

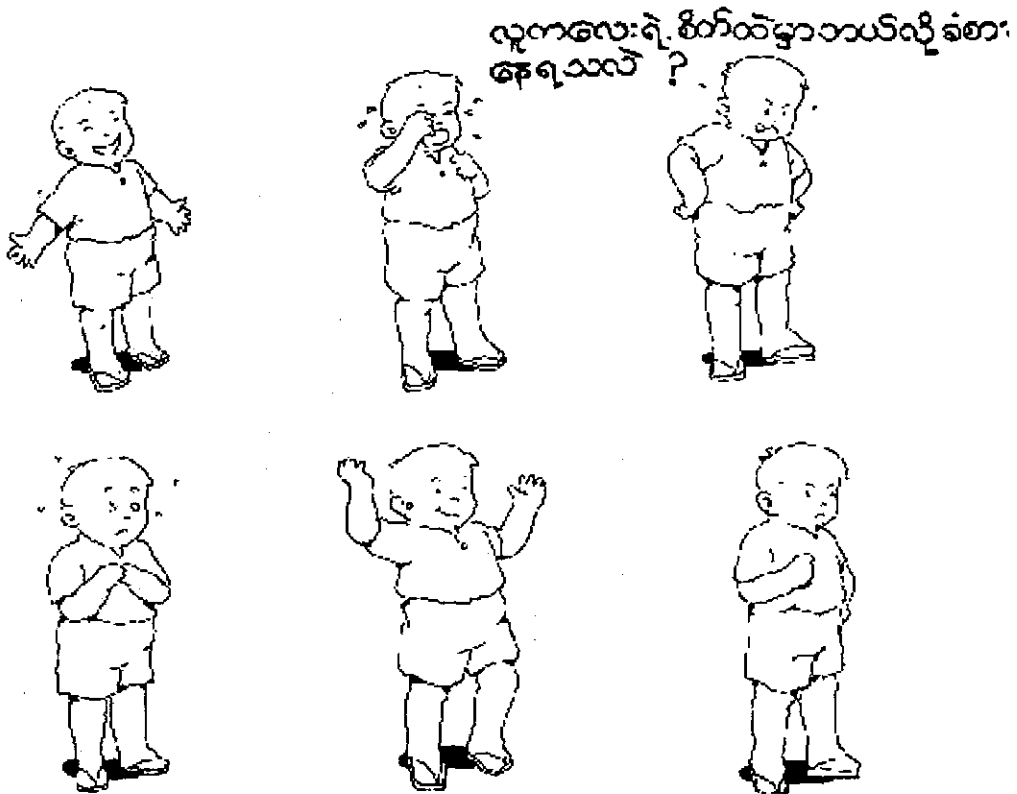
Assessment

Period Five (30 min.)

Children will play parcel game with a cassette if it is available. If not possible, let them pass by the parcel from one to another by clapping. When clapping stops, ask the child who is holding the parcel to draw one of the lots on which the name of various sounds which make sorrow, happiness, fright etc. are written. Then let him/her make the sound written on the lot. Teacher asks them how they feel after making sounds.

Reference

The feelings due to the sounds heard are not constant. They can vary depending on the situation and occasion. For example, though singing of a bird is pleasant, it is possible to cause annoyance if about a hundred birds sing simultaneously. Similarly, the sounds of Oozee or Dobutt (open ended drum) are joyful but it can cause the annoyances while studying lessons, working with concentration, while being sick, etc. The feelings that can be occurred generally are described in this lesson. Therefore, it has to let the children speak up their feelings and experiences freely and teacher has to accept after asking the cause and effect.



Topic 11: Advantages of Light

Key Concept	Light benefits living things.
Learning Objectives	
General Objectives	To know that light benefits living things
Specific Objectives	Children are able (1) to tell that objects in the environment can be seen due to light. (2) to utilize light at night. (3) to know that living things also need light.
Activities Involved	<ul style="list-style-type: none">- individual activity- group activity- discussion- observation
Teaching/Learning Materials	<ul style="list-style-type: none">- torchlight- pencils (same size and various colors, two pencils for each color)- paper card boxes
Teaching Periods	5 periods (150 minutes)

Before Getting Started

Background Information for Teachers

In this lesson on advantages of light of the general studies for grade two, it would like children to know that light not only benefits human but also animals and plants. It would like children to know that light can be classified into two categories, the light obtained from nature and light created by man.

Man can see the objects around his environment during the day with the sunlight and work healthily and happily.

Likewise, those who live in the rural areas can work with the natural light obtained from moon during the night.

Because of sunlight, man can work and students come to school. Animals can find food due to light and birds get up with the morning light and find food. Sunlight benefits man and animals much in relation with health. Newborn infants suffering from yellow skin should be exposed to sunlight. You must have seen that those infants are put under many fluorescent lights.

Light is also important at night. To drive the motorcars safely at night they are driven by putting the lights on. Lighthouses are built for the safety of sea-going ships. By using torch light at night, the danger of snakes and insects can be seen and overcome. According to one s region, electric light, candlelight, battery light, lantern, and lamps are made at houses.

These facts are only the background information for the teachers to know. It is to take notice not to have the children learn by heart by writing these facts on the blackboard. Besides, these teaching and learning activities are only examples for teachers. Teachers can use the activities in accordance with one s region to achieve the learning objectives.

Lesson Planner

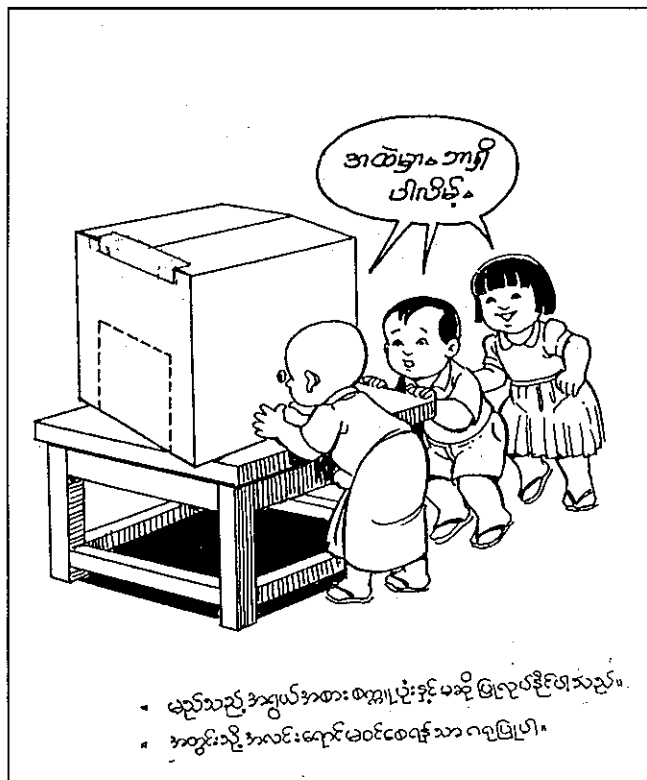
	Period One	Period Two	Period Three	Period Four
Specific Objectives	to tell that objects in the environment can be seen due to light.	to utilize light at night		to tell that plants also need light
Introduction (Evocation)	Ask the children to think why the objects around one s environment can be seen properly.	Put a book into a paper card box and let the children read a word from the book through the hole.	Discuss again and ask what the teacher asked them to observed at home	Showing the plants that children grew
Development (Reflection)	After putting a book into a paper card box and let them read a word from it through the hole Growing plants	Lighting a candle or switching on the torchlight in the paper card box, let the children read a word from the book through the hole. Ask them to observe at home	By opening the eyes and closing the eyes with a piece of cloth, ask them to draw a tail at the picture of cat on the blackboard.	Observing the differences between two plants by group
Conclusion (Realization)	Let the children remember and know that objects can be seen properly with the sun light during the day	Observing on which is possible to seen more clearly, reading before lighting or reading after lighting inside the box	Have the children know the objects that can produce light. Let the children know why it is possible to draw the tail at the picture of cat on the blackboard properly.	Presentation of differences
Assessment points	Asking questions Observation while	Answering questions	Did they observe on what they	Do they participate in learning

	doing practically		asked to do at home or not? Do they present well or not? Do they participate in practical doing or not?	activities of the lesson such as observation, answering questions or not?
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Period Five	
Specific Objectives	Ask the children go outside the class in order to get sunlight.
Introduction (Evocation)	Have the children get the feeling of sunlight and moonlight.
Development (Reflection)	Let the children speak out their feeling freely.
Conclusion (Realization)	Make them know the feelings respectively.
Assessment points	Have the children tell their feelings.

Teaching/Learning Procedure

Period One



3. Then, ask the following questions:

- "Do you see properly?"
- "Why is it possible to read?"

The answer written on the blackboard when the lesson begins and the answer obtained from the practical doing will be compared.

- "What else can be done due to the sunlight?"

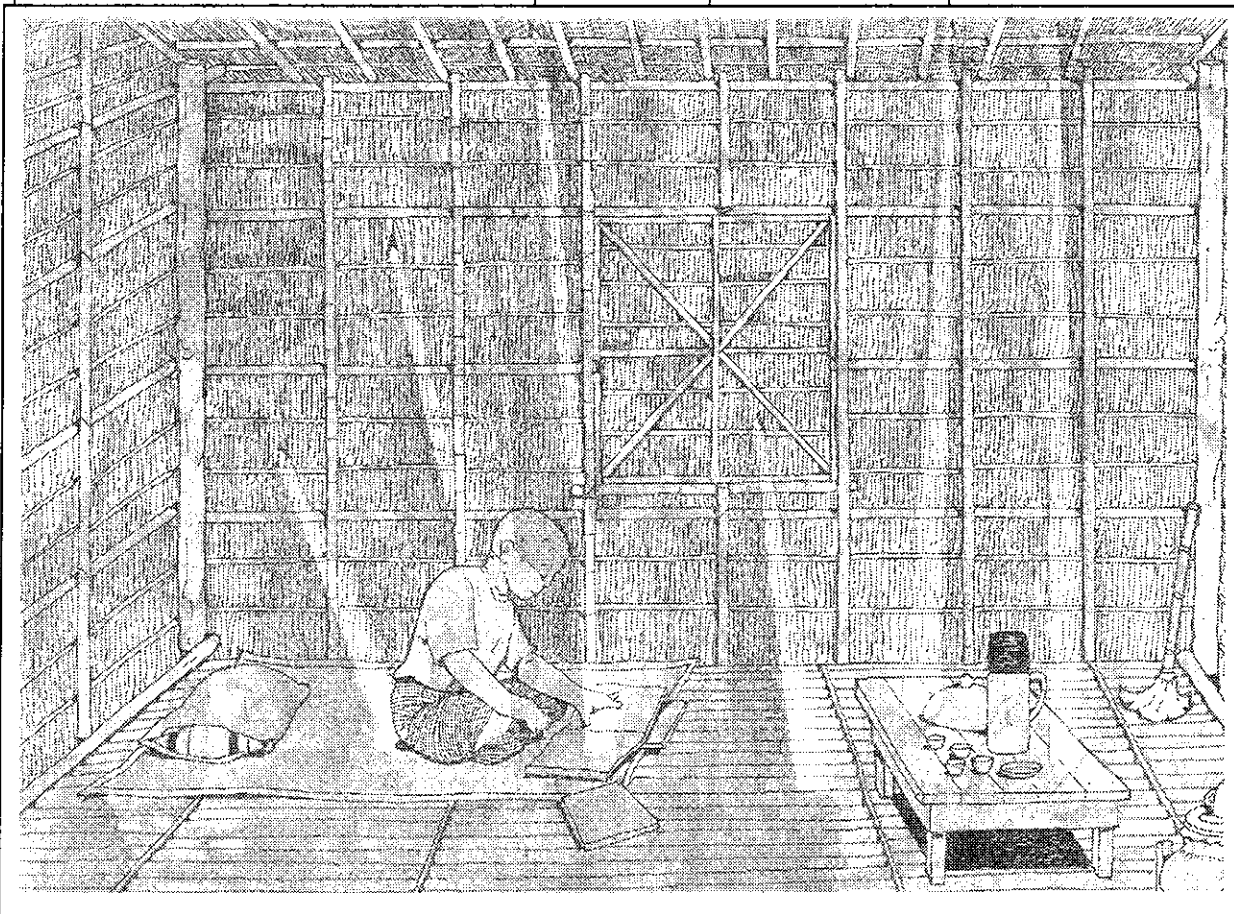
Then the teacher concludes by saying that objects can be seen properly and work can be done during the day because of sun light.

- "What do you think would happen if there were no natural lights?"

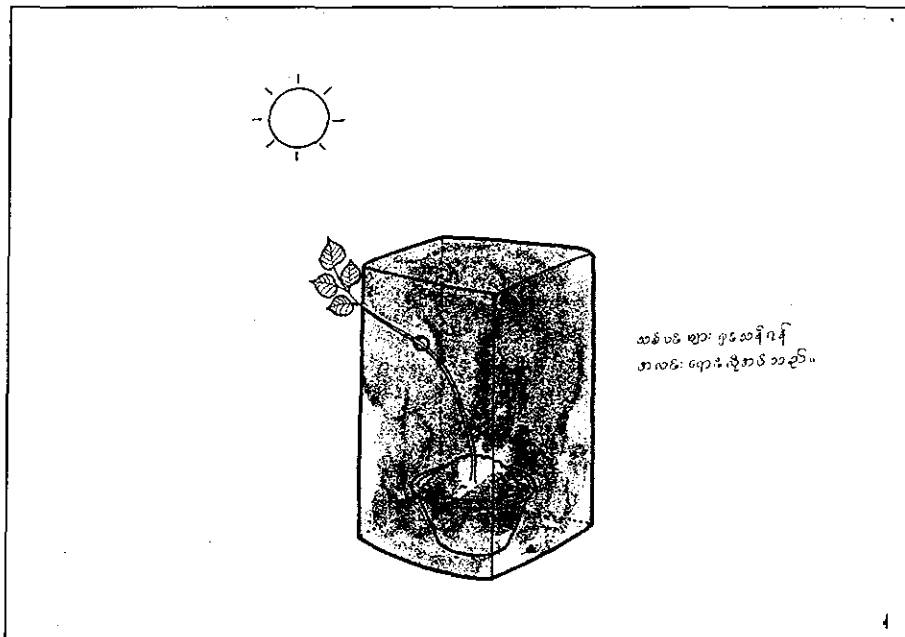
10 min.

