

DRAFT

NCP - GENERAL KNOWLEDGE Suggested Guidelines (Grade 3)

DOMAIN 1: *DISCOVERING SELF AND IMMEDIATE ENVIRONMENT*

Standard 1: Students develop basic ~~self-awareness~~ of self and, ~~awareness of~~ their environment, and understand their role within their community and environment.

Student Learning Outcomes: Students will be able to recognize the need for personal safety and apply safety rules in their daily life.

Knowledge:

Students will be able to:

identify the need for personal safety
identify the risks and dangers associated with the use of electric appliances/sharp objects/fire/strangers/_animals/water bodies etc.

Skills:

Students will be able to:

exercise safety while using electric appliances/ sharp objects/ fire
exercise caution while in the presence of strangers, water bodies and animals
express feelings of discomfort, confusion, fear, and danger to their parents/ teachers/ guardians to stay safe from any unexpected situation.
identify some natural disasters and ways to stay safe.

Additional/Advanced SLO:

practice safety measures while using electrical appliances.

list the various hazards they can face at home (bare wires, damaged roof, broken glass, fire, scissor etc.).

~~identify some natural disasters and ways to stay safe.~~

Assessments

Formative Assessments

Find the Hazard: Students will be given/[shown](#) a picture/[worksheet/image/model](#) of a house filled with various hazards (bare wires, damaged roof, broken glass, fire, scissor etc.) They have to circle the hazard in red.

What should you do: The teacher will run through different scenarios with the students (What if you get hurt while playing, What if a stranger is following you, What if you see your friend or classmate with a stranger, What if there is an earthquake, What if you get lost.) Students can ~~raise their hands and~~ answer with whatever they think should be done in that situation, with the teacher correcting them if necessary.

Summative Assessments

Safe or Dangerous: Students will be given a set of images and they have to classify them as being safe by putting a tick under them, or dangerous by putting a cross under them. The images will be captioned and can be of different situations such (child playing with scissors, standing close to a fire, walking close to broken glass, remaining seated while there is an earthquake, talking to a stranger, etc.)

Learning Activities

Through the maze: Students will be divided into pairs can be given a simple printed out/[worksheet/in book](#) maze in which they have to go from their home to their school, while avoiding different hazards such as dirty puddles, strangers, broken glass, etc. These hazards will be included at various dead-end points on the maze and students have to find a way through. After everyone has solved the maze, the teacher then asks them about the different hazards on the maze and why they have to avoid them.

Earthquake and Fire Drill: Students will be taken through the various steps for the Earthquake and Fire Drill

General Drill: Get up immediately and make an orderly line. Make a line and go ~~File~~-out of the classroom and go out into the grounds or safe place ~~or onto the road~~. Do not go back in until told by the teacher. Students can practice this for 5 times.

Student Learning Outcomes: Students will be able to evaluate the changes from past to present in terms of living style, food, communication, clothes etc.

Knowledge:

Students will be able to:

describe the concept of *present* and *past*
recognize that present time is different from the past in terms of living style, food, communication, clothes etc.

Additional/Advanced SLOs

concept of chronological order.

Skills:

Students will be able to:

evaluate changes from past to present in terms of living style, food, communication, clothes etc.
evaluate the benefits of changes that happened over the time. (Themes: communication, travel, electricity)

Additional/Advanced SLOs:

sequence events in a narrative in chronological order.
identify how schools, communities, and transportation have changed over time (from the given pictures).

Assessments

Formative Assessments

Draw yourself in the past: In this activity, students will be asked to draw themselves as if they were living long ago. The instruction can be 'Imagine that you lived in the past ~~a cave~~, draw what you would wear, how you would travel, what you would eat, etc. The students can then share their drawings and the teacher can point out discrepancies or things that should not exist during that time in case the students' drawings contain any such aspects.

Summative Assessments

Imaginative Writing: Students imagine how life of a student their age will be different 20 years from now. They write a narrative/story highlighting the key differences in the way he/she would lead their lives.

Learning Activities

The Wheel: The teacher can read out a short story about how humans travelled over time. This can simply state that long ago, humans did not know about the wheel, and so they either walked, or rode horses to travel. ~~The~~~~They~~~~the~~ wheel was invented, and humans made carts and trolleys. After that they made bicycles, motorbikes, and cars. After the story, students will be asked to do some research on one other invention that brought about significant advancement from past to present.

