to evaluate pupils understanding		
	of the lesson.	APPLICATION OF CONVECTION	
		1. Boiling of egg and other foods	
		2. Preparation/cooking of soups and	
		porridges	
		3. Frying of flour products, etc.	
		Heat can be transferred through three main	
		stages. These are: Conduction,	
		Convection and Radiation.	
I		1	

TEACHING INTEGRATED SCIENCE TO P. 6 TRANSFER OF HEAT

WORKSHEET

ACTIVITY I:

- 1. Put some pieces of shea butter or wax on top of the empty tin
- 2. Put the tin on fire for few minutes
- 3. Observe what happens carefully
- 4. Write your observations.
- 5. Hold one end of the knife and put the other end into the fire for sometime
- 6. Write your observation

.....

ACTIVITY II:

- **1.** Pour cold water into the empty tin
- 2. Feel the temperature (how cold or hot it is)
- 3. Put the tin with water on the fire and allow it to warm
- 4. Dip your finger into the water carefully.
- 5. Write your observations

ACTIVITY III:

- 1. Put the coal pot and the fire at the centre of the table
- 2. Feel the heat by drawing your hands closer to the fire very carefully
- 3. Write your observations
- 4. Wet a piece of paper
- 5. With the aid of a stick, stretch it over the fire for some minutes
- 6. Observe what happens and write your observations.

.....

TANO SOUTH

Reference: Maths Syllabus p.47,

Subject: Mathematics

Class: BS3

TRS p.65,

Textbook p. 83

Day/ Duration	Topic/ Subtopic	Objectives/ R.P.K.	TLA	T.L.M.	Core Points	Evaluation/ Remarks
Day Thursday Date 18/10/07 Duration (60 min.)	Topic Collecting and handling data Sub-topic Collecting data	R.P.K. Pupils can mention some example of diseases in their area. Objectives By the end of the lesson, the pupils will be able to: 1.Collect data by counting objects and results of the activities recorded.	Introduction Ask pupils to mention some of the diseases they have head of and list them on the board. ie. Malaria, headache, HIV/AIDS, diarrhea etc. Activities 1.Put pupils into groups and name the groups as Brong Ahafo [BA], Greater Accra [GA], Central Region [CR], Western Region [WR]. 2.Distribute the match boxes to pupils in groups according to a study on people who have been infected with malaria in some different Regions of the country. 3. Ask pupils in groups to place their match boxes [on top of each other] on the table according to the malaria patients in different religions. Collecting data with match boxes Image:	Match boxes	Expected answers: Malaria, Headache, HIV/AIDS, diarrhea etc.	 Which region recorded the highest number of people? Which region or regions recorded the lowest number of people? How many people have been infected in the four regions?



TANO SOUTH

Week Ending: 19-10-2007

Class: P3

Subject: Mathematics

References: Primary Mathematics Ps Book 3, pg54-59.

Teaching Syllabus for Mathematics (prim 1-6), pg58.

date / duration	subtopic	OBJECTIVE S	TEACHING-LEARNING MATERIALS (TLMs) TEACHING-LEARNING ACTIVITIES (TLAs)	CORE POINTS	EVALUATION
Day:	Topic:	Objectives:	TLMs:		1. Color to show one eighth
Wednesd	Fraction	By the end of	Strips of paper, fraction charts, cuisenaire rods,		and write the fraction in
ay		the lesson	countable objects		the box.
-	Subtopic:	pupils will be			\land
Date:	One-	able to;	INTRODUCTION:		
17/10/'07	eighth		Assist pupils to use practical activities like paper		(\leftrightarrow)
	-	i) Identify one	folding to revise the fraction $1/2$ and $1/4$.		
		out of eight			\vee
Duration		equal parts	ACTIVITY 1:		
<u>:</u>		as one-	Guide pupils to use paper folding fraction charts to		=
60 mins		eighth.	identify one out of eight equal parts as one eighth.		
		ii) Identify and		1/2 1/2	$ \wedge \rangle$
		write the	<u>ACTIVITY 2:</u>		
		symbol for	Assist pupils to group countable objects into eight	1/4 1/4 1/4 1/4	
		one-eighth	equal parts and identify one part as one-eighth.		
		(1/8).		1/01/01/01/01/01/01/01/01	\rightarrow
		iii) Identify	i.e.	1/01/01/01/01/01/01/01/01/0	=
		and write			
		symbols for	1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8		
		multiples of			2. Find the number of
		half fourth and			eighth in 3 wholes.
		eighth.	ACTIVITY 3:		
			Guide pupils to divide two or more wholes (up to five)		3. Write the symbol for one
		DDV	to find the number of one eighths in two or more		part out of eight equal
		<u>RPK:</u>	wholes.		parts of a whole.
		Pupils can use		The 8 in $1/8$ represents the number of	
		practical	1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8	divisions (denominator) of the whole	
		activities like		and the 1 (numerator) represents the	
		paper lolding	1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8	number of parts under consideration.	
		to snow	16 eighths are obtained in two wholes		
		1/2 and $1/4$			
		1/2 allu $1/4$.	ACTIVITY 4:		
			Guide pupils to use materials to illustrate one-eighth.		
			write the symbol 1/8 one-eighth.		