Let the children know that it is possible to see the environment due to the sunlight. Ask them to find out the advantages of sunlight as many as possible.

Conclude by saying the fact to make the children remember.



<ul style="list-style-type: none"> - Do you like sunlight? - Do you think plants like sunlight? <p>Let's find it out.</p> <p>Teacher takes students to the school garden and lets each group grow two plants. Have them cover one plant with a card box.</p> <p>Teacher tells the followings to children.</p> <ul style="list-style-type: none"> - What will happen to those plants one week later? - Record your answers. Let s verify the answers if they are correct or not next week? 	<p>10 min.</p>		<p>The plants they have grown can be marked by using colors or by using group 1,2,3.</p> <p>Teacher has to notice that soft plants have to be selected.</p> <p>e.g. grass, water convolvulus, spinach</p> <p>Jasmine plant and croton plant cannot wither easily though they are covered.</p>
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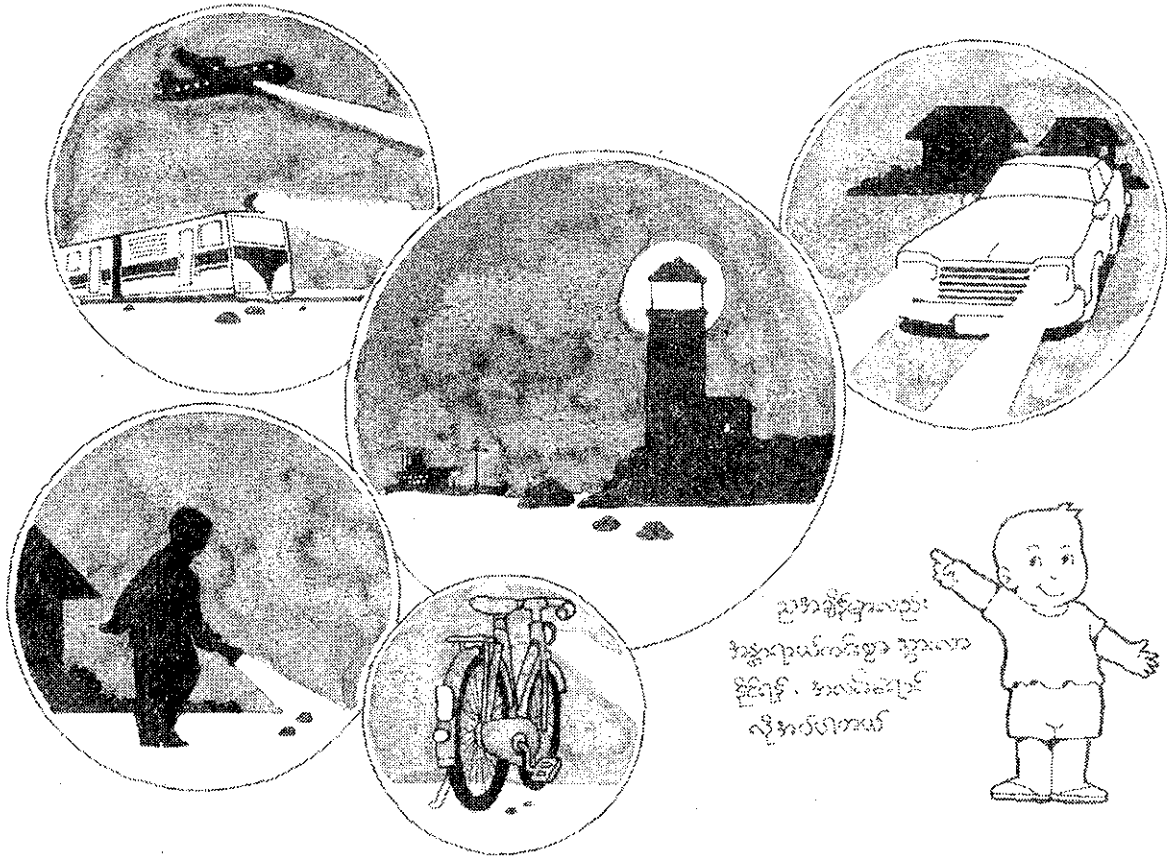


Period Two

Learning Activities	Duration (Min.)	Teaching/ Learning Materials	Points to be noticed
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<p>1. Teacher takes a card box and makes a hole on the cover of the box to be able to see merely with the eye. Let children read the title of the book put in the box through this hole.</p> <p>2. Ask the following questions. Have the children tell the title of the book put in the box.</p> <ul style="list-style-type: none"> - Can you read properly? - Why can't you read? - What will you do in order to see properly without taking the book out of the box or without opening the box cover? 	10 min.	one card box, book	<p>Let the children answer only after giving them time to think.</p> <p>Have them answer only after giving time to think.</p>
<p>3. Then, switch on the torchlight and let it stand inside the box. In some cases, light the candle on the earthen cup, put inside the box and close the cover. After that let children read the word from the book through this hole again.</p> <p>Then, ask the questions asked before.</p> <ul style="list-style-type: none"> - Do you see properly? - Which one is possible to see properly, this one or previous one? - Why is it possible to see properly? 	10 min.	one card box, book	<p>Give them time to think.</p> <p>Have them discuss each other.</p>
<p>Teacher asks the children the following questions.</p> <p>If that so, why are the things seen properly in daytime?</p> <p>Are the things seen properly at nighttime as well?</p> <p>Why aren't they seen?</p> <p>What should be done to be able to see properly?</p> <p>What do you do to be able to see something at home as well?</p>	5 min.		<p>Let the children know that light is also needed to see things at night.</p>
<p>5. Teacher gives children homework to collect the information about light producing materials by asking parents or elders, by finding out by oneself, and by cutting journals or magazine.</p> <p>Teacher supplements that things can be seen properly and it can be free from danger only in the presence of light at night too.</p>	5 min.		

- "What do you think would happen if there were no man-made lights?" - "Why does it need to light at night?"			
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Period Three

Learning Activities	Duration (Min.)	Teaching/ Learning Materials	Points to be noticed
1. Introduce the lesson by asking about other light-producing things they have acquired as homework given yesterday. 2. Distribute each sheet of paper from old Calendar to one group. Children stick the pictures cut from the journals, magazine, cartoon, newspaper on the sheet of paper by group. 3. Let them also write the things they have observed at home or acquired	15 min.	old Calendars pictures cut and brought by the children	The papers done by the children can be stuck on the wall. Picture is not to be beautiful and

<p>from elders on the paper. Then, have them present by group. Teacher and children play the following game happily.</p>			<p>natural and let them draw as they can.</p>
<p>4. Teacher draws a picture of cat without tail on the blackboard. 5. Have a child from each group draw the tail at the picture of cat drawn on the blackboard. 6. Children will do in turn. 7. After that, ask the children to draw the tail at the picture of cat on the blackboard by closing the eyes with a piece of cloth. 8. Children will do in turn.</p>	15 min.		<p>It is to make the children know that things can be seen easily and found out due to the light.</p>
<p>9. Teacher asks questions. (1) Who can draw the tail of cat correctly? (2) Who cannot draw the tail of cat correctly? (3) Why can they draw the tail of cat correctly? (4) Why cannot they draw the tail of cat correctly?</p>			<p>Children can answer the reason such as they cannot see because of closing the eyes , because I don t see etc. Therefore, teacher lets them know it is dark due to such situation. Teacher tells, Because of such darkness, things cannot be seen well and the blind feel as if it is always dark so that you should feel sympathy and should give helps them.</p>

Period Four

Learning Activities	Duration (Min.)	Teaching/ Learning Materials	Points to be noticed
<p>(1) Teacher shows the children the plants grown at the first period by them.</p>	5 min.		<p>Let the children observe freely.</p>

(2) Children will observe and compare by group the two plants that their group has grown. (3) Have the children note down the differences of two plants as far as they observed.	10 min.	Plants the children have grown	
(4) After that, one from each group presents their observation points after the group discussion.	10 min.		
(5) Teacher asks why it happened like that. (6) Teacher concludes the lesson by telling that plants also need light like animals	5 min.		Let the children know by themselves the reason of why two plants are different.

Period Five

Learning Activities	Duration (Min.)	Teaching/ Learning Materials	Points to be noticed
1. Teacher takes the children outside the classroom and lets them tell the objects in the environment. - Why do you see them? Then let the children stay under the sunlight about two minutes. Ask, How do you feel under the sunlight?	10 min.		Have the children tell their feeling freely
2. - From where is the light obtained at night? - Have you ever played under the moonlight of full moon day? Teacher explains that the moon becomes reduced in size gradually after the full moon day and New moon day will fall finally.	10 min.		
3. Night with no moon light (For the children live in urban area.) - How do you feel at the night with no moon light? How will you do by yourself in order to get light?	10 min.		Have the children tell their feelings freely.

Assessment

- (1) What are the natural lights?
- (2) What are the man-made lights?
- (3) What do you think would happen if there were no natural light?
- (4) What do you think would happen if there were no man-made light?
- (5) What need light?
- (6) Why does it need to light at night?
- (7) Why is the light needed?
- (8) What will you do yourself in order to get light?

Reference

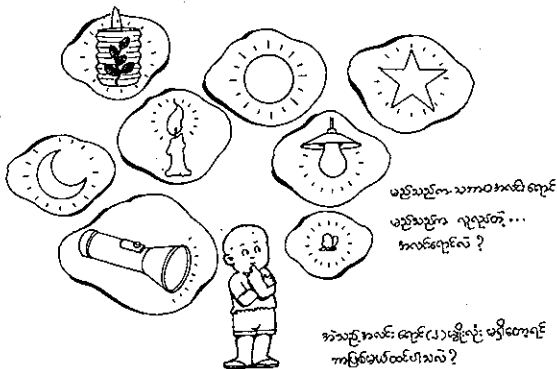
Some fishes emit light. When those fishes emit light from their bodies, other fishes come close to them. Meanwhile, they catch and eat those fishes.

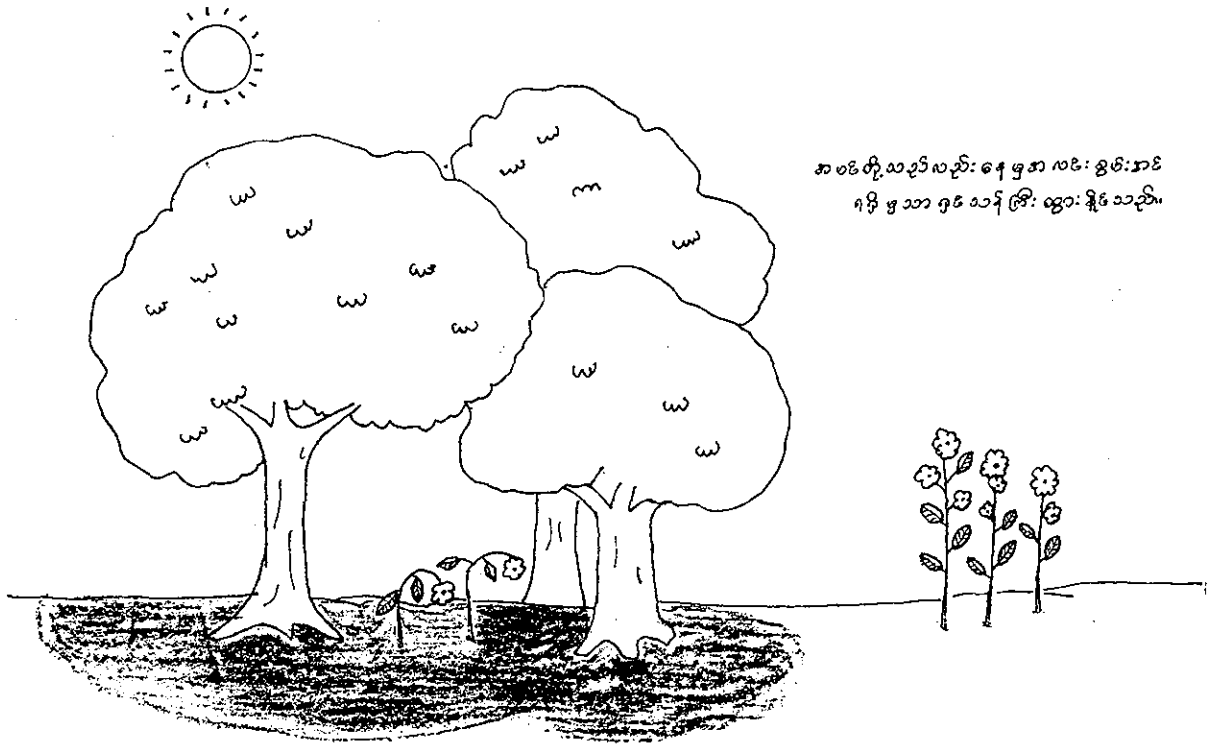
The light energy from the sunlight is caught with solar plates and the electric energy obtained from it is utilized to get electricity in the houses, solar car, solar motorboat, and traffic lights. Moreover, solar plates are assembled and utilized on the communications satellites orbiting in the space.

The energy from the sunlight are utilized in calculator, watch, playing things.

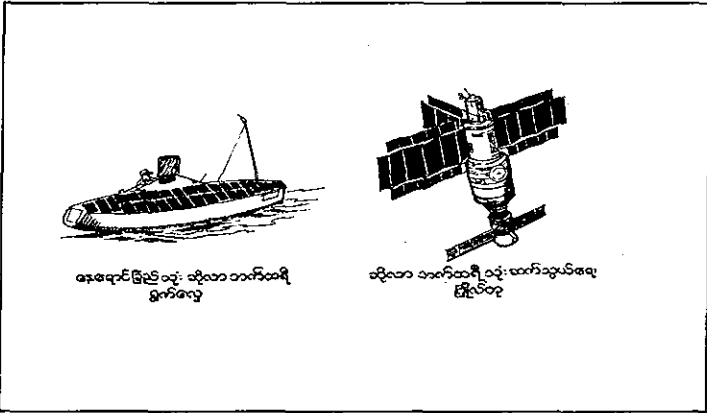
- (1) If you were in the very dark forest and there were fearful snake and animals in it, what would you do to be safe for you?
- (2) Let s make the light enter the class.
- (3) Natural light and Man-made light

What do you think would happen if there were not both of them?