DOMAIN 2: ETHICS AND VALUES

Standard: Students identify and practice aspects of good character and good manner in their lives. ~~Students identify aspects of good character and good manners and learn to practice them in their lives.~~

Student Learning Outcomes: Students will be able to apply strategies to resolve disagreements/conflicts

Knowledge:

Students will be able to:

- recognize some disagreements/conflicts that occur at home, in school and in the local community
- identify the reasons of disagreements/conflicts
- identify feelings of people in different conflicting situations
- list ways of resolving conflicts

Skills:

Students will be able to:

- identify reasons for disagreements with friends and family members in their own lives
- explore the ways in which people resolve conflicts/ disagreements at home and school
- apply the learnt strategies to resolve conflicts in their daily lives

Additional/Advanced SLO:

apply discussion and problem-solving methods to work out disagreement.

Assessments

-Formative Assessments

How do I feel: The teacher will read out a short story about 3 friends to the students. The story can include 2 of the friends arguing over something, one friend making fun of the other, one friend being told off by his/her parents, and other similar situations. At each situation, students will be asked to imagine themselves in the position of the people in the story and then share how they would feel, and what that person should do or not do, and why.

Summative Assessments

What should I do? Students will be given a set of situations regarding conflict, such as 2 students arguing over whose turn is it next for a swing or slide, a student making fun of their classmate, a student not sharing when asked for a pencil, a parent telling their child to stop watching TV or playing a game, etc. The students will come up with appropriate responses to the situations to quell conflict/settle disagreement.

Learning Activities

Pathway to peace: In this activity, students can be taken outside if possible. They will then be asked to think about a recent conflict or disagreement they had with anyone. Students then progress through this path while walking from one designated point to another while thinking out loud about three things: 1) What is the problem? 2) How do I feel? 3) How does the other person feel? The teacher can set these points at different locations, such as at the door for part 1, the ground for part 2, and a tree or plant for part 3. This is the pathway to peace.

DOMAIN 3: RESPONSIBLE CITIZENSHIP

Standard: Students recognize the need to respect rules and rights, fulfill their responsibilities and appreciate diversity at local and national global level.

Student Learning Outcomes: The students will be able to suggest ways the government and people can work together to meet people's needs in a community

Knowledge:

Students will be able to:

describe the concept of community
recognize that all people living together are members of a local community
recognize that people of a community can play an important role in serving their own needs and needs of others (especially the differently abled, religious/ ethnic minorities, ~~poor~~ etc.)
identify that the government and people can work together to meet people's needs in the community
Identify ways they can demonstrate good citizenship (playing fairly, helping others, following rules, taking responsibility for one's actions, sense of ownership of public goods).

Skills:

Students will be able to:

identify ways the community can help meet each other's needs
suggest ways the government and people can work together to meet people's needs in their community (especially the differently abled, religious/ ethnic minorities, ~~poor~~ etc.)

Additional/Advanced SLO:

*describe the activities that individuals perform for the welfare of the community
identify key problems in their local area (shortage of drinking water, lack of health and educational facilities, poor sewerage system etc.)*

Assessments

Formative Assessments

Find the problem: Students will be ~~shown~~^{given} a set of pictures/[video/worksheet/images](#), each of which will have one or more problems such as dirty water, trash lying around, long lines outside hospitals, small school with no space for students, etc. Students will have a [brainstorming](#)~~brainstorm~~ session in which they identify similar problems in their community and then come up with suggestions to overcome the problems either by organizing the community or by asking for the government's support.

Summative Assessments

How can I help: In this assessment, students will be given different situations that may arise while living together in a community. These can include someone having an accident, someone needing to find the school, someone needing help carrying something, someone littering, someone ~~has lost~~^{stealing} something, etc. Students will be given a set of responses [of the community](#) and they have to match the appropriate response to each situation.

Learning Activities

Draw your community: Students will be asked to think about everything they see on a daily basis while coming and going from school, as well as during their holidays. They can then draw/write about/talk about their surroundings or the path they take to the school with all the different sights and people they see. This drawing/written piece/exposition will be called 'My Community'.

Group Activity: For this, divide students into 4 groups. The first three groups will be smaller, consisting of 2-3 students each. These students will form different branches of the government, one can be education, one can be medical, and one can be security. The last group of students will each be given a piece of paper they will have different instructions such as: You want there to be more hospitals, someone is hurt but you can't find a doctor, you want there to be a playground in your school, there is trash outside your house and you want it cleaned up, the stream where you get water from is dirty and you want it to be cleaned, etc. The teacher will then guide the students to the respective government branches, who will be told to listen carefully, and note down the problem, and then thank the person for bringing it to

their notice. This will require teacher support but will help students understand how citizens and the government can work together to solve problems.