ASSIN NORTH LESSON PLANS - ASEI & PDSI WORKSHOP

th WEEK-ENDING:- 25th October 2007 SUBJECT: Mathematics CLASS: B.S. 3

NO ON ROLL: 60

AVERAGE AGE: 9 years

REFERENCES:

1. MOE (2007), MATHS SYLLABUS PP 51 2. MATHS FOR PRY SCHOOLS, PUPILS BK 3 PP69

3. TEACHERS' GUIDE BK 3 PP 65

Day/ Duration	Topic/ Sub-topic	R.P.K. Objectives	Teaching/Learning Activities	T.L.M.	Core Points	Evaluation/ Remarks
Friday 25/10/07 60 mins	Sub-topic Topic Multiplication of numbers Sub-topic The Regrouping Property of Multiplication (Commutative and Associative property)	Objectives R.P.K. Pupils do count objects and they have learned about the commutative (order) property of multiplication Objectives By the end of the stipulated time, the pupils will be able to: 1. Recall the commutative property (order) of multiplication involving two factors 2. Show that the product of three numbers does not change if the	Introduction (5 mins)Put pupils in groups.Display a card showing an array of objects and the sentencee.g. $3 \times 4 = 12$.Give a brief explanation to review pupil's RPK. Then display othercards with only arrays of objects for pupils to find factors andproducts thereof PRESENTATION/DEVELOPMENT (45 mins) STEP 1 (10 mins)1. Using countable objects, make arrays to help pupils revise the commutative (order) property of multiplication involving two factors. e.g. $3 \times 5 = 5 \times 3$. Let pupils in small groups use different factors to demonstrate this property.3 groups of 5 objects5 groups of 3 objectsImage: Colspan="2">Image: Colspan="2">Image: Colspan="2">One One One One OneOne One One One One One One One One One One One One One OneOne One One One One One One One One One One One One One OneOne One One One One One One One OneOne One One One OneOne One One One One One 	Countable objects e.g. bottle tops, cardboard	3 groups of 4 $3\times4=12$ \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc	Look at the displayed cards and suggest the factors and their products.
		multiplication sentence is regrouped	 O O O STEP 2 2. Guide pupils to perform practical activities using bottle tops to show that the product of three numbers does not change when the factors are regrouped i.e. Involving 1-digit factors only. i. (a) Write 4×(3×2)=(4×3)×2 on the CB. Beginning with the factors in the brackets, use bottle tops to make an array of 3 groups of 2 objects giving altogether 6 objects on the LHS. Pupils in groups should do the same. 		<u>THE REGROUPING PROPERTY</u> 4×(3×2)=(4×3)×2 3	Perform the stated activities in groups using the bottle tops



$=> 2 \times (3 \times 4) = 24$	$=> 2 \times (3 \times 4) = 24 (L.H.S)$
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	$=> (2\times3) \times 4=24 (R.H.S)$
STEP 33. Let all group work stop. Present the procedure and arrays on the CB. Ask pupils to make their observations about the result of the product(s) when the products are regrouped. Draw conclusion and assign an exercise e.g. $2 \times (3 \times 5) = (2 \times 3) \times 5$ to test pupil's comprehension.SUMMARY (5 mins)End the lesson by summarising the properties of multiplication of whole numbers. (Commutative Property and Associative property)	Use bottle tops to find out if regrouping the sentence $(2\times3)\times5=2\times(3\times5)$ will change the product or not. 2 Answer question 1-5 page 69.

ASSIN NORTH LESSON PLANS - ASEI & PDSI WORKSHOP

SUBJECT: Mathematics **CLASS:** B.S. 3

REFERENCES:

S:1. REFERENCES: MOE (2007), PRY MATHEMATICS SYLLABUS PP 522. MAG MATHS FOR PRY SCHS PUPILS BK 3 PP 101

3. TEACHERS' GUIDE 3 PP 50

Data and Burgel 00 mins Objectives Measurement Money Districtives By the end of the lesson pupil will be able to: Introduction (5 mins) Analogue (cock model and got there at 0 Colock. Time is sometimes measured in hours Sub-topic Measurement Minutes 3.10.2 Et pupils work out the number of hours it took Kofi to walk from then school to the next village if he started at 2 O'clock in and got there at 0 Colock. Analogue clock model Time is sometimes measured in hours Sub-topic Measuring Time in Minutes 3.10.2 ERESENTATION/DEVELOPMENT (45 mins) The minutes hand takes five minutes so an analogue clock face to show how the minutes hand moves through 60 minutes from 12th position through 1, 2, 3back to the 12th. The minutes hand takes five minutes to move from one number to the next. 1) How many minutes 2. Pupils can recite the multiplication table involving 5 Activity 1 Cuivity 2 Guide pupils to use the analogue clock face to show 45 minutes from the 12th position to the 4b position, etc. and minutes from the 12th position to the 4b. It takes the minute hand 30 minutes is half an hour. It takes the minute hand 30 minutes is half an hour. Mautes? Activity 4 Guide pupils to use the analogue clock face to show 45 minutes from the 12th position to the 4b. The immutes and the 12th position to the 4b. Answer minutes is half an hour. Answer minutes is half an hour. 2. Pupils can minutes from the 12th position to the 4b true is nimutes eg. From the 12th po	Day/	Topic/ Sub_topic	R.P.K.	Teaching/Learning Activities	T.L.M.	Core Points	Evaluation/
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<u>AKATSI</u>

Week Ending: 19/ 10/ 2007 **Class:** P4

Subject: Mathematics

References: Foundation Mathematics for Ghana Pupils Book, page 46. Foundation Mathematics for Ghana, Teacher's Guide

Day/ Topic/ date / subtop duration	c/ RPK/ opic OBJECTIVE S	TEACHING-LEARNING MATERIALS (TLMs) TEACHING-LEARNING ACTIVITIES (TLAs)	CORE POINTS	EVALUATION
60 mins Fractic II: Add fractio with differe denom ors.	ion dding on by the end of the lesson, the pupils will be able to add at least two fractions with different denominators. RPK: Pupils can add like fractions.	TLMs:Rectangular cut outs.INTRODUCTION:Give a few like fractions to pupils to add.Eg. $\frac{1}{5} + \frac{3}{5}$ ACTIVITY 1: Guide pupils to take three rectangular sheets of paper of the same size. Pupils fold the first paper horizontally into two equal parts horizontally and shade one part.Image: Image: Ima	$\frac{1}{2} \text{ is equivalent to } \frac{3}{6}$ $\frac{1}{2} = \frac{3}{6}$ $\frac{1}{3} \text{ is equivalent to } \frac{2}{6}$ $\frac{1}{3} = \frac{2}{6}$	



<u>AKATSI</u>

Week Ending: 19/ 10/ 2007 Class: P4 Subject: Mathematics **References:** Foundation Mathematics for Ghana, page 73. Foundation Mathematics for Ghana, Teacher's Guide, page 73. Mathematics for Teacher Training in Ghana, page 114.