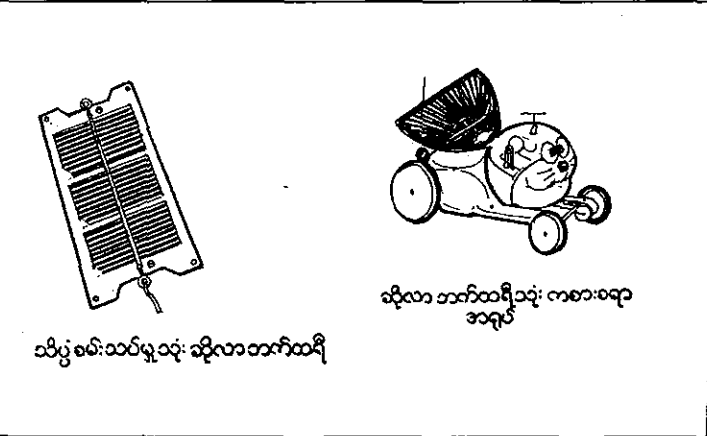
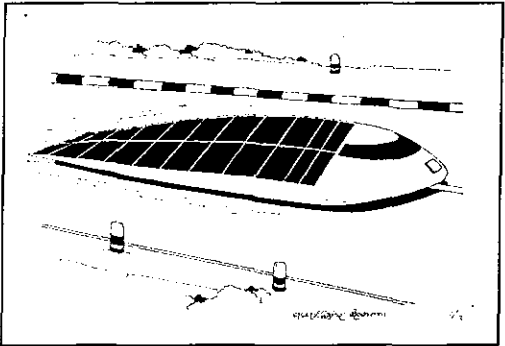


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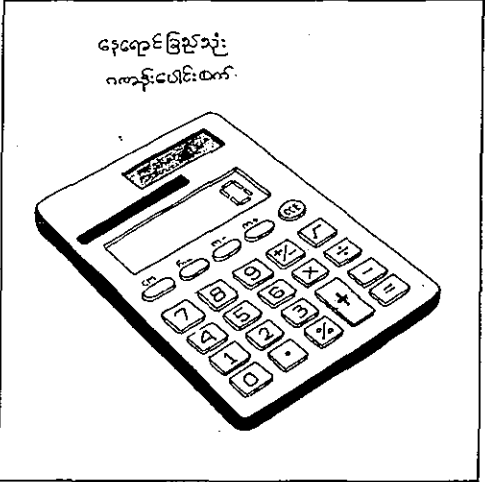
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သိုလှောင်ထားသော စွမ်းအင်
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သိပ္ပံစမ်းသပ်မှု သို့မဟုတ် သိုလှောင်ထားသော

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နေရောင်ဖြင့်
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Topic 12: Use of Magnets and Electricity and Safety Rules for Electricity

Key Concept	Iron can be made into magnet. Heat and light are obtained from electricity
Learning Objectives General Objectives	Children are able (1) to make iron into magnet and to test if it is a magnet or not (2) to know and tell that heat and light are obtained from electricity
Specific Objectives	Children are able (1) to differentiate between magnet and non-magnet materials (2) to make a magnet (3) to describe the electrical appliances, and the name of things in which magnet is applied and be able to explain about the usefulness of these things (4) to carry out the experiment on heat energy and light energy can be obtained from electricity (5) to use electric appliances safely
Activities Involved	- group work - experiment - observation
Teaching/Learning Materials	- bar magnet, nail, pieces of iron, iron clip, pin - picture charts of various electrical appliances - thread, battery, small bulb (used in torch) - realia of electrical appliances if possible (e.g. electric bulb) - blackboard, chalk
Teaching Periods	6 periods (180 minutes)

Before Getting Started

Background Information for Teachers

Children have already known the attracting property of magnet and about the electrical appliances. And now usefulness of magnet and electrical appliances, and way of application of magnet and electricity safely will be discussed in Grade II. In case of large gap in relating usefulness of electrical appliances with children's daily life, teacher has to find out and share the knowledge as far as he can, in order to expand the interests and imagination of children.
e.g. Maglev (Magnetic levitation) train

Teacher can discuss the followings: If the rail has the property of either South or North Pole and the body of the train have same property of poles either South or North Pole, the rail and the body of the train will repel each other. Therefore, the body of the train will be levitating above the rail and will move speedily without friction. Its flying rate is up to 250 mph. To be able to fly in this way, it needs accuracy of mechanical sector and it, on the other hand, has to be able to maintain 24 hours. There is relationship between electricity and magnet. (Electricity can produce magnetic force.)

Lesson Planner

	<u>Period One</u>	<u>Period Two</u>	<u>Period Three</u>
Specific objective	to differentiate between magnet and non-magnet materials	to make a magnet	to describe the electrical appliances, and the name of things in which magnet is applied and be able to explain about the usefulness of these things
Introduction (Evocation)	Choosing magnetized nail and non-magnetized nail	Let the children think how to magnetize a nail	Telling the names of electrical appliances they have ever seen
Development (Reflection)	Testing if it becomes a magnet or not by using pieces of iron	Self-doing by the children	Discussion on the usefulness of these appliances
Conclusion (Realization)	Make the children know if it is a magnet or not	Make the children know if it is a magnet or not	Make the children know the appliances and their usefulness
Assessment points	Asking question Observation on the children if they participate in practical doing	Observation on the children if they participate in practical doing	Asking questions to the children

	<u>Period Four</u>	<u>Period Five</u>	<u>Period Six</u>
Specific objective	to carry out the experiment on heat energy and light energy can be obtained from electricity		to use electric appliances safely.
Introduction (Evocation)	Let the children tell again the appliances that have to use electricity	Let the children tell again the energy produced by electricity	Asking the children what materials are used in order to get electricity at their homes?
Development (Reflection)	Let them think about the energy produced by electricity	Practical doing by the children by using battery, bulb, and wire	Asking how the electric circuit is connected and how to use electricity without danger

Conclusion (Realization)	Make the children know that heat and light are produced by electricity	Let the children know practically that electricity produces heat and light and observe other materials from which electricity can be produced	Make the children know how the electric circuit is connected and the danger of electricity
Assessment points	Self-participation of the children	Observation on the children if they participate in practical doing	Observation on the children if they are interested or not while teaching

Teaching/Learning Procedure

Period One

Learning activity	Duration (Min.)	Teaching/Learning materials	Points to be noticed
1. Mark the magnetized nail and non-magnetized nail with different colors and let the children choose which nail is a magnet. - Why do you think it is a magnet? - How do you differentiate?	5 min.	Magnetized nail and non-magnetized nail	
2. Ask the children to discuss how to test if a thing is a magnet or not and write the discussing points on the paper in group.	10 min.		It tends to make the children able to think
3. Let the group leader present the result of discussion and teacher has to record on the blackboard.	10 min.	Blackboard, chalk	Teacher leads the children to be able to tell that it has to test if it is a magnet or not by using pieces of iron, clip etc.
4. After giving clip, pins, and pieces of iron, ask them to test in order to find out which one is a magnet out of two nails in group.	5 min.	clips, pins, pieces of iron	

Period Two

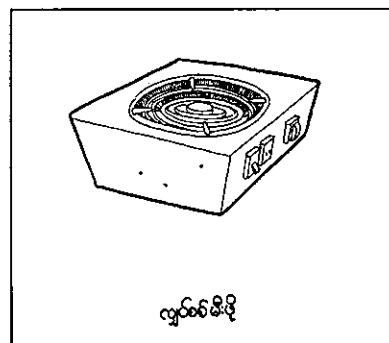
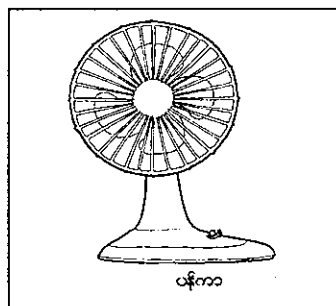
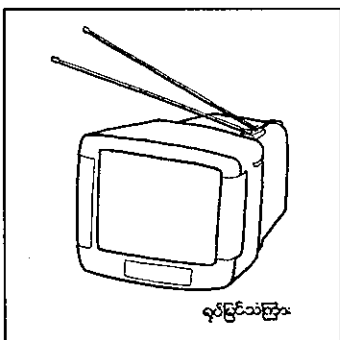
Learning activity	Duration (Min.)	Teaching/Learning materials	Points to be noticed
1. How do you make a nail to become a magnet? Who know? Give the children time to think.	5 min.		

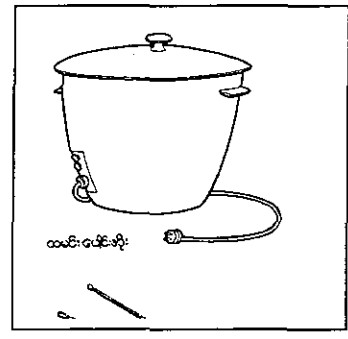
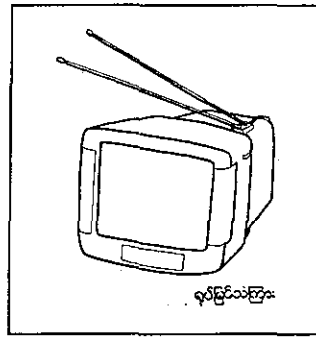
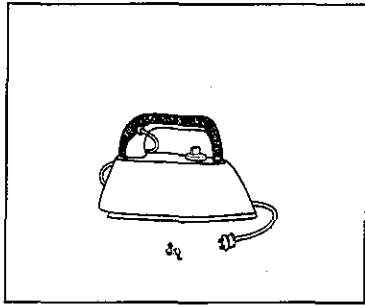
2. Teacher demonstrates how to make a magnet.	5 min.	Magnets and small nails	Use small nails in magnetizing. (e.g. paper clip, pin) The magnetic force acquired from this activity is only sufficient to attract objects of little weight.
<p>Rub a tiny nail such as a pin with a magnet along only one direction at least 50 times.</p> <p>After rubbing, the teacher tells children that the nail (clip) is rubbed by the North side of the magnet, the side that is rubbed indicates the South.</p>			
<p>3. Teacher asks children following questions.</p> <p>"Does it become a magnet?"</p> <p>"How do you know it?"</p> <p>"How do you test if it is a magnet or not?"</p> <p>Have children think by themselves. Have the children test with pins, clips and pieces of iron if it is a magnet or not.</p>	5 min.		
<p>4. Divide the children into groups and let them make magnets as above. Let them test if it is a magnet or not.</p>	5 min.	Clips, pieces of iron, pins	
<p>5. Tie a string of thread in the middle of the magnet made by the children and hang it at the ruler put on the edges of two desks. Ask the children to find out the direction of the magnet.</p>	5 min.	Magnets made by the children, thread	<p>Let the children know that a magnet not only attracts the pieces of iron but also finds the directions.</p> <p>Another easy and interesting experiment to tell direction, using a leaf and water is mentioned in the Reference.</p>

<p>6. Teacher asks the children "Who apply a magnet to find direction?" "Have you ever applied a magnet too?" Have the children think. Teacher complements based on the children's answers.</p>	5 min.		
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Period Three

Learning activity	Duration (Min.)	Teaching/Learning materials	Points to be noticed
<p>1. Have the children tell in group the names of electrical appliances and magnet-containing materials applied and have been seen by them in their environment. Teacher writes the names of things that the children told on blackboard.</p>	10 min.		Have the children tell freely.
<p>2. Then, ask the children to write the application and usefulness of the electrical appliances they told.</p>	10 min.		
<p>3. Distribute the children the illustration charts of various electrical appliances to some group. Since the cards in which usefulness of these appliances are written to the groups. When a group raises the illustration of a appliance and another has to match the usefulness of this appliance.</p>	10 min.	Illustration charts	Teacher complements if there is some appliances the children do not know. Teacher has to supplement the things containing magnet. e.g. refrigerator, electric fan, electric bell, TV and playing things that contain magnet





Period Four

Learning activity	Duration (Min.)	Teaching/Learning materials	Points to be noticed								
1. Teacher introduces the lesson by asking the children to recall the appliances that is used with electricity	7 min.										
2. Ask the children to discuss in groups why electrical appliances are applied. "What are obtained from electricity?" "What are the things that produce heat from electricity?" "What are the things that produce light from electricity?" Let the children write other things they had thought.	8 min.	Picture charts of electrical appliances	Make the children know that heat and light are obtained form electricity.								
Then, let the children copy the blank table from the blackboard and fill the table with answers.	10 min.		It is to differentiate between the electrical appliances that provide heat and those that provide light.								
<table border="1" style="width: 100%;"> <thead> <tr> <th>Appliance</th> <th>Things obtained from electricity</th> </tr> </thead> <tbody> <tr> <td>Electric oven</td> <td>Heat</td> </tr> <tr> <td>Electric bulb</td> <td>Light</td> </tr> <tr> <td>Hair drier</td> <td>Heat</td> </tr> </tbody> </table>	Appliance	Things obtained from electricity	Electric oven	Heat	Electric bulb	Light	Hair drier	Heat			
Appliance	Things obtained from electricity										
Electric oven	Heat										
Electric bulb	Light										
Hair drier	Heat										
3. Teacher concludes the lesson by telling electricity provides heat and light.	5 min.										

Period Five

Learning activity	Duration (Min.)	Teaching/Learning materials	Points to be noticed
1. Teacher introduces the lesson by asking the issues they have learnt.	10 min.	Battery, small bulb	

<p>"What are produced by electricity?" Teacher distributes battery and small</p>			
<p>bulbs to the children in groups. Teacher asks children what will be produced using these items, and let them answer. Teacher demonstrates how to connect light bulb with battery. Then, the children do practically in groups.</p>			<p>Teacher inspects the children's practical doing.</p>
<p>Ask the questions while they are doing practically. "What do you find happens now?" "Why does the bulb become light?" "Where do you think electricity is obtained from?" Ask them to hold the bulb by letting the bulb light on for a while.</p>	<p>10 min.</p>		
<p>"What do you feel?" "Why?" "Now, what are obtained from electricity?" "If that so, from what is the electricity you are using at home obtained?" Observe at home Teacher tells children to observe the environment at home to find out where the electricity used at home is obtained.</p>	<p>10 min.</p>		<p>e.g. Electricity is obtained from dry cell, battery, generator etc.</p>

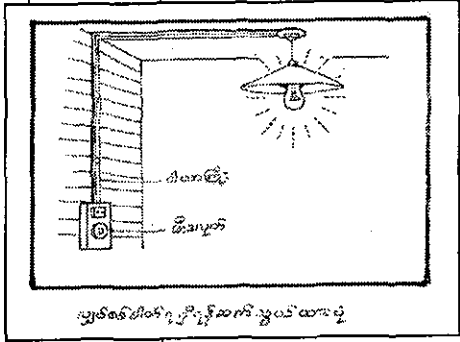
Period Six

Learning activity	Duration (Min.)	Teaching/Learning materials	Points to be noticed
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<p>1. Have the children discuss the materials from which electricity can be obtained that the teacher asked them to observe yesterday. "What materials are used to obtain electricity at your home?" Have the children present the names of materials in group. After that teacher ask how these materials are connected.</p>	<p>10 min.</p>	<p>illustration charts showing the connection of electrical appliances in order to get heat or light, battery, bulb, wire</p>	
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"What has to be done to make a bulb light on and an oven become heated at your home?"
 "How are they being connected?"