Group activity: inquire about a problem in the community, identify its causes, suggest solutions and take a responsible action to solve the issue. (one problem per group)

DOMAIN 4: PATRIOTISM AND KNOWLEDGE OF COUNTRY

Standard: Students recognize the respect and value of their country Pakistan, its map, its founders and pioneers, and the significance of its flag. ~~Students recognize the respect and value of their country Pakistan, its map, its founders, and the significance of its flag.~~

Student Learning Outcomes: Students will be able to explain the role of Muhammad Ali ~~M.A.~~ Jinnah, Mohtarma Fatima Jinnah, and Allama Muhammad Iqbal in the formation of Pakistan

Knowledge:

Students will be able to identify and recognize ...

Quaid-e-Azam Muhammad Ali Jinnah as the founder of Pakistan
 Allama Muhammad Iqbal as a personality who expounded the idea of Pakistan.
Mohtarma Fatimah Jinnah as a key figure in the formation of Pakistan.
 major events in the life of Quaid-e Azam Muhammad Ali Jinnah (date of birth, founder of Pakistan, few major contributions, and the date when he died).
 major events in the life of Allama Muhammad Iqbal (date of birth, national poet, some famous poems for children, and the date when he died)

Skills:

Students will be able to:

narrate the major events in the life of Quaid-e Azam Muhammad Ali Jinnah (date of birth, founder of Pakistan, few major contributions, and the date when he died).
 narrate the major events in the life of Allama Muhammad Iqbal (date of birth, national poet, some famous poems for children, and the date when he died).
 narrate the major events in the life of Mohtarma Fatima Jinnah (date of birth, major contributions, and the date when she died).
 discuss what they have learnt from the major events/contributions of Quaid-e-Azam Muhammad Ali Jinnah.

Assessments

Formative Assessments

Role-play: Students can take up the role of Quaid-e-Azam [Muhammad Ali Jinnah](#), [Mohtarma Fatima Jinnah](#) and Allama [Muhammad Iqbal](#). They have to come up turn by turn and tell the class ~~any 2~~ any 2 or 3 things about the person they are role-playing.

Summative Assessments

Matching: Students will be given different events ~~and~~ achievements and they have to match them with either Quaid-e-Azam [Muhammad Ali Jinnah](#), [Mohtarma Mohtarma Fatima Jinnah](#) or Allama [Muhammad Iqbal](#). These can range from birth and death dates, prominent achievements etc.

Learning Activities

Drawing: Students will be given different scenarios that they have to draw and color (Allama [Muhammad Iqbal](#) and Quaid-e-Azam [Muhammad Ali Jinnah](#) talking about Pakistan, Allama [Muhammad Iqbal](#) writing poems, and Quaid-e-Azam [Muhammad Ali Jinnah](#) giving a speech to lots of people. Students will be given the option of drawing one picture by themselves of something related to what they learned from the lesson and then they have to tell the class about what is happening in that picture.

DOMAIN 5: GOODS AND SERVICES

Standard: Students understand the concept of interdependence by classifying the role of goods and services in our lives and the need for respect for all occupations.

Student Learning Outcomes: Students will be able to differentiate between types of resources and identify main goods and services in their areas. -

~~Students will be able to analyze how the limited goods and services available guide people's economic choices.~~

Knowledge:

Students will be able to:

define the term “resources”
identify natural resources (plants, animals, water, air, land, forests and soil), human resources (farmers, builders, painters etc.), capital resources (trucks, computers~~computer~~, factory buildings etc.).
define the terms: goods, services, buyers and sellers

Skills:

Students will be able to:

differentiate between types of resources:

- natural resources
- human resources
- capital resources

identify the main goods and services of their local area
describe the need for interdependence as not all goods and services are available in their area
describe scarcity and recognize that people make economic choices because goods and services are limited

Assessments**Formative Assessments**

My Business: Students will be given the option of a profession (builder, farmer, or shopkeeper). Students will then draw their different businesses along with the different kinds of resources they will require for that business. Example: A builder will need workers, land, wood, trucks, etc.

Summative Assessments

Resource Matching: Students will be given images of different types of resources, and they have to sort them into human, capital, and natural.

Learning Activities

Barter System: In this activity, you will need simple objects such as unsharpened pencils, erasers, and sharpeners. If there are 30 students, then have 10 of each. Divide the students into three groups and give each group one type of object, such as Group A will have 10 pencils, Group B will have 10 erasers, and Group C will have 10 sharpeners. Now give them students a task such as writing or drawing something. Students will need to trade their own goods (pencil, eraser, or sharpener) with other groups and so every group should end up with a few of each item. Now explain to the students that just like this, there are limited things available and not everyone can have everything. So this is why people trade and are dependent on each other for what they don't have.