Day/ date / duration	Topic/ subtopic	RPK/ OBJECTIVES	TEACHING-LEARNING MATERIALS (TLMs) TEACHING-LEARNING ACTIVITIES (TLAs)	CORE POINTS	EVALUATION
Day: Friday Date: 19/10/'07 Duration: 60 mins	Changing fractions to percentages	Objectives: By the end of the lesson, the pupils will be able to: 4.9.5 Change at least two fractions to hundredths and to percentages. <u>RPK:</u> Pupils can write fractions of shared portions on square cut outs.	TLMs: Square cut outs, marks. INTRODUCTION: Teacher introduces the lesson by showing to pupils cut out shades and then ask them to write the fractions of the shaded parts. Mr. Busangah has a square plot of land. He cultivated okro on half of the land. What percentage of the land was used for the okro? ACTIVITIES: ACTIVITY 1: a) Teacher distributes square cut outs which half of each shaded to represent the portion of the land cultivated. Let pupils divide the square paper horizontally into 10 equal parts and vertically into 10 equal parts (10 x 10). b) Pupils count the total number of squares and record it as the whole. c) Pupils count the number of squares in the shaded part and write out its fraction. ACTIVITY 2: Teacher guides pupils change 1/5, 1/4, 2/5 and 2/10 to hundredths and to percentages using similar method.	$\frac{1}{2}$ $\frac{50}{100}$ Total small square = 100, i. e. Whole. Small squares in shaded portion = 50. Fraction = $\frac{50}{100} = 50 \%$	



ADANSI NORTH

lass:Primary 4			References: Maths Syllabus for	or Prim Sch. pg86.	
ubject: Mathe	natics		Ghana Maths Ser	ries Pupil's Book 4 p	ages
Day/ date	Topic/	RPK/	TEACHING-LEARNING MATERIALS (TLMs)		
/ duration	subtopic	OBJECTIVES	TEACHING-LEARNING ACTIVITIES (TLAs)	CORE POINTS	EVALUATION
Duration		Objectives:	<u>TLMs</u> :		
60 mins	UNIT 4:10	By the end of	Rectangular cut-outs, ruler, exercise books, pencils etc.		
		the lesson pupils			
	Topic:	will be able to	INTRODUCTION:		
	Measureme		Pupils mention few items that have length e.g. sticks,		
	nts of	1. 4:10:2	pens, ropes.		1. Mention few items that have length.
	length and	Estimate			
	area	the length	PRESENATION:		
	~ • •	of given	Step1: Distribute pencils and exercise books to pupils and		2. Compare the length of your pencil and
	Subtopic:	materials in	allow to compare by estimating which is longer than then	Length refers to the	exercise book.
	Measureme	centimeters	the other.	measure of how long	
	nts of	•	Estimate arbitrary	a thing or object is	2 Estimate the nation of materials that have a small
	length	2 4.10.1	Item length (cm)	from end to end.	5. Estimate the pairs of materials that have equal
		2. 4:10:1 Maggura	Exercise book		a) papail: piece of stick
		the lengths	Pencil		a) pencil, piece of stick
		of the given	Others		c) perce of strek. exercise book
		materials in			d) Rectangular sheet of paper: exercise book
		centimeters	Step2: Pupils in groups estimate which of the following		a) Rectangular sheet of paper. excretese book
		(cm).	pairs of materials have equal lengths		
			a) pencil: piece of stick		4. Use a ruler to measure accurately the lengths
			b) piece of stick: exercise book		of the following materials.
			c) pencil: exercise book		a) piece of stick
		<u>R.P.K:</u>	d) rectangular sheet of paper: exercise book		b) exercise book
		Pupils measure			c) pen
		lengths	Step3: Pupils estimate the length of the following		d) rectangular sheet of paper
		(arbitrary) in	materials in centimeters.		e) others
		their every-day	a) piece of stick		
		activities e.g.	b) exercise book		
		tables, school	c) pen		5. Fill in the table below
		plots, school	d) rectangular sheet		Item Estimated Actual length
		field and books.			length (cm)
			Step4: Pupils use ruler to measure lengths of materials in		Pen
			a) piece of stick		Exercise
			b) exercise book	In measuring using	book
			c) pen	ruler one must start	Rectangula
			d) rectangular sheet of paper	from the zero mark	r sheet
			a) rectaingular sheet of paper	on the ruler.	Piece of
			CONCLUSION:		stick
			Pupils fill a chart to summaries the lesson and display		
			their charts on classroom walls for others to see.		REMARKS:

ADANSI NORTH

Subject:	Mat	hematics	Class: P. 4			
DAY/	TOPIC/	OBJECTIVES/	TEACHER/LEARNER ACTIVITIES	CORE POINTS	EVALUATION/	
DURATION	SUB-TOPIC	R.P.K.			EXERCISES	
DAY/ DURATION Thursday 60 minutes	TOPIC/ SUB-TOPIC Topic: Investigation with numbers Sub-topic: Properties of operations (Addition and multiplication)	OBJECTIVES/ R.P.K. Objectives: By the end of the instructional period, the pupils will be able to: 1. complete number sentences involving both addition and multiplication R.P.K: Pupils can add and multiply whole numbers e.g. 0 + 5 = 5 b. 2 x 3 = 6	TEACHER/LEARNER ACTIVITIES TEACHER/LEARNER ACTIVITIES TLMs: bottle tops INTRODUCTION: Use a story problem to review pupils RPK e.g A teacher gives 4 pupils 3 bottle tops each. How many has he given altogether? Expected answer: 4x3 bottle tops =12 bottle tops (3+3+3+3) bottle tops =12 bottle tops PRESENTATION: ACTIVITIES: 1. Using the bottle tops, let pupils count separately two given numbers say 3+5 and write them on the board. Then use the bottle tops to add 5+3 then pupils compare the two answers. 2. Assist the pupils to deduce that 3 + 5 = 5 + 3 3. Give pupils more examples to work to come out with the idea that : a + b = b + a. 4. Pupils form 3 graphs of 5 counters and another 5 groups of 3 counters and compare the two results. e g. 3x5=5x3. Allow pupils to practice using several activities to become conversant with the property. 5. Assist pupils to deduce the commutative property of addition and multiplication. 6. Add 3 to 4 bottle tops to represent 3 + 4 and multiply it by 2 to give 2 x (3 + 4) Assist pupils to use bottle tops to deduce the property a x (b + c) = (a x b) + (a x c) using the activity below. 7. Pupils to make 2 groups of 3 to give 2 x 4 and add them together. 8. <td cols<="" td=""><td>CORE POINTS The order of the addends does not change the sum and product i.e commutative property e.g a + b = b + a 2 + 3 = 3 + 2 a x b = b x a 3 x 4 = 4 x 3</td><td>EVALUATION/ EXERCISES Copy and complete the following. a. 6 +4 = 4 + b. +7=7 + 3 Group A consists of 4 pupils with each having 5 bottle tops Group B consists of 5 pupils with having 4 bottle tops . Which of the following statements is true? a) group A has more bottle tops than B. b) group B has equal</td></td>	<td>CORE POINTS The order of the addends does not change the sum and product i.e commutative property e.g a + b = b + a 2 + 3 = 3 + 2 a x b = b x a 3 x 4 = 4 x 3</td> <td>EVALUATION/ EXERCISES Copy and complete the following. a. 6 +4 = 4 + b. +7=7 + 3 Group A consists of 4 pupils with each having 5 bottle tops Group B consists of 5 pupils with having 4 bottle tops . Which of the following statements is true? a) group A has more bottle tops than B. b) group B has equal</td>	CORE POINTS The order of the addends does not change the sum and product i.e commutative property e.g a + b = b + a 2 + 3 = 3 + 2 a x b = b x a 3 x 4 = 4 x 3	EVALUATION/ EXERCISES Copy and complete the following. a. 6 +4 = 4 + b. +7=7 + 3 Group A consists of 4 pupils with each having 5 bottle tops Group B consists of 5 pupils with having 4 bottle tops . Which of the following statements is true? a) group A has more bottle tops than B. b) group B has equal
					number of bottle tops as A. group B has more bottle tops than A	

WA MUNICIPAL

Class: P5 Subject: Mathematics

References: Maths syllabus for primary schools, pg.78-79 Maths textbook for primary 5, pg.9-13 Trs Manual pg.11-12 Inset Sourcebook, pg.54-56

Day/ Date /Duration	Topic/ Subtopic	RPK/ OBJECTIVE S	TEACHING –LEARNING ACTIVITIES	TLM	CORE POINTS	CORE POINTS EV		EVALUATION	
Day: Thursday Date: 18/10/'07 Time: 9:30-10:30 Duration:	Topic: Collecting and handling data. Subtopic: Constructin g of a bar graphs.	RPK: Pupils can mention their days of births and their months of births. Objectives: By the end of	INTRODUCTION STAGE:VariouTeacher introduces the lesson by asking pupils to mention their days of birthday.Kinds of bottle to rulersACTIVITIES:Step1: Pupils are guided to illustrate their days of births mentioned in a data and record the number of pupils born in each of the days.DayDaySMTWNFSa		Collecting and interpreting information from data.		g the tab aw a bar rer the qu follows. LWAS i people	n U.V	ow n and n V.
60 mins	Serifan	the lesson pupil will be able to; i) Collect and analyse data. ii) Construct a bar graphs.	N of pls 1 <th1< th=""> 1 <th1< th=""> <th1< th=""> <th1< th=""></th1<></th1<></th1<></th1<>		Constructing a bar graph using analyzed data. Bar Graph	i) ii)	Which the high infection which the high infect	year h vear h vear d the	aas ?

AKUAPEM NORTH (CL)