8 min.



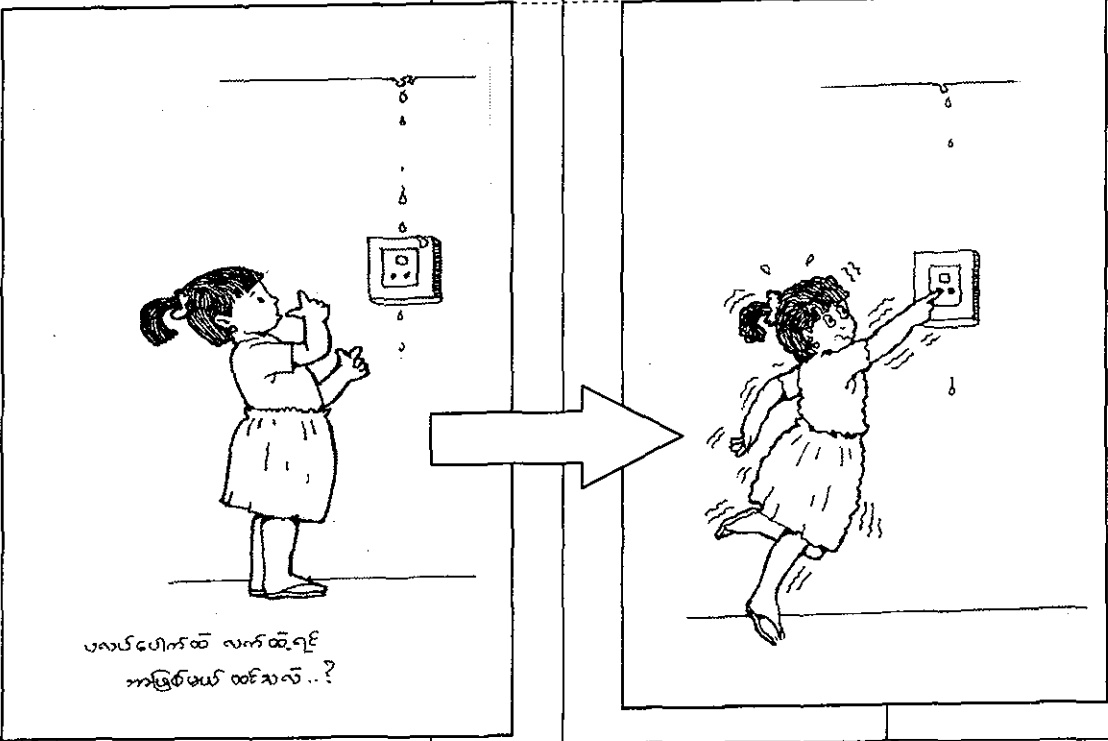
As it has been learnt in Grade One, teacher can ask the leading questions if the children do not remember.
 If the children cannot tell, teacher tells that electricity producing materials, wire and switch are connected.

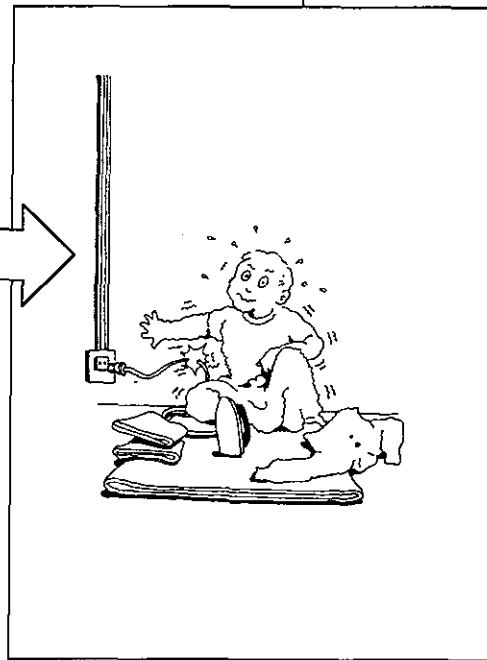
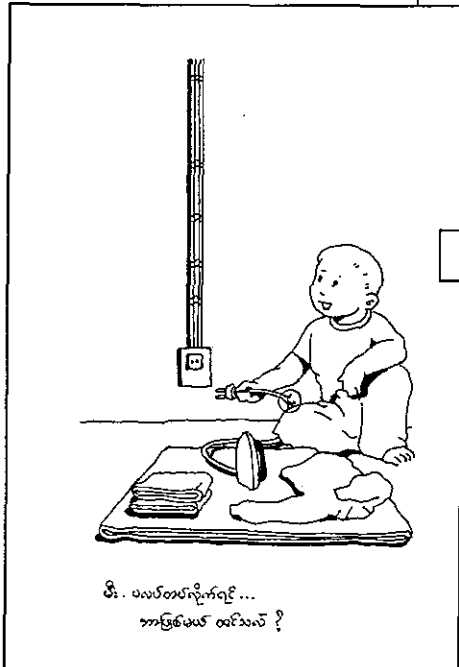
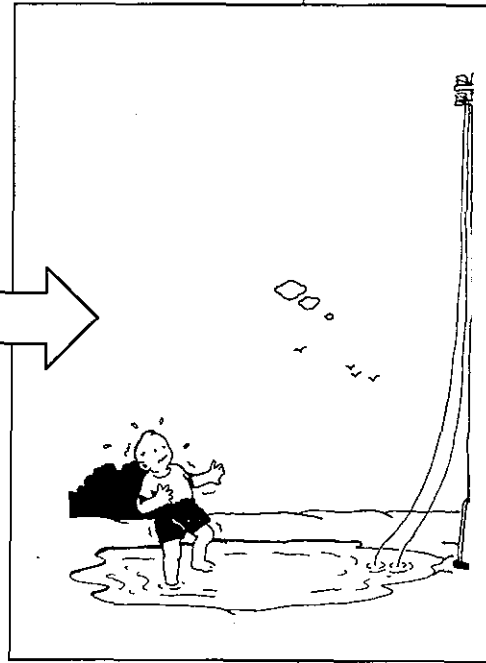
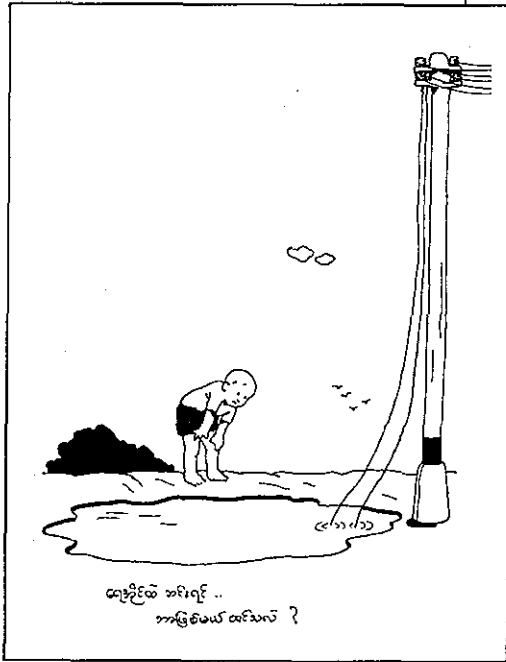
2. Teacher lets the children answer individually.
 "When is it dangerous in using electrical appliances?"
 "In what way of using is it dangerous?"
 "How do you use in order to be safety?"

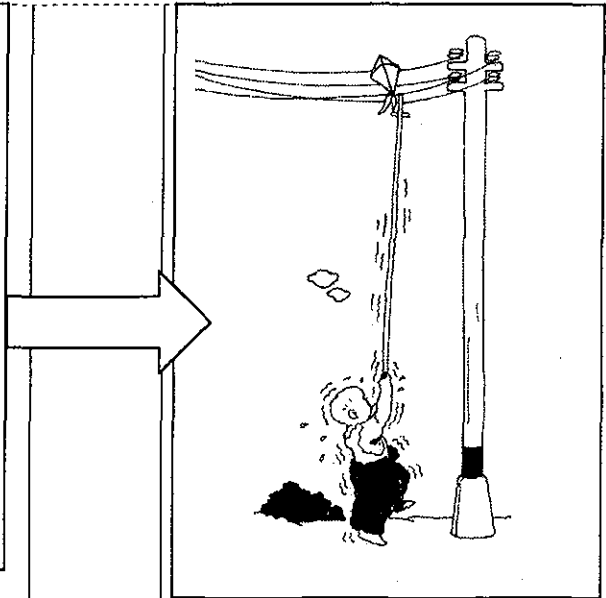
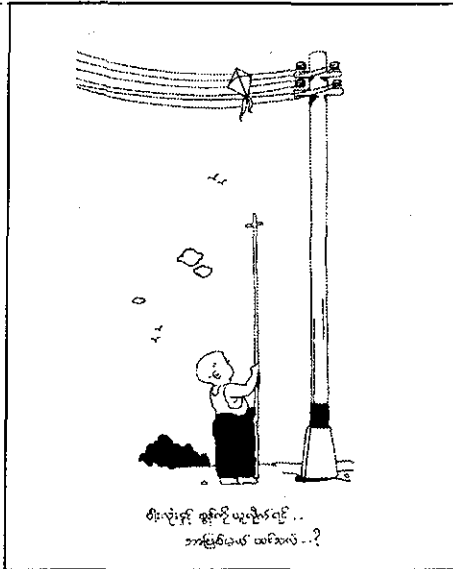
7 min.

pictures showing the dangerous use of electric appliances

It is to be able to use electrical appliances without danger.







3. Teacher complements the followings.
Electricity is very beneficial to man. The major essential things such as heat and light are obtained from electricity. It has to use with special care to be free from danger.

5 min.

Assessment

1. (a) Tell the materials required for making magnets.
(b) Do it practically.
(c) Make a test practically to find out if it is a magnet or not.
2. Which material has to be use in order to find the location of your house? How do you find practically?
3. Describe the appliances that produce heat from electricity used at home (or) describe the appliances that produce heat from electricity that you have ever seen. How is it possible to know that heat is obtained from it?
4. Describe the appliances that contain magnet.

Reference

It can generally be said that heat energy and light energy can be obtained from electricity. If an electric bulb is lit for a long time, it will become hot. However, this heat cannot be used for cooking and for ironing clothes. Therefore, it can generally be said that

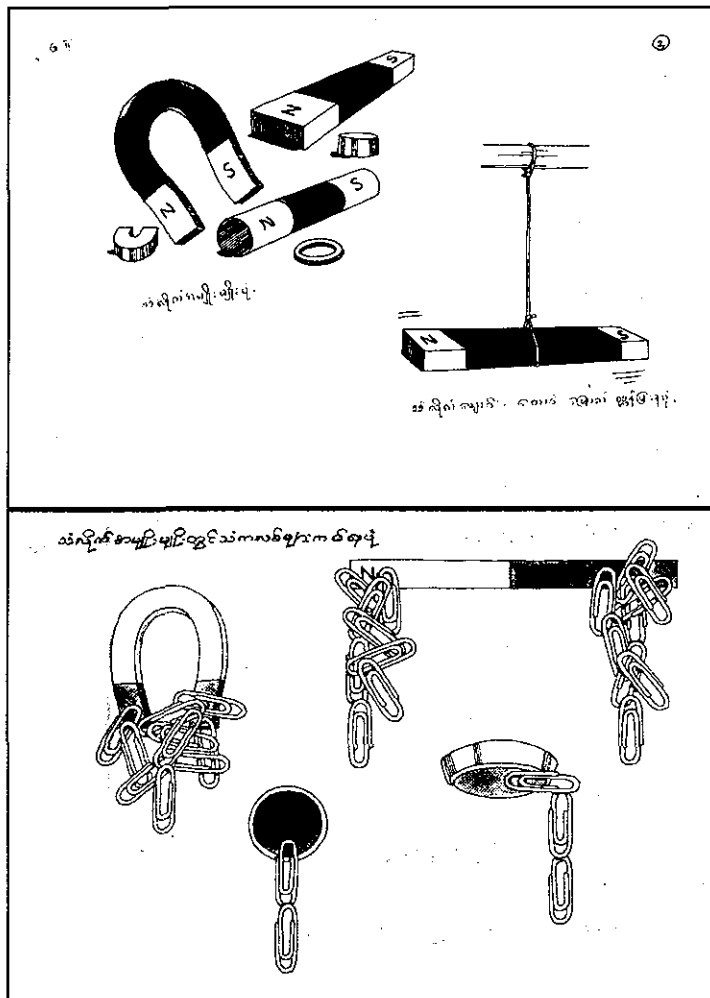
light and heat are produced from the bulb but the main item obtained from the bulb is light energy.