What will I Buy: For this activity, students will be told they have 10 rupees, and they will be given the prices of a few different items that they can buy - Example: bat for 5 rupees, ball for 2 rupees, cap for 4 rupees, shoes for 9 rupees, chocolate for 1 rupee, etc. Now they can spend their money to buy different combinations of goods. Students can then share what they bought, and the teacher can use this activity to demonstrate how even when we want more, we have limited resources and can only buy what we want the most.

[Role play: Buyer and seller](#)

[Visit nearest market and list what is being sold there.](#)

DOMAIN 6: LIFE SCIENCES

Standard 6: Students begin to understand and demonstrate curiosity about basic concepts and processes of the living world around themselves.

Student Learning Outcomes: Students will be able to classify animals and plants in their Habitat and analyze how human action can lead to habitat destruction and conservation

Knowledge:

Students will be able to:

define the term 'habitat'
recognize the types of habitats for living things (polar, desert, forest, aquatic), ~~water (fresh and marine); terrestrial/land~~
name plants and animals that live in these habitats
identify the environmental factors (temperature, light, water) that support life in a habitat
Recognize how human activities affect natural habitats

Skills:

Students will be able to:

classify the plants and animals according to their habitats
analyze how human activities affect the natural habitats
list some ways in which natural habitats in their own communities can be protected
Research and suggest the ways in which habitats can be protected.

Assessments

Formative Assessments

Multiple strategies can be used for formative assessment, such as:

KWL charts for assessing prior knowledge of students

Discussion questions

Sequencing picture cards

Class Tests including short question answers, labeling diagrams etc.

Self and peer assessments

Marked Quizzes

Presentations

Projects with criteria/ rubrics

Ask students to make a list of animals that live in different habitats.

Take your students on a walk around the school grounds, or through a nearby garden or park, and ask them to make a list of all the different animals they see: birds, insects, mammals, lizards.

Ask them, either during the walk or back in the classroom,

What each animal eats and how it might be connected to other animals, to trees, and to humans.

You might even have them think about how outdoor cats and dogs participate in the ecosystem too!

Ask students how extremes in temperature, Sun or wind exposure, overabundance or lack of water and over activity by humans affects the living things in a habitat.

Inform students that they will be visiting various schoolyard areas to identify factors that might be affecting the living things in each area. Explain to students that they are to look for areas that show evidence of strong Sun exposure, lack of water or over activity. Students will be required to list down factors that are affecting the living things in each area.

Summative Assessments

End of unit tests

Projects/ Performance assessments

Learning Activities

Habitat

Begin the lesson by providing students with a piece of paper, and ask them to draw a picture showing what their homes provide to meet their needs.

Then discuss how habitats are similar in providing animals and other living things with the same basic needs to survive. Explain that a habitat is an organism's home that provides food, shelter, water and space.

Research and Share

Divide the class into 2 groups – water and land. Their task is to research about the habitat assigned to them by looking up the following pieces of information:

description of the habitat

location of the habitat

animals found in the particular habitat

issues or concerns faced by the habitat.

After researching those items, instruct the students to share with the class, what they have learned. Let those present relevant pictures of the habitat on which they are reporting.

Models in Clay

After listening to the report of each group, assign a different habitat to each group (to check how much they have comprehended from the report). Let them make a model of the habitat by using clay. The model must include the animals found in the habitat. Discuss the rubrics that will be used in grading their work, including attention to detail, research, and presentation. Present this information.

Student Learning Outcomes: Students will be able to identify and differentiate between the stages of a lifecycle in plants and animals

Knowledge:

Students will be able to:

define the concept of life cycle
identify and list the key stages in the life cycle of an animal (frog, hen) and a plant

Skills:

Students will be able to:

compare different stages of the life cycle of plants and animals (from pictures, through observation / Video etc.).

Assessments

Formative Assessments

Ask students short questions like:

What will happen if living things stop reproducing?

What is a life cycle?

What stages do life cycles include?

What is the first stage of most plant life cycles?

What is the first stage of an animal life cycle?

Summative Assessments

Label

Label the diagram of plant life cycle.

Sequencing picture cards

Ask students to put the cards showing different stages of a hen/frog's lifecycle in sequence

Ask students: What are the stages in the life cycle of a butterfly, fish and a frog?