SUBJECT: Mathematics

REFERENCES: Primary Maths, Pupils Book 4 Pages 98-99, Maths Syllabus page 86

CLASS: Basic Four

DURATION	TOPIC/SUB	OBJECTIVE/RPK	TEACHER LEAR	NER ACTIVITY	TLMs	CORE POINTS	EVALUATION A	ND REMARKS
DAY	TOPIC:	RPK:	I NTRODUCTION:					
Wednesday	Measurement of		Let pupils measure their b	books, desk and the				
	Length and	Pupils measure lengths	classroom using arbitrary	classroom using arbitrary unit.			Compare the length	n of your pen and
Date: 24/10/07	Areas	(arbitrary) in their					exercise book.	
		everyday activities. Eg	ACTIVITY ONE					
Duration:		Tables, Classroom and	Put pupils in groups, distr	ibute materials to them				
60 Minutes	SUB-TOPIC:	Books	and allow them to compar	re by estimating which				
	Measurement of		one is longer than the other	er.	Exercise books		Estimate the pairs	of materials that
	Length	OBJECTIVE(S)			Pencils		have equal length.	
			Item	Arbitrary unit	Pens			
		By the end of the lesson	Exercise book				i) Pen	: piece of stick
		the pupil will be able to:	Pencils				ii) Exe	rcise book: piece
		i) estimate and compare	Pens				of s	tick
		the length of the given		·			iii) Pen	: exercise book
		materials.	ACTIVITY 2				iv) Exe	rcise book:
			Pupils in groups estimate	which of the following			rect	angular sheet of
		ii) measure the length of	have equal length.	Ũ			pap	er.
		the materials in	i) Pen: piece	of stick				
		centimeters.	ii) Exercise bo	ooks: rectangular piece				
			of paper		Pen, exercise	Length is the distance		
			iii) Pen: Exerc	ise book	books, pieces of	between two points.		
					sticks,			
			ACTIVITY 3		rectangular			
			Pupils in groups estimate	the length of the	sheet of paper.		Fill in the table bel	ow
			following materials in cen	timeters.				<u> </u>
			i) Exercise be	ooks.			Material	Estimated
			ii) Pens					length (cm)
			iii) Rectangula	ar sheets of papers	Pen, exercise		Pen	
					books, pieces of		Exercise book	
			ACTVITY 4		sticks,		Rectangular	
			Pupils use rulers to measu	re lengths of the	rectangular		sheet of paper	
			following in centimeters.		sneet of paper		A piece of stick	
			i) Exercise be	ooks.				
			ii) Pens		Den energies	T I : 4 f + b		
			iii) Rectangula	ar sheets of papers	ren, exercise	of length are in		
					oticks, pieces of	or length are in millimator (mm)		
			CONCLUSION:		sucks,	annimeter (mm),		
			Pupils fill a chart to summ	harize the lesson and	shoot of paper	motor (m)		
			display their chart on class	sroom walls.	sheet of paper	meter (m).		

AKUAPEM NORTH

Class: basi Subject: M	c 5 Iath		References: Mat	h for Tr. Training Colleges in Ghana by J.L. gested Maths Syllabus for Primary Schools, r	Martin. 1992-93.
Day/ date / duration	Topic/ subtopic	RPK/ OBJECTIVE S	TEACHING-LEARNING MATERIALS (TLMs) TEACHING-LEARNING ACTIVITIES (TLAs)	CORE POINTS	EVALUATION
Day: Tuesday Date: 23/10/07	Topic: Factors and Prime Numbers. Subtopic: Finding factors of a given number	RPK: 1. Pupils canidentify somesimplegeometricalshapes.Group objectsin known	<u>TLMs</u> : 1. Counters eg. bottle tops, cubes or pebbles. 2. Models / cut-outs of geometrical shapes. 3. Chart show <u>INTRODUCTION:</u> Tr displays some geometrical shapes on the board, pupils identify the shapes and name them.	Geometrical Shapes = A circle	Mention the name of 3 geometrical shapes
60mins	and sorting out prime numbers from a given set of numbers.	 quantities. Objectives: By the end of the lesson, the pupils will be able to; 1. Find correctly all the factors of 		= A rectangle = A triangle = A square	
		a given natural number less then 20. 2. Sort out prime numbers from a given set of numbers correctly.	DEVELOPMENT ACTIVITY 1 Pupils form rectangular array with area equals to the number of counters representing the given number.		

	Rectangular ArraysNumberArrays $6 =$ $\bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc$	Area of Arrays 6 = 2 x 3(2 groups of 3)	
		8 = 4 x 2 (4 groups of 2) 5 = 1 x 5 (1 group of 5)	
	5 = 00000 <u>ACTIVITY 2</u> Using the counters, pupils form all the possible rectangular arrays of a given number whilst Tr. goes round to help other pupils in difficulty. Eg 1) 12	$\frac{\text{Area of Arrays}}{12 = 1 \times 12}$	
	12 = 000000 000000 0000 00000 0000 2)	$= 2 \times 6$ = 3 x 4 15 = 1 x 15	
	15 = 00000000000000000000000000000000000	$= 3 \times 5$	

ACTIVITY 3 Pupils use group same number of c with a rule to genGrouping $6 = 0.00000 \text{ (a)}$ $0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 $	ng such that each sub-group contains the counters whilst Tr help them to come out erate all the factors of a given number, eg. Algorithm Algorithm 1 00 2 x 3 20 3 x 2 0000 0000 1 numbers with their corresponding factors is guidance of the teacher for pupils to identify h their corresponding factors h exactly two factors (prime numbers) ACTIVITY 4, pupils try to explain or give number ers with examples	Factors of $6 = \{1,2,3,6\}$ Factors of $9 = \{1,3,9\}$ CHART No Factors $1 = \{1\}$ $2 = \{1,2\}$ $3 = \{1,3\}$ $4 = \{1,2,4\}$ $5 = \{1,5\}$: : : : : : : : : : : : :	 Class exercise: 1. Using rectangula r arrays, find all the factors of a) 10 b) 18 c) 20 d) 7 2. List all the number / numbers that has only one factor. Homework Try and find all the prime numbers that exist between 1 and 20.
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KASSENA NANKANA

Theme: learning for resource development.