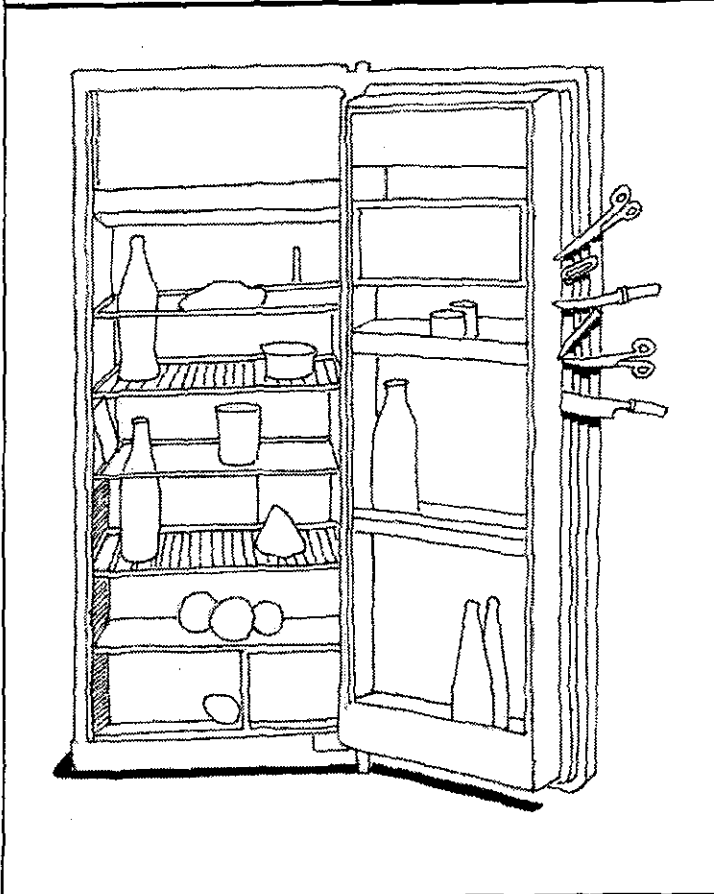
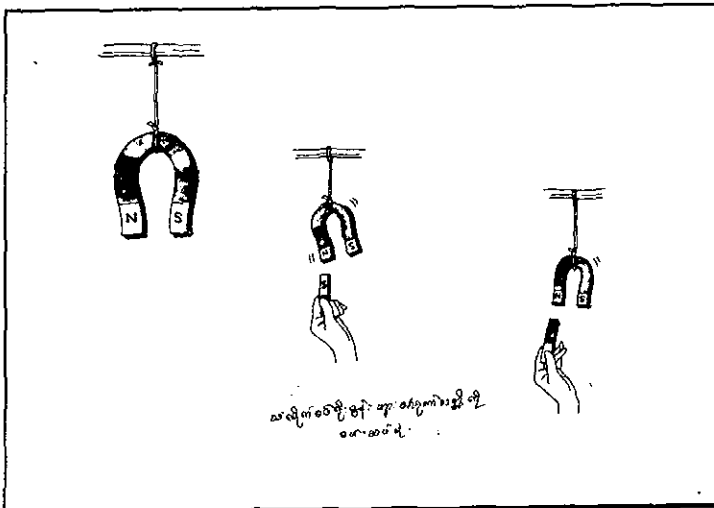
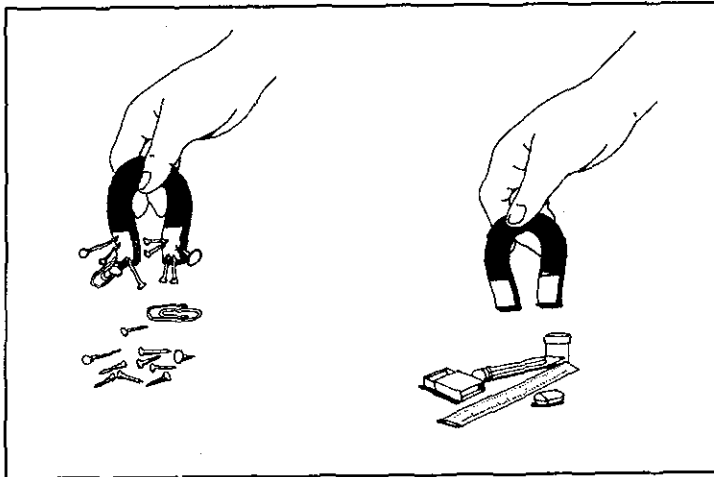
Similarly, when the switch is on in order to use an electric oven, the wire will become red, hot and light emerge. Generally, it can be said that heat and light are obtained but the light emerge from the coil is not light energy. Therefore, heat energy is the main thing obtained.

The earth is a powerful attractive magnet. It has the poles of south and north. When a magnet is hung, one pole shows the direction of south and the other points to the north. These two poles are called north pole and south pole. Like poles attract each other and different poles expel each other.

A bar magnet is hung at school. Then, children can be asked to find out the location of their houses according to the location of school. Moreover, children will be able to tell the locations of monastery, pagoda and clinic in one's region.

In the olden days, a bar magnet was used in traveling by water way or in traveling in the jungle. When the age has become modernized, compasses are used instead of bar magnets. In magnetizing a nail by rubbing, it has to rub more than fifty times if necessary.





Topic 13: Different Kinds of Motion

Key Concept	There are different kinds of motion.
Learning Objectives General Objectives	To know the different kinds of motion
Specific Objectives	Children are able (1) to tell the rolling of round objects (2) to explain forward and backward motion (3) to differentiate and describe upward and downward motion (4) to compare and describe straight line motion
Activities Involved	- observation - discussion - practical doing
Teaching/Learning Materials	- balls, marbles, stones, catapult pellets, cane balls, golf balls, pin pong balls, matchbox - swing, cradle, wall-clock with pendulum, seesaw - bow and arrow, rubber bands, paper
Teaching Periods	5 periods (150 minutes)

Before Getting Started

Background Information for Teachers	Type of motion is different depending on the kind of objects (motion of light objects by wind and by water). Force has to be exerted to move some objects. Round objects move by rolling; some objects move forward and backward; some move upwards and downwards; some move on straight line. Study the illustrations.
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Lesson Planner

	<u>Period One</u>	<u>Period Two</u>	<u>Period Three</u>
Specific Objectives	To able to tell the rolling of round objects	To be able tell the rolling of round objects	To be able to explain forward and backward motion
Introduction	Describe how children play with the toys they have	The contents from the first period will be	Do you want to swing on a cradle/swing?

(Evocation)	ever played How do children play with various kinds of balls, cane balls, catapult pellets and marbles?	reviewed	Have you ever swung a swing? Have you ever done skipping? How do you skip?
Development (Reflection)	Let children tell various kinds of playthings and how to play with them. Children will be allowed to play with balls, marbles, catapult pellets, golf balls and ping-pong balls. Group the children into girl and boy groups to play.	Let the children observe and compare the playing football, tossing cane ball, throwing marbles, hitting toys by throwing and rolling balls. Ask them to play in turns by group and to discuss and to tell how these things move. Let the boys play and girls observe.	Let the children imagine how they swing on a cradle if they have experience in swinging on different types of cradles in childhood. Ask them to swing and tell how it swings and how the stance of one's body is while swinging. Let the children observe the wall-clock with a pendulum. Have some of the children swing in turns and let the rest children wait and see.
Conclusion (Realization)	Round objects like balls undergo motion by rolling.	Round objects move by rolling from the place they fall even though they are kicked or tossed.	Forward and backward movement occurs in swinging on the cradle/swing.
Assessment points	How do children play with round objects and how do they move round objects.	How do children play with round objects and how do they move round objects?	How does one's body move in swinging on a cradle/swing?

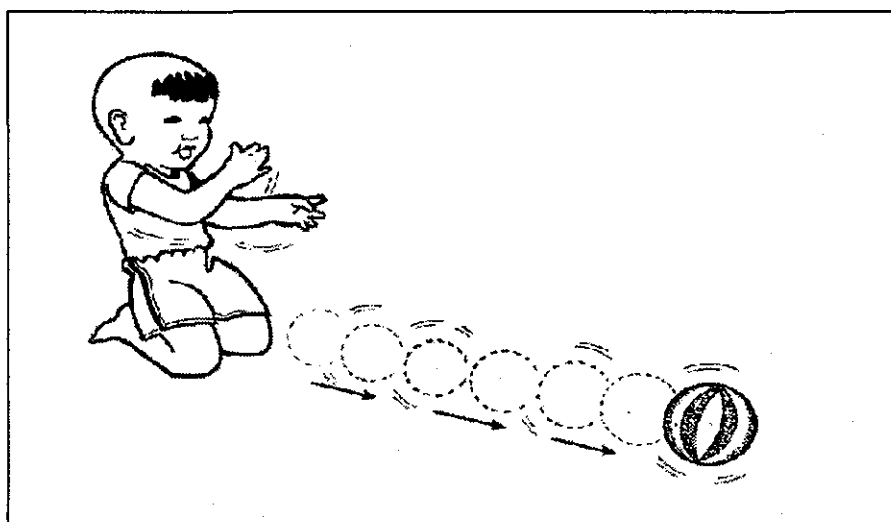
	<u>Period Four</u>	<u>Period Five</u>
Specific Objectives	to differentiate and describe upward and downward motion	to compare and describe straight line motion
Introduction (Evocation)	Have you ever played by patting a ball? Have you ever seen a seesaw? Let children see the illustration of playing on a seesaw.	Have you ever thrown a rubber ring? Let children see a rubber ring and a folded paper, and the picture of bow and arrow. Let children observe how it rains.
Development (Reflection)	Let the children see the picture of a seesaw and let them tell how it moves. Let the children play in groups on a seesaw and let them tell how one's body moves on a seesaw. Ask the children to pat a ball on the ground. Have some children play on a seesaw in turns and let the rest wait and see.	Let the children shoot arrows with a bow and let them throw folded paper with the rubber rings. They will also be asked to see the illustration of raining and to compare the spontaneous motion and the motion resulting from the exertion of force. Children are asked to

		discuss the involvement of force in rolling and throwing.
Conclusion (Realization)	Riding on a seesaw makes the body move up and down.	The throwing of rubber rings and the shooting of arrows are straight-line motion. Such motion involves exertion of force by man. However, raining is the spontaneous motion.
Assessment points	What kind of motion takes place in riding on a seesaw?	What kind of motion takes place in throwing a rubber ring?

Teaching/Learning Procedure

Period One

Learning Activities	Duration (Min.)	Teaching/Learning Materials	Points to be noticed
<p>Introduction</p> <p>Discussing about the toys that children have ever played such as balls, cane balls, marbles, stones, pellets for catapult, etc.</p> <ul style="list-style-type: none"> - How children play these toys - How these objects move <p>Children will be organized into five (5) groups according to the number of students in a class.</p>	5 min.		Let children think individually and let them tell their thinking by group.



<p>Practical doing Observing the rolling of round objects Let them roll the objects one by one and observe their movements. Ask the children how round objects move after letting them roll balls, cane balls, etc in the classroom. Throw an empty matchbox. How does it move? Throw wooden cubes. How do they move? What do you find in comparing the motions of ball, marbles and different shaped objects? Let them compare, observe and speak out their findings.</p> <p>Ask the children if these objects move or not without throwing and rolling. Ask them if it is necessary to do with the 'force' of man. Let groups of boys and girls play by group, and ask which is easier to move the round objects or cube-shaped objects such as matchbox. Let each group present the result to the whole class.</p>	25 min.	balls, cane balls, marbles, stones, pallets for catapult, empty matchboxes, wooden cubes, and other different shaped wooden blocks	<p>The rolling of round objects.</p> <p>Use the playthings that exist in the nearest environment of children.</p> <p>It is necessary to wait and see if the children's activities are right or wrong.</p> <p>There is no movement of round objects if they are not thrown or moved. The necessity of the 'force' of man.</p> <p>Children are made to notice that the round objects can move more easily than cube-shaped materials with less force.</p>
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Period Two

Learning Activities	Duration (Min.)	Teaching/ Learning Materials	Points to be noticed
<p>Whole class discussion Have you ever played football? How does the ball move?</p>	5 min.		The issues from the previous period will be reviewed.
<p>Practical doing Playing of children Ask the children to kick balls, roll marbles, and throw stones by group and to observe how these objects move and which object moves faster.</p> <p>(Boys and Girls) They are asked to roll a ball to hit the small dolls and small rods of wood erected. (Boys) Organize the boys into groups to throw marbles formed in the manner shown in the diagram.</p>	20 min.	dolls, balls, marbles, stones, cane balls ○ ○ ○ ○ ○ ↓ ↑ ○ ○ ○ ○ ○	<p>Use the playthings that exist in the nearest environment of children.</p> <p>It is necessary to wait and see if the children's activities are right or wrong.</p>

<p><i>Playing the game of throwing marbles placed in a format</i></p> <p><i>Organize two groups with two or three members per group.</i></p> <p><i>One group must have ten marbles and has to place the five marbles in the format as shown.</i></p> <p><i>The group that has to throw first must be selected with the agreement between two groups.</i></p> <p><i>While one group is throwing the marbles, the other has to watch if the marbles they throw become touched with the marbles placed.</i></p> <p><i>Two groups have to throw the marbles in turns.</i></p> <p><i>The group that can throw the marbles to touch all the marbles placed at the either side will win the game.</i></p> <p><i>Observe how round objects move.</i></p>	5 min.	Conclusion	<p>Discuss with the children again.</p> <p>Describe the different playthings you have already played.</p> <p>How do the round objects move?</p>
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Period Three

Learning Activities	Duration (Min.)	Teaching/ Learning Materials	Points to be noticed
<p>Whole class discussion</p> <p>Do you want to swing on a cradle/swing?</p> <p>Have you ever swung a swing?</p> <p>Have you ever done skipping?</p>	5 min.		
<p>Practical doing</p> <p>Observing backward and forward movement (outside the classroom) (play ground)</p> <p>Ask the children to ride on a swing alternately and let them observe how one's body moves.</p> <p>Ask the following question and let the children describe.</p> <p>In what way is your body moving?</p>	20 min.	swing	<p>Moving forward and backward while riding on a swing.</p> <p>If a swing is not available, have them speak out if they have ever slept in a cradle or not.</p> <p>Make all children get the opportunity to participate in playing.</p>
<p>Conclusion</p> <p>Individual discussion/group discussion</p>	5 min.		

Are you happy to ride on a swing?
How does your body move in swinging?