Learning Activities

Learning about the frog

Display the poem on a chart paper

POEM

Tiny eggs in the water, waiting there to hatch

Swimming tadpoles, with tails that make them hard to catch

Once they grow legs and the tail goes away

They become a frog and their own eggs they'll lay

Ask students to identify the different stages of life of a frog as narrated in the poem.
Ask students to suggest a name for the poem. Teach students the actions to go along with each line. Read each line, model the action, and have students follow you.

Lifecycle of pea

Students will do the germination experiment with peas.

After the germination of seed students will identify the parts of seedling.

Ask students to record the results, and make chart of the life cycle of pea plant.

Standard: Students begin to understand and demonstrate curiosity about basic concepts and processes of the living world around themselves.

Student Learning Outcomes: Students will be able to list and differentiate between healthy and unhealthy habits

Knowledge:

Students will be able to:

identify that healthy living requires healthy habits like eating a balanced diet, keeping clean, sleeping well, and exercising regularly, drinking clean water, brushing teeth, ~~getting enough sleep~~
identify certain food groups as fruits, vegetables, grains, dairy product, eggs, meat and dry fruit and their relative proportions
recognize that certain diseases are infectious, and vaccinations can help prevent such diseases. ~~Such diseases are caused due to infection by germs, which can pass from one person to another~~

Skills:

Students will be able to:

differentiate between healthy and unhealthy food students eat during a meal/in a day in their own lives
Describe and brainstorm which good hygiene and healthy habits ~~(wearing masks, washing hands and covering face when sneezing, visiting doctor when unwell)~~ can control the spread of diseases

Additional/Advanced SLO:

Recognize ~~investigate professions of~~ people who use science in their local area e.g., everyday use of science, restaurant chefs, dietitians, food manufacturers, dairy farmers

Assessments

Formative Assessments

My plate

Ask students to draw the healthy food they would like to eat on a plate diagram like below:

Figure 1: Choose My Plate Image (n.d.) [\[1\]](#)

Discussion questions

Ask the students what will happen if they don't:

- eat a balanced diet,
- keep clean,
- sleep well,
- drink clean water

What foods would you serve to provide a balanced diet for the three meals of one day. Make a list and then compare your list with your classmates.

COVID precautions

Ask students what precautions they take to avoid COVID.

Summative Assessments

Choose one of the foods from a balanced diet Draw a picture and write a few sentences about it in your notebook.
List three ways to stay healthy.

Learning Activities

My plate

Begin the discussion by saying, “*Did you know there are five food groups?*” Allow the children to respond. Then say, “*What about My Plate? Have you ever heard of it?*” Encourage the children to respond. Point to the MyPlate poster, and say, “This is My Plate; it is made up of the five food groups and shaped like a plate. Let’s learn the food groups together.” Point to each food group, starting with the grains group and discuss it. For example, say, “Look at the orange section of the plate; this is the grains group. *Can you say, ‘grain’? Do you know what foods you would find in this group?*” Prompt the children to name foods such as bread, crackers, cereal, pasta, etc. Continue the discussion with the vegetables, fruits, dairy, and protein groups. Say, “Eating different foods from each food group will help you grow and think and give you energy to play!”

Food group

Prior to this activity, find pictures of food from magazines or the internet to correspond with each of the five food groups. Paste the pictures onto construction paper that corresponds to each food group color. For example, paste a picture of a slice or loaf of bread on orange construction paper. Show the children the pictures and say, “This is a picture of bread. Do you remember what food group bread belongs to?” Allow time for children to answer and provide lots of praise and encouragement!

Building Awareness

Make a poster to tell people about the importance of keeping clean in order to stay healthy.

DOMAIN 7: PHYSICAL SCIENCES

Standard 7: Students recognize simple forms of physical phenomena (matter & energy) and relate it to their lives.

Student Learning Outcomes: Students will be able to identify ~~and list~~ natural sources and uses of energy and relate it to their lives.

Knowledge:

Students will be able to:

~~identify and list natural sources of energy (e.g., the Sun, wood, flowing water, wind, coal, oil, gas)~~

recognize that energy is required for doing work

identify and list natural sources of energy (e.g., the Sun, wood, flowing water, wind, coal, oil, gas)

list uses of energy

Skills:

Students will be able to:

produce examples from their daily lives to show that sources of energy are used for many things (move an object, heating, lighting, transportation, electric appliances etc.).

demonstrate with activities done in class that energy is present in all matter and in sound, light, and heat

Assessments

Formative Assessments

Following techniques can be used:

- KWL charts for assessing prior knowledge of students
- Discussion questions
- Sequencing picture cards
- Class Tests including short question answers, labeling diagrams etc.
- Self and peer assessments
- Marked Quizzes
- Presentations
- Projects with criteria/ rubrics

Select some students, tell them each to do one of the following (walk, jump, talk, stand, sit etc.,). Ask students what is being done. Ask questions till they respond 'work'. Ask them what you need to do work (answer should be energy).