Class: Primary six

Subject: Mathematics

Number on roll: 60

References: 1) mathematics syllabus for primary school pg

2). Foundation mathematics for Ghana, book six , pg

Week	ending:
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Day/ date/ duration	Topic / subject/ content	RPK/ Objective	Teaching – learning activities/ key words.					TLMs	Core Points	Evaluation
60 min	UNIT 6.9 TOPIC: Shape and space Subtopic: solid/ space figures	<u>RPK:</u> Pupils handle and play with common solids at home. Pupils can identify type of polygons. <u>OBJECTIVES</u>: by the end of the lesson pupil will be able to: 1). Identify solids 2). group or classify solid shape according to a given criteria	Cuboids, cube, cone, overtices, base. Pupils mention common home or school. Example of school. Example of school. Example of faces b). types of faces c). number of edges d). number of vertices Let pupils make a table Name of solid Cuboid Cuboid Cuboid Cube Cylinder Sphere Cone Triangular Pyramid Rectangular pyramid Hexagonal pyramid Conclusion: Guide pupils to come numbers of faces, edge	KEY WO cylinder, sp VTRODUC on solids th ple; matchl ACTIVII oup or class ACTIVII e and recor Number of faces 6 6 6 3 1 2 4 5 7 upils to com faces, edge CONCLUS out with a g es and verti	RDS : here, pyram THON : at they play box, milk ti Y 1: ify solid sh Y 2: d the prope Number of edges 12 1 6 8 12 at out with a stand vertice SION: general rule ces. ie, E =	nid , edge, fa with or use ns football, apes accordi number of vertices 8 8 0 0 1 4 5 7 a general rul ces connecting F + V - 2	e e the	Card boards- made solids , tins, match boxes, pencils, pepsodent boxes, wooden cubes,	Solid shapes/ space figures are three dimensional in shape. for example match box, cube. Solids have faces, edges and vertices. An edge is the meeting place of two faces. The vertex is the point where two or more edges meet. The face is the space bounded by three or more edges.	Name two things that have shapes of a). cylinder b). cuboid. c). cone d). cube how many faces has a). cylinder b). cuboid c). triangular pyramid how many edges has a). cone b). rectangular pyramid.

PUPILS WORK SHEET

class; Primary six

October 2007

Date:

Topic: Shape and space Subtopic: solids or space figures 60 min

Instruction :

A). group the solids according to the following criteria :

- 1) number of faces
- 2) type of faces
- 3) number of edges
- 4) number of vertices
- 5) give the names of solid classified

B) using the results of (A) above , complete the following table.

Name of solid	Number of faces	Number of vertices	Number of edges

Time:

KASSENA NANKANA

Theme: Statistics in our lives Class: Primary six Subject: Mathematics

References: Foundation mathematics, teacher's guide, pg 85.

Foundation mathematics, pupil's book six, pg 90.

Teaching syllabus for mathematic I primary schools, pg 127, 6.9.1, 6.9.2.

Day/	Topic/	RPK/	TEA	CHING –LE	CARNING	TLM	CORE POINTS	EVALUATION
date /	subtopic	OBJECTIV		ACTIVITI	IES			
duration		ES						
60 min	Topic:	RPK:	I	INTRODUCTION		Countable		
	Collecting	Pupils can	Teacher asks one	e pupil to cou	int the number of	Objects :		
	and	count	boys in the class			Bottle tops,		
	handling	objects and	Ask another pup	il to count the	e number of girls i	n marbles,		
	data.	record the	the class. teacher	r writes the re	esults on the chalk	sticks, milk		
		results.	board			tins.		
	Subtopic:							
	Collecting	Objectives:		ACTIVIT	<u>Y1</u>			
	and	By the end						
	recording	of the lesson	Tr takes the data	on the day o	f the week the			
	data.	pupil will be	children were bo	orn:				
		able to :						
		i). Collect	Procedure:					
		data that	i). Tr. asks the p	upils who we	re born the Monda	y		
		involves	to stand up.					
		counting.						
		ii). Make	ii). Do the same	for pupils wh	o were born on the	e		
		and interpret	Tuesday, Wedne	sday, Thursd	lay, Friday, Saturd	ay		
		a frequency	and Sunday.					
		tables	Record the result	ts on the chal	k board			
			iii) Tr draws a s	sample table	with the results		Collecting data:	
				sumple uole	inter the results.		Data is a piece of information gathered	
			Days of the weel	k nunils were	born		about objects Example : type of color	
			Birth Day	Tally	Total		ages of people food items in a shop	
			Dirtin Duy	Marks	(Frequency)		the number of girls or the number of	
			Monday	11111115	(irequency)		boys in a class.	
			Tuesday					
			Wednesday				Tally marks are line strokes to indicate	
			Thursday				the number of times an object/ items is	
			Friday				counted in a data collected.	
			Saturday					
			Sunday				Frequency refers to how many times a	
			Sulluay	1			particular item occur in a data.	
							*	

iii). Teacher guides pupils to identify the title and the information in each column of the table above.		
i) Pupils are put in ten groups		<u>To the pupils</u>
Tr. distributes TLMs with worksheets to each group and asks them to identify the TLMs. ii). Tr. Asks each group to make a frequency table		<u>Project: market</u> <u>survey:</u>
out of the TLMs provided. As shown below:		Survey your market and list The number of
Item Tally marks Frequency	Frequency table of objectsItemTallyFreque	stores that sell a). bread
Marble Bottle tops sticks	marks ncy Marble //// /// 6 Bottle tops //// //// 17	b). kenkey c). oil d). fish
Milk tins Use the table to answer the following question: a). How many items are recorded all together?	// sticks //// 4 Milk tins /// 3	e). electric bulbs.Put this information
b). Which item has the least number?c). Which item has the highest number?	a). $6 + 17 + 4 + 3 = 30$ b) milk tins	In the frequency table form and submit it on
Report, Summary and Conclusion. Tr. Calls each group leader to present their results. Teacher summarizes the results and concludes the lesson. Pupils name two daily life activities at home.	c). bottle tops	Monday 22 / 10/ 07
school, or the market in which data collection and	Selling and buying, we count money	
data recording take place.	and items and record their	
Pupils relate to the activity that their group has just	We count different items at home to	
done, to state one major importance of data	prepare food.	
collection and data recording in our day to day	We keep farm records. Data collected give varied qualitative	
activities.	and quantitative information about an object/; colour, number, height, size,	

Reflective Remarks:

Prepared by: Eunice Awovafoge (CL) and Samuel Kelinza (CL) Kassena Nankana District, Navrongo.