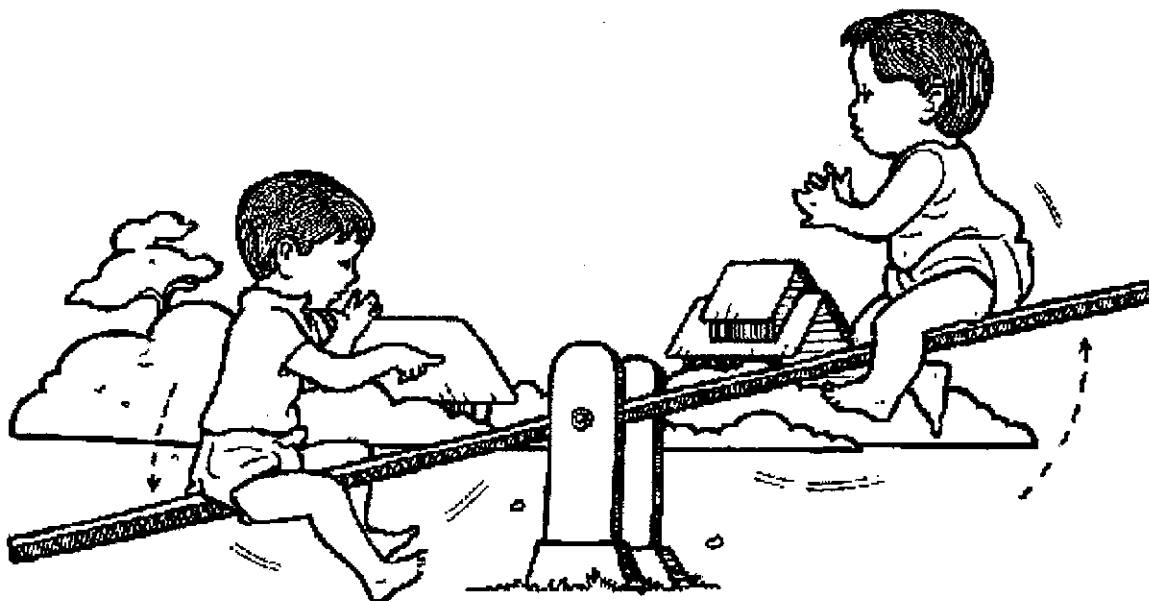
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Period Four

Learning Activities	Duration (Min.)	Teaching/ Learning Materials	Points to be noticed
<p>Whole class discussion Have you ever played by patting a ball? Have you ever seen a seesaw?</p>	5 min.		
<p>Practical doing Observing upward and downward movement (play ground outside the classroom) Ask the children to ride on a seesaw by group in turns and let them observe how it moves. Ask them how the seesaw is moving. Have children groups skip alternately and observe the way of movement. Ask the children how their body moves.</p>	25 min.	seesaw, ten skipping ropes (with handles) a lengthy piece of rope	<p>Up and down movements occur when riding on a seesaw or in skipping.</p> <p>Make all children get the opportunity to participate in playing.</p>



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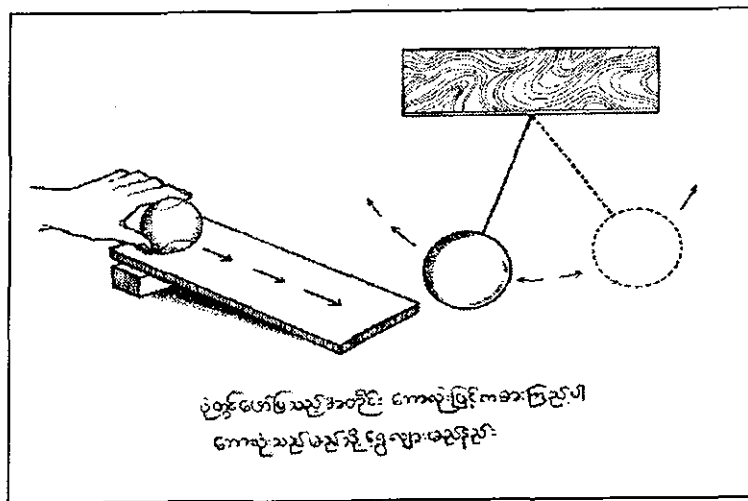
Period Five

Learning Activities	Duration (Min.)	Teaching/ Learning Materials	Points to be noticed
<p>Whole class discussion Have you ever thrown a rubber ring? Have you ever shot an arrow to a target with a bow?</p>	5 min.		
<p>Practical doing Observing Linear Motion. (Play ground outside the classroom) Ask the children to observe the manner in shooting arrows with a bow, hurling of folded paper with a rubber ring, and the slinging of pellets from a catapult. Ask them how arrow, folded paper, and pellets move. Let the children shoot, hurl or sling one after another by group.</p>	20 min.	bow and arrow, rubber ring and folded paper catapult and pellets	<p>Moving in a straight line</p> <p>Teacher has to study the different kinds of motion in the Science subject.</p>
<p>Synthesizing the key points in the lesson and conclusion Describe different kinds of motion. How do round objects move? How does your body move in swinging? How does the pendulum of a wall clock move?</p>	5 min.	illustration charts (raining), wall clock, illustration of the playing seesaw	<ul style="list-style-type: none"> - Rolling motion - Forward and backward motion - Linear motion - Upward and downward motion - Spontaneous motion

<p>Have you ever seen raining? How is it moving? How does an arrow move when you shoot at a target? Do the things that you play move spontaneously? Do the things move without using the force of children in riding, hurling, skipping? Let children think if their forces are included in causing motion or not. Synthesize the answers come out to conclude the lesson on motion.</p>			<p>Motion resulting from the force of man</p>
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Assessment

1. How do the ball and marbles move when rolling them on the ground?
2. How does a folded paper move when it is hurled with a rubber ring?
3. How are you and your friend moving in riding seesaw?
4. Wave a ball tied with a rope and dangled. How is the ball moving?
5. Describe different kinds of motion.



Reference

When force is exerted on objects, motion may occur. Various forces such as push, pull, and pressure, etc cause different kinds of motion. Moreover, motions can vary according to the shape of the objects. It can cause an object to accelerate, slow down, change direction or change shape in accord with the force exerted.

It is possible to support the lesson through asking the children to observe the motions of the objects closely related with the children in daily life according to one's locality.

Topic 14: Weather

Key Concept	The weather condition can be changed during a day.
Learning Objectives General Objectives	To know the color, changes of shape of cloud in the sky and the temperature and wind speed of a day
Specific Objectives	Children are able (1) to tell the color and changes of shape of clouds in the sky (2) to tell the temperature changes in a day (3) to tell the condition of wind (4) to describe the lesser and greater amount of rain (5) to tell the relationship of region with temperature, rainfall and wind speed
Activities Involved	<ul style="list-style-type: none"> - observation - discussion with the whole class - doing practical individually - drawing, coloring
Teaching/Learning Materials	<ul style="list-style-type: none"> - picture chart showing the condition of clouds in the sky - thermometer - paper to make a pinwheel, straw, pin - drawing paper, color pencil
Teaching Periods	6 periods (180 minutes)

Before Getting Started

Background Information for Teachers	<p>Weather condition is the blowing of wind, cold, hot, cloudiness, rainy and sunny, which occurs in a short period. Weather condition changes and differ from day to day. The average weather conditions experience by a place over a long period of time is known as the climate. The second grade children will be made known the relationship of their region with the weather conditions through the condition of blowing of wind, temperature and rainfall of one's region. For example, while the continental low land region Mandalay is hot, it is cold in the hilly region, Taunggyi.</p> <p>Since the lessons include the observation and experiments, they need to be conducted during the rainy season.</p>
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Lesson Planner

	<u>Period One</u>	<u>Period Two</u>	<u>Period Three</u>
Specific Objectives	Be able to tell the color and changes of shape of clouds in the sky.	Be able to tell the color and changes of shape of clouds in the sky.	Be able to tell the temperature changes in a day.
Introduction (Evocation)	Asking questions - What is the color of cloud in a sunny day? - What is the color of cloud in a rainy day?	Have the students go out of the classroom and see the clouds.	Asking questions. Which is the hottest time out of the morning, afternoon, and in the evening?
Development (Reflection)	Observation Let them study the clouds in the sky.	Drawing the shapes of clouds and coloring.	Have the students see the thermometer. Discussion with the whole class.
Conclusion (Realization)	Let them know that the color and shape of clouds are different.	Knowing that the color and shape of clouds are different.	Knowing the hottest time in a day.

	<u>Period Four</u>	<u>Period Five</u>	<u>Period Six</u>
Specific Objectives	Be able to tell the condition of blowing of wind.	Be able to describe the rainfall.	Be able to tell the relationship of region with temperature, rainfall and wind speed.
Introduction (Evocation)	Explaining by the teacher to make pinwheel.	Explaining to do activity.	Asking question.
Development (Reflection)	Making a pinwheel.	Making a bar graph to show rainfall by measuring rainfall.	Discussion with the whole class weather conditions of the region.
Conclusion (Realization)	Knowing the wind speed.	Making to know that rainfall is different from day to day.	Knowing that the weather condition is different according to region.

Teaching/Learning Procedure

Period One

Learning Activities	Duration (Min.)	Teaching/ Learning Materials	Points to be noticed

Discussion with the whole class. Teacher introduces by asking the following questions. - What is the color of the cloud on a sunny day? - What is the color of the cloud on a rainy day? - Is the color of cloud the same in a sunny day and rainy day?	5 min.		
Observation. Let the children go out of the classroom and study the color, shape, high or low and the movements of clouds.	15 min.		
Discussion with the whole class. - What are the colors of the clouds? - Are the colors of clouds in the sky the same? - What are their shapes? - Are the shapes of the clouds the same? - Are the heights of the clouds the same? - Are the clouds moving? - Why do you think they are moving?	10 min.		
Teacher asks children to observe the color and shape of the clouds in the early evening and in the morning at home.			

Period Two

Learning Activities	Duration (Min.)	Teaching/ Learning Materials	Points to be noticed
Let the children go out of the classroom and see the color and shape of the clouds.	7 min.		
Let the children draw the shape of clouds they have seen just now. Then let them draw the clouds in the morning and in the early evening which they can remember, and let them color the clouds.	15 min.	drawing paper, color pencils	Give children the opportunity to draw freely.
Let the children exchange and see the pictures they have drawn in groups.	3 min.		
Discussion with the whole class. Ask children,	5 min.		

<p>- Are the colors of clouds found in the morning, afternoon, and in the early evening the same, what colors did you find?</p> <p>- Can you tell by seeing the shape and color of clouds that the sun will shine or it will rain? Why?</p> <p>- If it is going to rain what will be the color of clouds?</p>			<p>They will be made to be able to guess the weather condition by seeing the color of clouds.</p>
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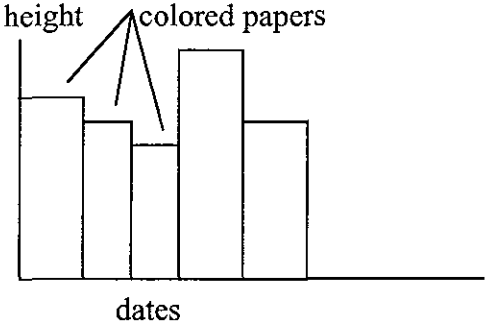
Period Three (This lesson is to be conducted in the morning.)

Learning Activities	Duration (Min.)	Teaching/ Learning Materials	Points to be noticed
<p>Let the children think and guess the following questions. What will be the hottest time of the day? Is it in the morning, afternoon, or in the evening of a day? Let them think how they can find out the answer.</p>	30 min.		
<p>Practical activity and observation. Show thermometer to children and let them guess what and how it can tell the temperature. Show variety of thermometers such as thermometer for body temperature and air temperature, if possible.</p>	15 min.	Thermometers	
<p>Let each child observe the height of mercury in a thermometer. Let children read out the mark of the height of mercury and let them note down. Let them see also the range of degrees of temperature on the thermometer. What degree is the lowest in the thermometer and what degree is the highest to be able to measure with that particular thermometer.</p>			
<p>Then, children will be asked to stand up for about 1 min. outside the classroom in the sunshine.</p>			
<p>Children are given thermometer to read out the temperature in the thermometer and note down how they felt standing under the sun. And teacher (or children) tell(s) the temperature under the sun, read out from the thermometer.</p>			

<p>Discussion with the whole class</p> <ul style="list-style-type: none"> - Are the heights of mercury in the thermometer the same in the morning and in the afternoon? - By standing in the sunshine, which time is the hottest? - Out of the morning and afternoon, which time is the hottest? - Out of the morning, afternoon, and evening which time will be the hottest? 			
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Period Four

Learning Activities	Duration (Min.)	Teaching/ Learning Materials	Points to be noticed
<p>Collecting rainwater and keeping a record for a week by groups</p> <p><u>In the beginning of the school period</u></p> <p>(1) In the beginning of the school day, form children into groups and distribute the cups for collecting rainwater.</p> <p>(2) Teacher explains that the rainwater is to be collected everyday for a week and tells the children to decide on the location where the cup is to be placed safely somewhere within the school compound. Also let them put group name on their cups.</p> <p>(3) The children place the cups in a safe place for it to remain untouched from morning to the time school finishes.</p> <p>(4) They record time and date when the cup is placed, location in the notebook.</p>	15 min.	<p>The cup to collect rainwater.</p> <p>The cup that can be measured height.</p> <p>Colored papers.</p>	<p>Teacher supplements that rainfall is measured with inches.</p> <p>For the areas where there is very little rainfall, this lesson should be conducted when there is a rain.</p>
<p><u>At the end of the school period</u></p> <p>The rainwater is collected for a day and is put into fresh water bottle, which is cut at its head that can measure height. And let them stick the colored paper to its height.</p> <p>(6) The length of the colored paper indicates the amount of rainwater collected. This process is continued</p>	15 min.		

<p>for a week.</p> 			
<p><u>After a-week long collection of rainwater is completed</u> Discussion with the whole class.</p> <ul style="list-style-type: none"> - Are the heights of the colored papers stuck by children the same? - Why do the heights of pieces of paper not the same? 	5 min.		Teacher should keep one bottle each per day containing collected rainwater, to show with the measured colored papers, as a sample.
<p>Group discussion.</p> <ul style="list-style-type: none"> - Does the rainfall for everyday the same? - In this week, which day has heavy rainfall and which day has less rainfall? 	15 min.		
<p>The discussed facts of groups will be asked to tell in front of the class by showing the rainfall graph. Also ask children where do these rainwater go when not collected. Tell them they penetrate in the ground and some flows and pours into the streams and rivers.</p>	10 min.		