Ask the students to make a class list of all the ways in which they have used energy or seen it being used so far today.

Summative Assessments

Match energy with the way we use it

Students will be required to match different sources of energy with the way we use it e.g., wind with wind turbine.

Learning Activities

Use common items found in classroom to demonstrate force.

Ask one student to move the chair in class. Now ask two students to push the chair from opposite directions to demonstrate balance and unbalanced forces.

Pushes and Pulls Hunt

Put together a list of items that require a push, pull, or both to operate or use. For example, you might list a door that needs to be pushed to open, a box with a top that needs to be pulled off, or a pencil, which requires both a push and a pull.

Vehicles

Show pictures of vehicles of the past that used animals and humans to work (Tonga, bullock cart, cycle, pushcart) while today vehicles are moved by machines (bus, motorcycle and car etc.)

Ask students to compare these types of vehicles

Experiment

1. Take a balloon and blow the balloon.
2. Now note down the size of the balloon.
3. Now press the balloon from mid and again note down the size of the balloon.

Observation: The shape of the balloon have changed.

Conclusion: On applying force, the shape of an object changes.

Creative work

Prepare a toy car according to the figure show below by using a match box, broomsticks and rubber caps, now perform the activities given in the table below and conclude that by applying force, the speed of an object can be increased and decreased.

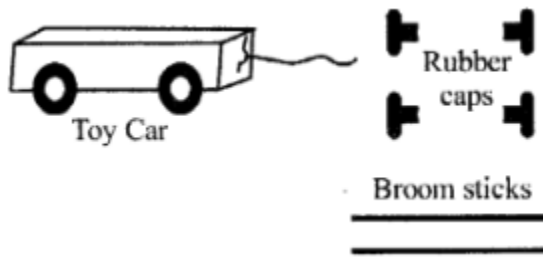


Figure 2. Experiment on Applying Force (n.d.)^[2]

Action 1

To apply force in forward direction by pulling the string of stationary toy car on a plane surface.

Observation

The toy car Changes its state from rest to

Action 2

To apply force on the moving toy car in the direction of its

Observation

The speed of the toy car increase

Action 3

To apply force on the moving toy in the opposite direction of its direction of

Observation

The speed of the toy car decrease

Standard 7: Students recognize simple forms of physical phenomena (matter & energy) and relate it to their lives.

Student Learning Outcomes: Students will be able to identify different states of matter_ **and differentiate between them**

Knowledge:

Students will be able to:

- define matter
- identify materials as either solids, liquids or gases and describe their properties
- identify different states of water

Skills:

Students will be able to:

- ~~explain the relation between matter and energy~~
- differentiate between the different states of matter with respect to their physical properties
- observe objects around them and their states of matter
- demonstrate and explain change of matter such as water, through physically observable properties (shape and size)

Assessments

Formative Assessments

Following techniques can be used:

- KWL charts for assessing prior knowledge of students
- Discussion questions
- Sequencing picture cards
- Class Tests including short question answers, labeling diagrams etc.
- Self and peer assessments
- Marked Quizzes
- Presentations
- Projects with criteria/ rubrics

Sorting activity

Show flashcards or pictures of different things and ask students to sort them in groups of solid, liquid, and gas.

Discussion question

Talk about some of the objects in your classroom. What are they made of?

Match the objects with states of matter

Give a list of objects to match with solid, liquids, or gas.

Summative Assessments

Students will be required to write down three properties and two examples each of solids, liquids, and gases;

Solids	Liquid	Gases
	s	

Students will be required to draw three pictures to show that water can be found in the three states of matter.

Learning Activities

States of Matter

Observe around your home and school and record your observations in the table below:

	Color	Shape	Smell
Solid 1			
Solid 2			
Solid 3			
Liquid 1			
Liquid 2			
Liquid 3			

Air contains water vapor

The air we breathe contains water vapor. Set up the experiment below to show that the statement is true.

- You will need a mirror, or something made of glass.
- First, open your mouth and breathe hard out of your mouth onto the palm of your hand. Is your breath warm or cold?
- Now breathe out onto the mirror. What happens?
- What happens to the surface of the mirror? What does this tell you?