PUPILS WORK SHEET

Duration: 60 min.

Date: October 2007.

Name of school; Class: prin	nary	siy
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Topic: collecting and handling data .

Subtopic: collecting and recording data.

Instructions

- 1. Sort out and Group the objects of the same kind / like items together
- 2. Count the number of like items in each group while tallying each count with a tally mark by its name.
- 3. Write down the number of times (frequency of) each like item occurred in a group.
- 4. Used the information above to complete the table below.

Frequency table of objects

ITEM/ OBJECTS NAME	Tally marks	Total number of items
		(frequency)
Marble		
Bottle tops		
Sticks		
Milk tins		

Use the information in the table to answer the following questions:

- 1. How many items are recorded all together?
- 2. Which item has the least number of counts (the lowest frequency).
- 3. Name the item that had been counted more than the others (with **the highest frequency**).
- 4. Name two daily life activities at home, school, or the market in which data collection and data recording take place.
- 5. Relate to the activity that you group has just done, state one major importance of data collection and data recording in our day to day activities.

TAMALE METRO

SUBJECT	CLASS: BS. 2					
Day/ Duration	Topic/ Sub-topic	R.P.K. Objectives	Teaching/Learning Activities	T.L.M.	Core Points	Evaluation/ Remarks
Friday 19/10/07 60 mins	Topic Addition (0-20) Sub-topic Number and Numerals	R.P.K. Pupils can write numbers up to 20. Objectives By the end of the stipulated time, the pupils will be able to:	Introduction: Call pupils in pairs, one mentions a number and the other comes out to write on the chalkboard, continue this activity until you get the first 20 numbers. (counting numbers) Write the day's topic on the board and tell pupils that the numbers they have mentioned and written are going to be put together in pairs to get a result. Activities:		The first 20 counting numbers are 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19 and 20	Mention and write any number you know.
		 Arrange different numbers (one digit numbers) on the number wall to get a particular sum (one digit number or 2 digit number). Tell which number is the highest and which is the lowest number that can be added using the number wall. 	 1) Pupils are put into groups and appoint group leaders. Call the leaders for the materials and let them observe for a while. 2) Guide them by demonstrating first to pupils how to add 2 numbers on the number wall. e.g. 	Number Wall	Addition of two numbers on the number wall, e.g.: 7 5 3 4 1 The two numbers at the bottom of the wall add up to get the top number on the wall.	Use the number wall to add the following sums; 5 and 7.
			 3) Pupils try more examples on their own in the groups (each number should add 2 numbers of his/her choice to get the result. 4) Pupils add one layer to the wall and find various ways of adding two or more numbers to get the result at the top. e.g. 15 9 6 5 4 Pupils continue the activity and sort out numbers which cannot be added using the meteric.		Addition by adding another wall, e.g.: 15 9 6 5 4 2 Two numbers at every level add up to the number at the top. So 5+4=9 and 4+2=6 and 9+6=15 at the top. The highest number which even highest number which	Use the number wall to add the following sums; 13 and 15. List the numbers which is the highest and the
			 using the material. Pupils also find out which number is the lowest number that can be added using the material and write their finding. <u>Conclusion:</u> Pupils try more examples in their jotters. 		can be added is $1 / and$ the lowest 7. Numbers which cannot be added this way are: 0, 1, 2, 3, 4, 5, 6, 7, 18, 19 and 20.	lowest number which can be added using the number wall up to 20.



1	2	3	
4	5	6	
7	8	9	
10	0	11	
12	13	14	
15	16	17	
18	19	20	

TAMALE METRO

6th Week Ending: 19th October, 2007 **Class:** P6 **Subject:** Mathematics **References:** Teaching Syllabus for Maths(Prim1-6), Unit6.9, page 127. Teacher's Handbook Unit Pupils Textbook (6) Unit

Day/ date / duration	Topic/ subtopic	RPK/ OBJECTIVES	TEACHING –LEARNING ACTIVITIES	TLMs	CORE POINTS	EVALUATION
Day: Thursday <u>Date:</u> 18/10/'07 <u>Duration</u> : 30mins	Topic: Collecting and handling data. Subtopic: Representi ng data using pictograph	 RPK: Pupils can count objects and record their number. Objectives: By the end of the lesson pupil will be able to; 1. Represent given data using pictograph and answer at least two questions correctly on it. 2. Draw a frequency table using information in the pictograph. 	INTRODUCTION: Ask one pupil to count the number of table in the class, another the number of pupils in the class and record their findings on the c/b. <u>ACTIVITIES:</u> ACT1: Put pupils into groups of five with leaders and distribute discrete objects to them to identify and sort them into groups according to their names. ACT 2: Pupils arrange brand of bottle tops to show pictograph horizontally count and record their findings on each brand. ACT3: Pupils in their groups use information in the pictograph to draw a frequency table on given sheets of paper with c/b illustrations. Pupils collect bottle tops from any nearest drinking bar at home and find out which brand people like most and which brand bar keepers	Brands of bottle tops Brands of bottle tops Brands of bottle tops, sheets of paper	Brands of bottle tops - star - gulder - guiness - fanta =1 bottle of drink star: gulder: guiness: fanta: Frequency table $\frac{Bottle top Stroke/ frequency}{tally} \frac{Star ##//// 8}{Gulder ##// 6}$ Guiness ###/// 8 Frequency means number of times something occurs; given by stroke/ tally.	 Name any two brands of bottle tops. Which brand bottle tops has a) more bottle tops b) less bottle tops How many people like a) star? b) gulder? c) guiness? d) danta?