Period Five

Learning Activities	Duration (Min.)	Teaching/ Learning Materials	Points to be noticed
<p>Teacher asks children how she/he can turn the pinwheel without touching it. Let children answer as they like.</p>	3min.		
<p>Practical activity. Let each child do a pinwheel with a paper. Let a child hold a pinwheel and stand up in the classroom.</p>	15 min.	paper, pin, straw	First, the teacher will show how to do step by step. The handle of a pinwheel can be used with one's regional product, which is readily available.
<p>Let a child hold a pinwheel and stand</p>	5 min.		

up outside the classroom.			
Let a child hold a pinwheel and run outside the classroom.	5 min.		
Discussion with the whole class. - In which place does the pinwheel spin more, inside the room or outside the room? Why? - Which is more spinning, to hold the pinwheel and stand up or to hold it and run? Why?	5 min.		They will be made to know that the pinwheel spins fast if the wind speed is greater.
Teacher reconfirms the fact that when there is wind, the moving air touches the paper and pinwheel is turned.			

Period Six

Learning Activities	Duration (Min.)	Teaching/ Learning Materials	Points to be noticed
Discussion with the whole class . Children will be asked about the weather condition of their region. - Does it rain much or little in your region? - Do you have more hot time or less hot time? - In the cold season, is it very cold or not very cold? - Have you had a stormy wind? - Have you ever experienced a cyclone? Teacher asks children the weather condition of their region and explains the relationship of temperature, rainfall and wind speed of coastal region, dry region and mountain ranges region.	10 min.		Discuss by beginning from the weather condition of one's region.
Teacher tells the importance of measuring rainwater in our lives and in agriculture.	20 min.		Invite farmers to talk about the amount of water necessary for growing paddy rice, for example.

Assessment

- Describe the color of clouds that you have ever seen.
 - If the clouds are dark in the sky, can you guess what will happen?
 - Which is the hottest time in a day?

(d) How do you know the wind speed of today; is it fast or slow?

2. Assess the children's activities

by children's behaviour, such as children's happiness, interest, participation and answering questions.

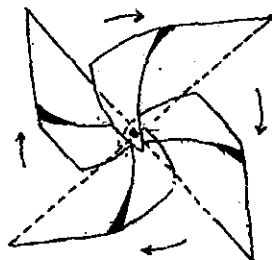
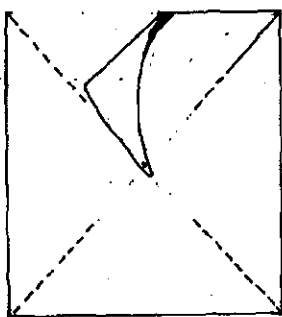
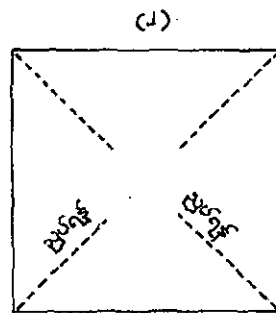
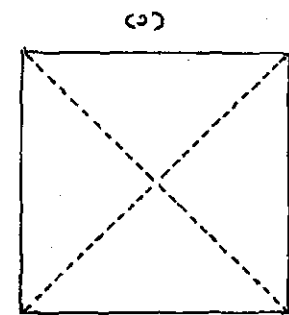
Reference

Since the coastal region is nearer to the sea, it is cloudy with heavy rainfall and has fair temperature. In the beginning and after the rainy season, less atmospheric pressure zones develop in the bays and transforms into cyclones. As the continental low land regions are far from the sea, they have less rainfall with high temperature so the temperature is not fair. Hilly regions are high land regions and have a cold climate.

Some information on Clouds:

Clouds are formed when warm air rises or when warm and cold air meet. Clouds are made up of billions of tiny droplets of water or ice. All air contains some water.

There are three main cloud groups. The highest, called cirrus, are usually made of ice crystals because the air is so cold. White, fluffy piles of clouds are called cumulus, meaning "heap". Sometimes they join together to form huge, towering storm clouds, called cumulonimbus. Flat clouds are called stratus, meaning "layer". Fog is a low-lying stratus cloud.



ပုံ(၁) - စတုရန်း ပုံ စတုရန်း အလယ်ပိုင်း
တစ်ခုလုံးကို ဝန်းရံထား
မျိုးမျိုး -

ပုံ(၂) - စတုရန်းပုံထဲမှာ အလယ်
ပိုင်းမှာ စတုရန်းပုံထဲမှာ
ဝင်နေပါသည်။

ပုံ(၃) ညွှန်ကြားသော အချက်အလက်များကို
တစ်ခုလုံးကို ဝန်းရံထားပြီး
တွင် အချက်အလက်များ တစ်ခုလုံး
တစ်ခုလုံးကို ဝန်းရံထားပြီး

ပုံ(၄) ခုတ်လှုပ်နေသော အချက်အလက်များ
တစ်ခုလုံးကို ဝန်းရံထားပြီး
တစ်ခုလုံးကို ဝန်းရံထားပြီး

Topic 15: Comparison of Different Soils

Key Concept	We see variety of soil in our environment and quantity of water in soil is one element in differentiating soil.
Learning Objectives	
General Objectives	To understand the different qualities of soil
Specific Objectives	Children are able (1) to describe different qualities of soil in one's environment (2) to describe the relationship between soil and water (3) to describe the usefulness of different soils
Activities Involved	<ul style="list-style-type: none"> - Observation of soils - Practical doing in group - Practical doing individually - Discussion - Observation on illustration charts
Teaching/Learning Materials	<ul style="list-style-type: none"> - soil (muddy soil, sandy soil red soil yellow soil) - pictures depicting respective regions - pictures showing different landscape - pictures showing the shape of land where soil erosion took place due to water
Teaching Periods	6 periods (180 min.)

Before Getting Started

Background Information for Teachers	<p>Soils are different according to the location. It is necessary to know the different soils around us (muddy soil, soil mixed with gravels, sandy soil, laterite soil, red soil, humus, silt). Soils are different in delta region in lower Myanmar, middle river valley regions, hilly regions so that agricultural works are different as well. It has to be described relating with one's region that: sticky soil, soil through which water can diffuse, soil through which water cannot diffuse, soil that can be easily eroded, land slide of river bank and formation of various topographical features. Movement of water can affect the soil. (soil become more fertile due to sedimentation, getting mineral resources) It has to be described relating with the region that: brick production, production of earthenware, oil, natural gas, and other mineral resources.</p>
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Lesson Planner

	<u>Period One</u>	<u>Period Two</u>	<u>Period Three</u>
Specific Objectives	to describe different qualities of soil in one's environment		to describe the relationship between soil and water
Introduction (Evocation)	Discussion on the soil, gravels, sand around the children	Discussing the practical doing that has been done in the <i>first period</i>	Ask the children to describe different soil brought by the children
Development (Reflection)	Group activity Individual practical doing	Practical doing individually	Whole class discussion Group discussion Practical doing individually
Conclusion (Realization)	Whole class discussion	Individual/whole class discussion. Collecting soil around one's environment	Asking the children to express their findings of individuals/whole class

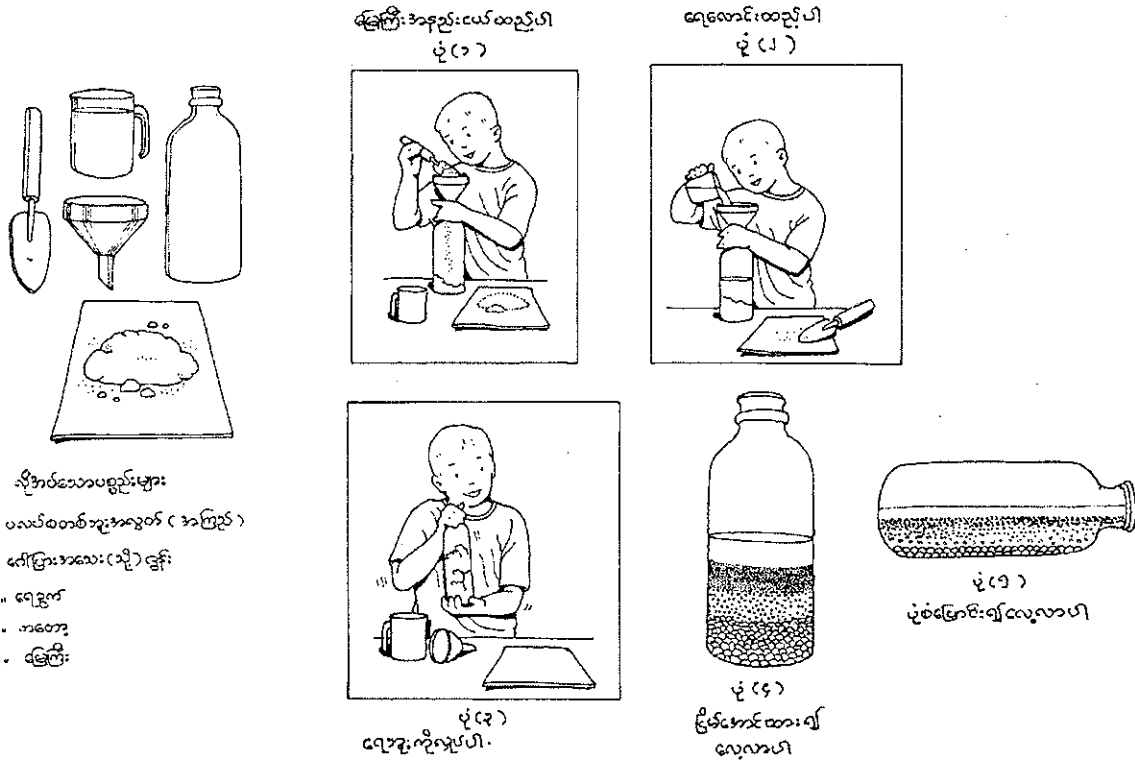
	<u>Period Four</u>	<u>Period Five</u>	<u>Period Six</u>
Specific Objectives	to describe the relationship between soil and water	to describe the relationship between soil and water	to describe the usefulness of different soils
Introduction (Evocation)	Discussing the practical doings in the third period	Discussing the practical doings in the previous period	Discussing region products of food, agricultural crops and ores
Development (Reflection)	Whole class discussion Group discussion Practical doing	Observing illustration charts Practical doing	Whole class discussion Observation on illustration charts
Conclusion (Realization)	Group discussion Teacher's supplementation on discussion	Whole class discussion	Individual/whole class discussion Recitation of poem

Teaching/Learning Procedure

Period One

Learning Activities	Duration (Min.)	Teaching/ Learning Materials	Points to be noticed

<p>Introduction Have you ever played with soil, sand and water? Let's play now. Teacher distributes the materials for practical doings to the children and explains the procedure.</p>	2 min.		Let the children answer freely.
<p>Practical doing in groups - Put soils into a bottle. - Pour the water into the bottle. - Close the bottle and shake for a while in order to mix water and soil. - Watch the sedimentation occurred - Ask the children to present their findings after practical doing. - Put the bottle on the table and let it still one moment. - Let them observe. - Have the children discuss the following questions within the group. What deposits first at the bottom? What are they? Why? What do you find on this lowest layer? What do you find above them?</p>	15min.	bottle, plastic cup (transparent), spade, water cup, funnel	Let the children take the soil somewhere in the school compound. Water has to be much more than soil. It is necessary to know the situation of gravels, sand, and mud.
<p>Let them shake the bottle more quickly once again. After that, put the bottle on the desk in horizontally and watch the sedimentation. Ask the above questions again.</p> <p>Individual practical doing Drain off gradually the water from the bottle by letting the bottle in oblique position in order not to let water be left in the bottle at all. Examine the sand, gravels and mud with hand. Which soil is loose and which one is sticky? Are the sand granules smaller/bigger than that of mud? Are the gravels smaller/bigger than the granules of sand?</p>	13 min.	water, soap	Sand is the uppermost hard soil is under the sand and gravels are found undermost. Have the children present freely. It has to be noticed that children have to wash their hands after handling sands and mud.



Period Two

Learning Activities	Duration (Min.)	Teaching/ Learning Materials	Points to be noticed
<p>Let the children touch and feel the sandy soil, muddy soil and laterite soil.</p> <p>They will be made to know and distinguish which soil is rough and which is soft, the color, scent and sizes of soils.</p>	10 min.	muddy soil, sandy soil, laterite soil.	Teacher has to collect the required soil beforehand.
<p>Children will be asked to make catapult pellets with sand and clay and asked them to throw the pellets made from sand and clay against the trees, floor or blackboard.</p> <p>Let them experiment in playing to know differently which pellet is easy to break.</p> <p>Discussion with the whole class.</p> <ul style="list-style-type: none"> - Which soil is rough? - Which soil is soft? - What color is found according to the 	20 min.		Be careful not to play by throwing one another among children.

type of soil? - Is it foul smelling? - Which soil is easy to break? Children will be asked to collect and bring the different soils from their environment.			Teacher has to tell that they can bring any soil from their environment.
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Period Three

Learning Activities	Duration (Min.)	Teaching/ Learning Materials	Points to be noticed
Discussion with the whole class. Let the children tell the type and color of the different soils they have brought.	10 min.	different soils that children have brought	
Group discussion Let them discuss the usefulness according to different soils. Let them present in groups. The following knowledge will be taught referring to the examples such as the specific soil and the plant. - The black humus can make different plants thrive. - The growing of onion, chillies and ginger in sandy soil - The growing of potato, groundnuts, and sweet potato in loose soil. - Muddy soil can be made into water pot, glazed earthen jar and toys. - Sandy soil can be made into brick building, water tank and other buildings.	20 min.	Humus, muddy soil, sandy soil, potato, groundnut, sweet potato. toy pot, toy buffalo, toy ox and toy dove made from clay.	Teacher should bring the required soils beforehand. Teacher has to help children to bring out their opinions. Teacher has to supplement and explain as necessary.
Distinguish and describe the types of different soils that children have brought. - What things can be made from the soil that one has brought? - Have you ever made toys? From which soil can the toys be made? - What trees can be grown on which soil? - Have you ever seen the houses and brick buildings that are built with sand?			It should relate with the crops grown on the land of one's region and environment.

Period Four

Learning Activities	Duration (Min.)	Teaching/ Learning Materials	Points to be noticed
Discussion with the whole class. - In sandy soil and muddy soil, which soil has more water diffusion rate?	5 min.		
Group-wise practical doing Put sand and mud into each plastic cup or each bucket. Then, let them pour water with a water cup and let them study the diffusion rate of water inside the mud and inside the sand. Children groups will be given muddy soil and sandy soil and let them make the toys as they like.	15 min.	dried sandy soil, muddy soil, plastic cup and water.	Motivate children to take interest in doing practical. Let them wash their hands cleanly after playing. To make them know that ; - water can make the soil wet. - water can make the soil soft.
Discussion with the whole class. - What do you mix in the sandy soil and muddy soil to make toys? - Is it necessary to mix water? - How will you find if you mix water with the muddy soil and sandy soil?	10 min.		

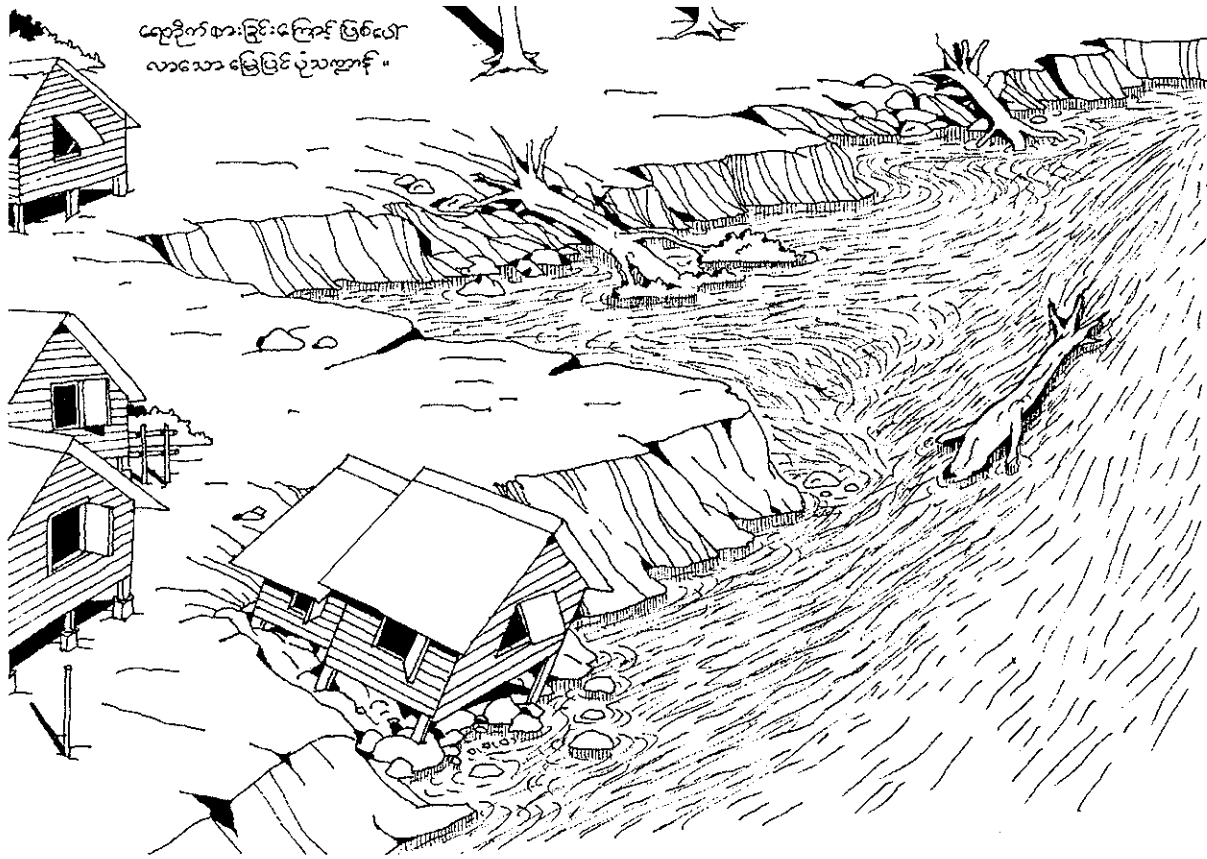
Period Five

Learning Activities	Duration (Min.)	Teaching/ Learning Materials	Points to be noticed
Discussion again the practical doing of previous periods. Teacher asks children the following question and let them think. “How does soil move from one place to another without people shifting it?” Teacher does not have to tell the answer immediately. Instead lead children to see the picture charts.	5 min.		
Studying of picture charts. - Let them see the picture chart containing erosion, carrying and deposition of soil by water.	5 min.	Picture chart containing the activities of water	Teacher has to tell and motivate to note down the findings by making them to see along the ditch.

<p>Practical doing Let them go outside the classroom and let them pour water into the ditch. Let them pour water on the piled up soil. Let the children pour different amount of water from small bowl to big bucket to observe closely the consequences.</p>	<p>10 min.</p>		<p>Let the children know that water erodes the soil so that riverbanks and bank of creek are slid It is easier to conduct this lesson during rainy season in order to see the soil erosion.</p>
<p>Discussion with the whole class - How will you find if the water falls on the ground? - What goes along with the current? - When the water stops from flowing, do the things brought along with water remain? Let them present the findings according to groups to the class.</p>	<p>10 min.</p>		
<p>Let them present the findings according to groups to the class.</p>	<p>5 min.</p>		



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Period Six

Learning Activities	Duration (Min.)	Teaching/ Learning Materials	Points to be noticed
<p>Discussion with the whole class Tell the names of vegetables you like from your daily food.</p> <ul style="list-style-type: none"> - Have you ever seen cultivated fields inside the school, children? - Tell the types of plants in children's home and region. - On which type of soil are they grown? - Have you ever grown fruit trees and edible plants? - How do you make the plants to grow? - Do the plants need water and air to grow? 	<p>15 min.</p>	<p>Paddy, coconut, potato, ginger, sweet potato</p>	<p>Discuss by depending on the crops produced according to one's region. Discuss by bringing out the crops that grow in sandy soil, muddy soil, red soil and yellow soil.</p>

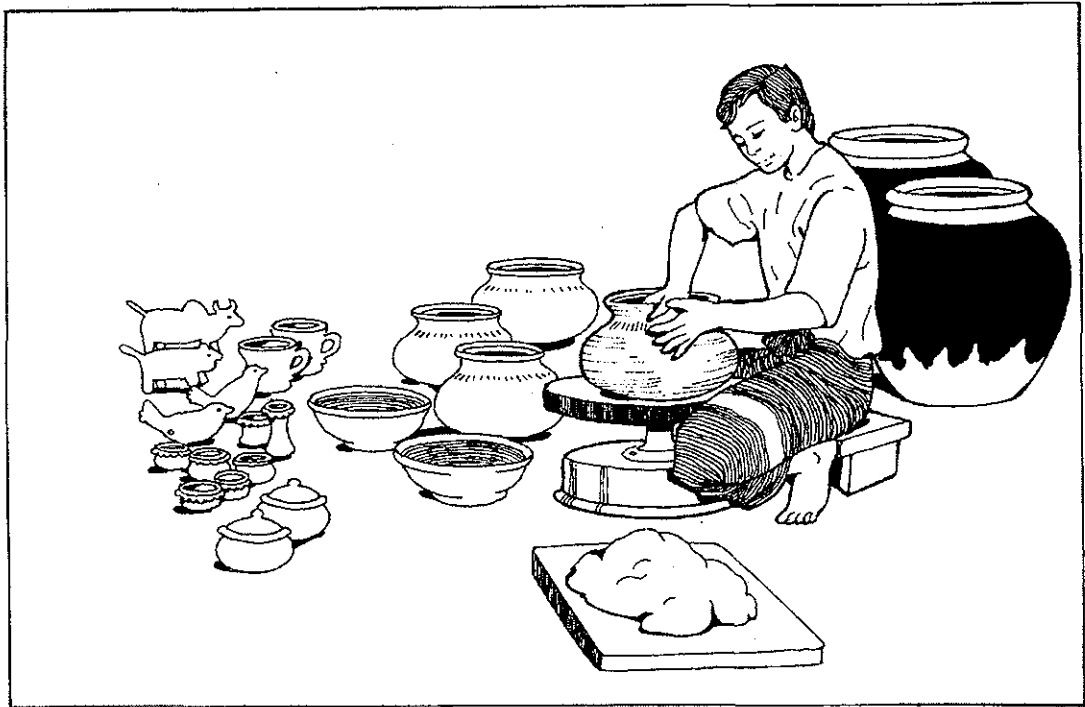
<p>Teacher asks children what they can find deep in the underground, and let them tell their ideas freely. Teacher then explains that oil and minerals are found and it takes very long time for them to be formulated. As water can pass through the loose soil, the oils hide in the loose soil under the ground. Mineral resources is discussed showing examples of products such as those made of iron, using minerals .</p>	10 min.	Low-grade gems, the picture in which the oil is drilled out.	Children will be made to bring out and discuss the usefulness of the mineral resources they know.
<p>Reciting poem <i>Let's link hands and move in a circle and play</i> <i>Build houses in a circle with loose and wet sand</i> <i>Let's link hands and move in a circle and play</i> <i>Make toys in a circle, toy pot, toy dove, toy buffalo and ox with clay</i> <i>Let's link hands and move in a circle and play</i> <i>Where do you dig up ginger and potato? In the land of Shan states?</i> <i>Dig, Dig , Dig</i></p>	5 min.		Teacher has to motivate children to recite the poem happily.

Assessment

Assessment is done through asking following questions.

- (a) Out of the sticky soil and loose soil, which can retain water more?
- (b) Why do the banks of rivers and streams slide?
- (c) What will happen if the rain falls on the dried muddy soil?
- (d) Describe the type and color of soil found in your environment, children?
- (e) Have you ever made toys? With which soil can the toys be made?
- (f) With what, do the houses and brick buildings are built?
- (g) Describe the agricultural crops grown around one' region.
- (h) By looking at the illustrations described below, choose what kind of soil it is made of.

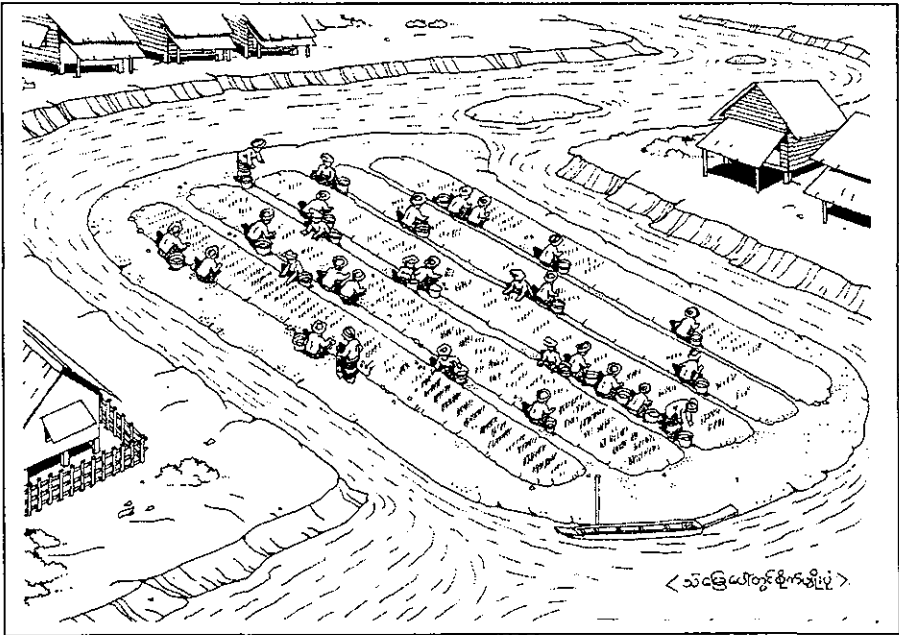
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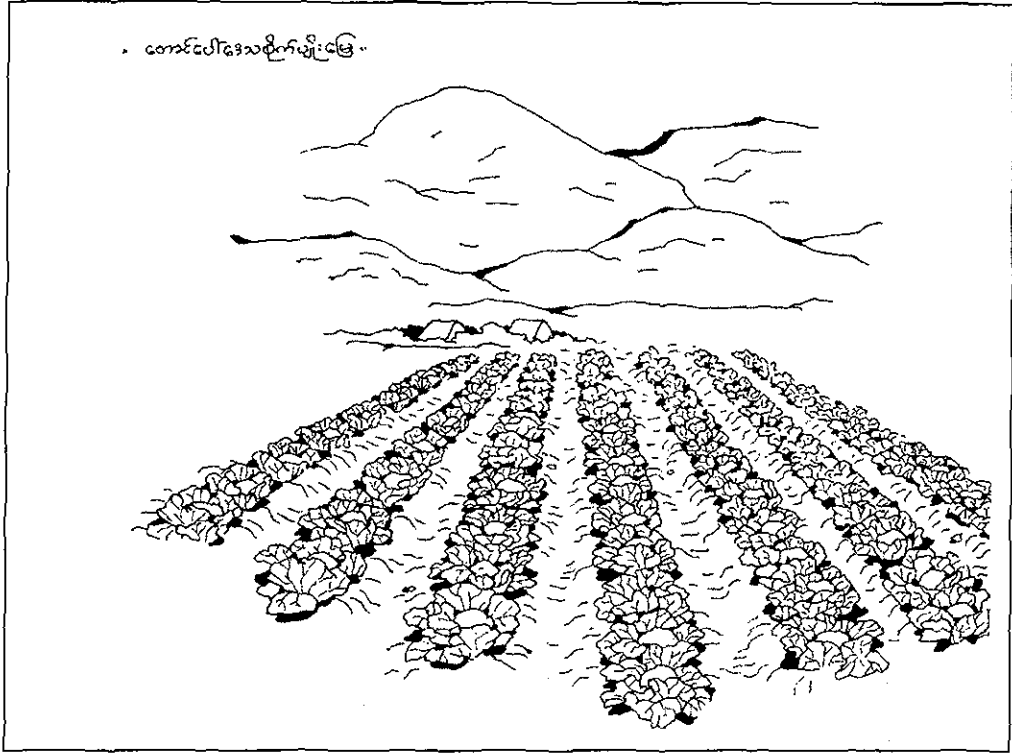
Reference

The uppermost layer of the earth that provides the nutrients required for the growth of plants is called topsoil.

Soils in Myanmar are different according to the region. It is necessary to grow crops that are relevant to the soil. Soil is very significant for agriculture and forests.



• တောင်ပေါ်ဒေသ စိုက်ပျိုးခြင်း •



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