Liquid takes shape of container

Take the jug of water and pour some of it into a bowl, a glass, and a cup. Explain that the water has taken the shape of the bowl, glass, and cup. Ask a few students to repeat this with the bottle of cold drink and the packet of juice. Liquids take the shape of the container into which they are poured. Liquids also have weight and we can see and touch liquids, and liquids can be poured.

Air is gas

Give each student an empty balloon. Ask them to feel their balloon to see that there is nothing in it. Now ask them to fill the balloons with air. What happens to the balloons? They become inflated with the air that the students have blown into them. Ask them to release the air and feel the balloon moving as the air rushes out. Explain that air is present all around us. We cannot see air but we can feel it, for example, when we run, or when we put our hand out of the window of a moving car.

Experiment

Ask the students to sit in pairs and explore how liquids take the shape of their container. Give each pair a paper cup and a paper dish. They should pour some water into each container and observe.

Help them hold a class discussion and then write a few lines on the result of their experiment.

[Standard 7: Students recognize simple forms of physical phenomena \(matter & energy\) and relate it to their lives.](#)

Student Learning Outcomes: Students will be able to explore the construction of simple circuit

Students will be able to describe the uses, ~~and~~-safety ~~measures~~ ~~hazards~~-of electricity, and the construction of a simple circuit.

Knowledge:

Students will be able to:

describe uses of electricity
identify the basic components of a simple circuit: cells, wires, and bulb
list ways to be safe with electricity/appliances

Skills:

Students will be able to:

brainstorm things they wouldn't be able to do without electricity in their daily lives
~~list safety hazards of electricity~~
explore the construction of simple circuit either by video/experiment/model making

Assessments

Formative Assessments

Things which need electricity:

Ask the students to think about all the things they used today that need electricity. Name or draw three of them.

Make a list of the games you have that need electricity to work.

Circuit:

What will happen if we remove battery from the circuit?

Safety precautions:

Show different scenarios where the students have to state how to be safe around electricity or electrical appliances.

Summative Assessments

Label the simple circuit diagram.

Students will be shown a picture containing electrical dangers. They will need to identify all the electrical dangers they can see.

Learning Activities

Construction of simple circuit

Help students build a simple circuit using a small bulb, wires and battery together.

DOMAIN 8: EARTH AND SPACE SCIENCE

Standard 8: Students characterize the physical features and environmental changes of Earth and explore other celestial bodies.

Student Learning Outcome ~~ub-domain~~: Students will be able to identify cardinal directions and the concept of day and night.

~~Students will be able to analyze the effects caused by the Sun on Earth and its environment.~~

Knowledge:

Students will be able to:

recognize that heat and light of the Sun helps to sustain life on Earth which is the only known planet where life exists

~~explain how the rotation of the Earth causes day and night~~

identify that on Earth, the direction of sunrise is 'East' and the direction of sunset is 'West'.

identify South and North with respect to East and West, namely, South and North.

Skills:

Students will be able to:

explore the formation of shadows with respect to positioning of the sun
explore how the size and direction of the shadow can be used to estimate (guess) time

Additional/Advanced SLOs

name places towards North, South, East and West of the school/home.

[explain how the rotation of the Earth causes day and night](#)

Assessments

Formative Assessments

Short answer questions

Ask the students the following questions

What time did the Sun set yesterday? What time did it rise today? How can you find out? At what time of the day and the year is the Sun hottest? How do you feel when you go out in the daytime?

Ask the students what sunrise is and what is sunset. Ensure they do not think sunrise and sunset happens because of the movement of Sun but it happens due to Earth's movement around Sun.

Day and night

Draw a diagram to show how the rotation of the Earth causes day and night.

Cardinal directions

Label the classroom walls with each direction (north, south, east or west). Place few things around the classroom and ask questions like:

Towards which side is the teacher's desk?

What is near east wall?

On which wall is the door?

Summative Assessments

Students will be required to fill a worksheet with MCQs, short question answers etc.

Students can be asked to mark cardinal directions on an image for example:

Figure 3. Reading a map. (Reading a Map: Cardinal Directions, n.d.)[\[3\]](#)

Short questions

What is the natural source of heat and light?

Name the direction starting with:

N _____

E _____

W _____

S _____

Learning Activities

Day and Night

Ask three students to come in front of the class. One student will be given the football, which is the Sun. The second student will be given the tennis ball, which is the Earth. The third student will be given the table tennis ball which is the Moon. The Sun will remain standing in one place. The Earth will rotate while moving slowly around the Sun. At the same time the Moon will revolve around the Earth.

- Remind the students that the Sun does not move; it is stationary. The Earth revolves on its axis, which is an imaginary line in the centre of the Earth. When a part of the Earth faces the Sun, it is bright and it is day. On the other side of the Earth it is dark, and it is night. This movement of the Earth is in the east-west direction. This is the reason that the Sun always appears to rise in the east and set in the west. It takes twenty-four hours for the Earth to spin on its axis.

- Place a globe and a torch on the teacher's table. Rotate the globe slowly, while shining the light on it. The part of the globe on which the light shines will have light or daytime, while on the other side it will be dark or nighttime.

Cardinal directions

Give students a blank piece of paper and ask them to draw a circle in the center of the paper.

Instruct students to draw a horizontal and vertical line through the circle to create a compass rose.

Have students fill in the cardinal directions on the compass rose.

Have students stand up while they are holding the compass rose.

Ask the students to turn so the north on the compass rose actually points north.

Discuss with the students why they were not able to correctly turn towards north. If some students are facing the correct direction ask them why they are facing that direction as some people have a natural sense of direction.

Map

Give students a compass and a map with the cardinal points already labeled.

Have students stand holding the compass in one hand and face North.
 Have students turn slowly in a circle and observe what happens with the compass needle.
 Repeat the process while holding a map.
 Discuss the concept that no matter which way you are actually facing, up is always north on a map.
 Discuss how this concept may cause problems when trying to navigate using a map in an unfamiliar place.

Standard 8: Students characterize the physical features and environmental changes of Earth and its relationship with celestial bodies in the sky. ~~Students begin to understand and demonstrate curiosity about basic concepts and processes of the living world around themselves.~~

Student Learning Outcomes: Students will be able to demonstrate care and concern for the Earth, natural resources, endangered ~~and extinct~~ animals, ~~pollution~~.

Knowledge:

Students will be able to:

- define the term pollution
- identify different types of pollution (land, water, air, noise).
- list ways to reduce pollution (3Rs: Reduce, Reuse, Recycle)
- define natural resources

Skills:

Students will be able to:

- identify pollution and sources of pollution in their immediate surroundings and suggest ways to reduce it (using the 3 R's).
- suggest ways in which pollution can be reduced in a personal capacity and in communal capacity (by organizing their community for this cause)
- predict what would happen if natural resources were all used up

Additional/Advanced SLOs:

identify the endangered animals of Pakistan (Indus dolphin, markhor, blackbuck etc.).

suggest ways to protect the endangered animals.

identify animals, which are extinct (dinosaurs, etc.).

Assessments

Formative Assessments

Ask the students:

How does our Earth get polluted?

What are the different types of pollution?

How can we avoid land pollution?

How can we avoid water pollution?

How can we avoid air pollution?

How can we avoid noise pollution?

What will happen if we used all the trees?

What kind of pollution takes place when we pollute water?

Summative Assessments

Concept map

Students will be required to fill in the concept map for types of pollution.

Figure 5. Types of pollution. (Pollution Worksheet, n.d.)[\[4\]](#)

Match the term

Match the pictures with the type of pollution

Write two ways in which we can reduce pollution.

Learning Activities**Happy Earth, Sad Earth**

Students will be required to put pictures of things that are beneficial for the Earth, and those that are not, into the appropriate category. The activity can be conducted in groups, or as a class.

Demonstration

Demonstrate air pollution by dropping a lit match into the jar, quickly put the lid on, so that the smoke is caught in the jar. You can demonstrate air pollution by showing the jar. Keep two jars with water, now put different things like soil, paper, plastic pieces in that jar and show to students how polluted water and clean water look.

Water pollution

Give each student a clean cup of water. Add few drops of food coloring to each cup of water. The kids then stir the solution, and observe the fact that they can see the "pollution." In the next step add vinegar drop to the water to make them observe that they can smell "pollution". Lastly add salt to the cup. Tell them that not all pollutants can be seen or smelled (once the salt has dissolved).

Cleaning drive

Arrange a cleaning drive in school.

[1] Choose my plate lesson plan [Image] (n.d.). Retrieved from <http://www.floridahealth.gov/programs-and-services/childrens-health/child-care-food-program/nutrition/documents/lesson-plans/lesson1.pdf>

[2] Experiment on applying force [Image] (n.d.). Retrieved from <https://www.sarthaks.com/813754/explain-through-an-experiment-that-the-shape-of-an-object-can-be-changed-on-applying-force>

[3] Reading a map: cardinal directions [Image] (n.d.). Retrieved from <https://www.superteacherworksheets.com/featured-items/pz-cardinal-directions-camp-ground.html>

[4] Pollution worksheet [Image] (n.d.). Retrieved from <https://busyteacher.org/8884-pollution-worksheet.html>