MPOHOR WASSA EAST

References: Mathematics Syllabus 1-6 pg16

Primary Mathematics bk 6 (Unimax Macmillan) pg16 Primary Mathematics Bk 6 (Smartline Basic Education Series) pg38

Day/ **RPK**/ Topic/ date / subtopic **OBJECTIVE TEACHING-LEARNING ACTIVITIES (TLAs) TLMs** CORE POINTS **EVALUATION** S duration Day: **Topic: RPK:** Key Word List: Pupils can Wednesd Fractions Fraction number, denominator $4 \times \frac{1}{2}$ multiply a ay 2 Subtopic: fraction by a **INTRODUCTION (5 mins)** $\frac{4}{1} \times \frac{1}{2} = \frac{4 \times 1}{2} = 2$ Multiplica whole number. 1. Teacher receives with pupils multiplication of a whole Date: 24/10/'07 number by a fraction of $4 \ge 1/2$, $2 \ge 1/2$ tion of a $2 \times \frac{1}{2} = \frac{2 \times 1}{1 \times 2} = 1$ fraction by **Objectives:** By the end of a fraction Duration the lesson 60 mins pupils will be **ACTIVITIES (10 mins)** 2. Teacher gives pupils the following problem (put it on a able to; manuiar card) Perform Paper cutting Mr. Abam had a piece of farm land measuring one activities to all square acre square. Mansa's father bought 1/3 of the land solve at least papers two problems and give 1/2 of it to Mansa. Pencils Color pencils What fraction of the land was given to Mansa? on multiplication of a fraction by 3. Teacher helps pupils to solve above problem. Supply a fraction. square sheets of paper to represent the plot of land to pupils. 4. Teacher guides pupils to fold the paper into 3 equal parts vertically and shade a third of it. 5. Teacher guides pupils to fold the sheet again into halves and shade one half of it in another way. 6. Pupils identify the region with shading as Fati's portion of the plot that is 1/2 of 1/3.

Weekending:



DANGME WEST

Class: Primary 6 Subject: Mathematics

References: (1) MATHEMATICS,SYLLABUS PG. 130-131 (2) MATHEMATICS FOR PRIM. SCHS. BK. 6 PG. 153-155

Day/ date/ duration	Topic / subject/ content	RPK/ Objective	Teaching – learning activities	TLMs	Core Points	Evaluation / RMKs
60 min	TOPIC: Investigation of Numbers. SUB-TOPIC: Triangular Numbers.	OBJECTIVES: By the end of the study, the pl. will be able to 6.11.2 find the pattern of triangular numbers up to the 10th term <u>RPK:</u> Pls, can identify triangles.	INTRODUCTION:Teacher revises the previous lessonwith pupils briefly by identifying atriangle amongst the given shapes.PRESENTATION:Step 1: Teacher distributes bottletops to groups.Step 2: Teacher introducestriangular number building to looklike this triangle " ". Pupilsobserve teacher demonstrate hefirst four terms.Term Pattern Total1121+231+2+341+2+3+410etcetcStep 3: Teacher asks pupils tobuild up the next four patternsusing the bottle tops.Step 4: Teacher asks pupils tobuild up the next four patternsusing the bottle tops.Step 5: Pupils investigate thepattern of triangular numbers usingbottle tops.	Bottle Tops. Manila Cards. Representation	<image/>	
l					$1+2+3+4, +\ldots +10$	

		TermPattern12345678910 Step 6 : Pupils present their findings to other groups in the for verification. Step 7: Teacher guides the to observe the totals eg. 1, 10, Y Pupils note the constant ord pattern, or sequence, or term having a common difference CONCLUSION: Pupils choose triangular num from a range of counting.	Total	1. Triangular Numbers 2. Sequence of Numbers	Exx.: Study the following and write down the next 3 terms: a. 1,3,5,7, b. 2,6,10.14, c. (1,0), (2,3), (3,6), (4,9), (), (), ()
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DANGME WEST

Class: Primary 6 **Subject**: Mathematics

References: 1. SYLLABUS PG. 133 2. PUPILS MATHEMATICS TEXT BK. PG. 182-184 CLASS SIX (6)

Day/	Topic /	DDK /Objective	Tooching loorning activities	TI Me	Core Points	Evaluation /
duration	content	KFK/ Objective	reaching – learning activities	I LIVIS	Core romis	RMKs
60 min	TOPIC: Chance SUB-TOPIC: Listing all possible outcomes of a situation	OBJECTIVES: By the end of the lesson, the pupils will be able to: 6.14.1 list all the possible outcomes of a situation RPK: Pupils play games that depends on luck.	INTRODUCTION: Ask pupils to name some games that depend on luck. Activity 1: Guide pupils to perform experiments on marble selections and record all the possible outcomes. Activity 2: Guide pupils to toss a coin several times and record the possible outcomes of tossing that coin. Activity 3: The groups interchange activities. <u>CONCLUSION:</u> Pupils read the finding of their groups to class.	Coin, Sacks, Marbles	Ludo, Playing Cards, Coin tossing. There are two possible outcomes of selecting 2 different marbles from a sack (i.e. colour Red or White) W = Colour White R = Colour Red Ist 2nd 3rd guess guess guess $W \qquad R \qquad $	 Exx.: a) Draw a tree diagram for tossing a fair coin four times. b) How many possible outcomes are there? c) How many times is it possible to get two heads and two tails? Remarks: