

X-SCIENCE - LEARNING OUTCOMES

LO No	State LO	Competency	Micro Competencies
SCI1001	differentiates materials/ objects/ organisms/ phenomena/ processes, based on, properties/ characteristics, such as autotrophic and heterotrophic nutrition, biodegradable and non- biodegradable substances, various types of reactions, strong and weak acids and bases, acidic, basic and neutral salts, real and virtual images, etc.	Differentiates materials/ objects/ organisms/ phenomena/ processes, based on, properties/ characteristics.	Describes the differences in organisms based on their autotrophic and heterotrophic nutrition characteristics.
SCI1001	differentiates materials/ objects/ organisms/ phenomena/ processes, based on, properties/ characteristics, such as autotrophic and heterotrophic nutrition, biodegradable and non- biodegradable substances, various types of reactions, strong and weak acids and bases, acidic, basic and neutral salts, real and virtual images, etc.	Differentiates materials/ objects/ organisms/ phenomena/ processes, based on, properties/ characteristics.	Differentiates materials based on their biodegradable and non-biodegradable properties.
SCI1001	differentiates materials/ objects/ organisms/ phenomena/ processes, based on, properties/ characteristics, such as autotrophic and heterotrophic nutrition, biodegradable and non- biodegradable substances, various types of reactions, strong and weak acids and bases, acidic, basic and neutral salts, real and virtual images, etc.	Differentiates materials/ objects/ organisms/ phenomena/ processes, based on, properties/ characteristics.	Records the differences between various types of reactions based on their properties.
SCI1001	differentiates materials/ objects/ organisms/ phenomena/ processes, based on, properties/ characteristics, such as autotrophic and heterotrophic nutrition, biodegradable and non- biodegradable substances, various types of reactions, strong and weak acids and bases, acidic, basic and neutral salts, real and virtual images, etc.	Differentiates materials/ objects/ organisms/ phenomena/ processes, based on, properties/ characteristics.	Differentiates between strong and weak acids based on their chemical properties.
SCI1001	differentiates materials/ objects/ organisms/ phenomena/ processes, based on, properties/ characteristics, such as autotrophic and heterotrophic nutrition, biodegradable and non- biodegradable substances, various types of reactions, strong and weak acids and bases, acidic, basic and neutral salts, real and virtual images, etc.	Differentiates materials/ objects/ organisms/ phenomena/ processes, based on, properties/ characteristics.	Classifies materials based on their properties such as acidic, basic, and neutral salts.
SCI1001	differentiates materials/ objects/ organisms/ phenomena/ processes, based on, properties/ characteristics, such as autotrophic and heterotrophic nutrition, biodegradable and non- biodegradable substances, various types of reactions, strong and weak acids and bases, acidic, basic and neutral salts, real and virtual images, etc.	Differentiates materials/ objects/ organisms/ phenomena/ processes, based on, properties/ characteristics.	Lists out the differences between real and virtual images.
SCI1002	classifies materials/ objects/ organisms/ phenomena/ processes, based on, properties/ characteristics, such as metals and non-metals on the basis of their physical and chemical properties, acids and bases on the basis of their chemical properties, etc.	Classifies materials/ objects/ organisms/ phenomena/ processes, based on, properties/ characteristics.	Classifies materials based on their physical and chemical properties such as metals and non-metals.

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SCI1002	classifies materials/ objects/ organisms/ phenomena/ processes, based on, properties/ characteristics, such as metals and non-metals on the basis of their physical and chemical properties, acids and bases on the basis of their chemical properties, etc.	Classifies materials/ objects/ organisms/ phenomena/ processes, based on, properties/ characteristics.	Classifies materials based on, properties such as acids and bases on the basis of their chemical properties.
SCI003	plans and conducts investigations/ experiments to arrive at and verify the facts, principles, phenomena or to seek answers to queries on their own, such as investigates conditions necessary for rusting, tests the conductivity of various solutions, compares the foaming capacity of different types of soap samples, verifies laws of reflection and refraction of light, Ohm's law, Do variegated leaves perform photosynthesis? Which gas is evolved during fermentation? Why plants shoot moves towards light?	Plan and conduct investigations/ experiments to arrive at and verify the facts, principles, phenomena or to seek answers to queries on their own.	Plans and conducts experiments to investigate the conditions necessary for rusting.
SCI003	plans and conducts investigations/ experiments to arrive at and verify the facts, principles, phenomena or to seek answers to queries on their own, such as investigates conditions necessary for rusting, tests the conductivity of various solutions, compares the foaming capacity of different types of soap samples, verifies laws of reflection and refraction of light, Ohm's law, Do variegated leaves perform photosynthesis? Which gas is evolved during fermentation? Why plants shoot moves towards light?	Plans and conducts investigations/ experiments to arrive at and verify the facts, principles, phenomena or to seek answers to queries on their own.	Plans and conducts experiments to test the conductivity of various solutions.
SCI003	plans and conducts investigations/ experiments to arrive at and verify the facts, principles, phenomena or to seek answers to queries on their own, such as investigates conditions necessary for rusting, tests the conductivity of various solutions, compares the foaming capacity of different types of soap samples, verifies laws of reflection and refraction of light, Ohm's law, Do variegated leaves perform photosynthesis? Which gas is evolved during fermentation? Why plants shoot moves towards light?	Plans and conducts investigations/ experiments to arrive at and verify the facts, principles, phenomena or to seek answers to queries on their own.	Plans and conducts investigations to compare the foaming capacity of different types of soap samples.
SCI003	plans and conducts investigations/ experiments to arrive at and verify the facts, principles, phenomena or to seek answers to queries on their own, such as investigates conditions necessary for rusting, tests the conductivity of various solutions, compares the foaming capacity of different types of soap samples, verifies laws of reflection and refraction of light, Ohm's law, Do variegated leaves perform photosynthesis? Which gas is evolved during fermentation? Why plants shoot moves towards light?	Plans and conducts investigations/ experiments to arrive at and verify the facts, principles, phenomena or to seek answers to queries on their own.	Plans and conducts investigation to verify the principles about laws of reflection and refraction of light.

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SCI003	plans and conducts investigations/ experiments to arrive at and verify the facts, principles, phenomena or to seek answers to queries on their own, such as investigates conditions necessary for rusting, tests the conductivity of various solutions, compares the foaming capacity of different types of soap samples, verifies laws of reflection and refraction of light, Ohm's law, Do variegated leaves perform photosynthesis? Which gas is evolved during fermentation? Why plants shoot moves towards light?	Plans and conducts investigations/ experiments to arrive at and verify the facts, principles, phenomena or to seek answers to queries on their own.	Plans and conducts investigation to verify Ohm's law.
SCI003	plans and conducts investigations/ experiments to arrive at and verify the facts, principles, phenomena or to seek answers to queries on their own, such as investigates conditions necessary for rusting, tests the conductivity of various solutions, compares the foaming capacity of different types of soap samples, verifies laws of reflection and refraction of light, Ohm's law, Do variegated leaves perform photosynthesis? Which gas is evolved during fermentation? Why plants shoot moves towards light?	Plans and conducts investigations/ experiments to arrive at and verify the facts, principles, phenomena or to seek answers to queries on their own.	Plans and conducts investigation to seek answer for the question- Do variegated leaves perform photosynthesis?.
SCI003	plans and conducts investigations/ experiments to arrive at and verify the facts, principles, phenomena or to seek answers to queries on their own, such as investigates conditions necessary for rusting, tests the conductivity of various solutions, compares the foaming capacity of different types of soap samples, verifies laws of reflection and refraction of light, Ohm's law, Do variegated leaves perform photosynthesis? Which gas is evolved during fermentation? Why plants shoot moves towards light?	Plans and conducts investigations/ experiments to arrive at and verify the facts, principles, phenomena or to seek answers to queries on their own.	Plans and conducts investigation to seek answer for the question- Which gas is evolved during fermentation?.
SCI003	plans and conducts investigations/ experiments to arrive at and verify the facts, principles, phenomena or to seek answers to queries on their own, such as investigates conditions necessary for rusting, tests the conductivity of various solutions, compares the foaming capacity of different types of soap samples, verifies laws of reflection and refraction of light, Ohm's law, Do variegated leaves perform photosynthesis? Which gas is evolved during fermentation? Why plants shoot moves towards light?	Plans and conducts investigations/ experiments to arrive at and verify the facts, principles, phenomena or to seek answers to queries on their own.	Plans and conducts investigation to seek answer for the question- Why plants shoot moves towards light?.
SCI1004	relates processes and phenomena with causes/ effects, such as hormones with their functions, tooth decay with pH of saliva, growth of plants with pH of the soil, survival of aquatic life with pH of water, blue colour of sky with scattering of light, deflection of compass needle due to magnetic effect of electric current, etc.		Relates hormones with their functions.

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SCI1004	relates processes and phenomena with causes/ effects, such as hormones with their functions, tooth decay with pH of saliva, growth of plants with pH of the soil, survival of aquatic life with pH of water, blue colour of sky with scattering of light, deflection of compass needle due to magnetic effect of electric current, etc.	Relates processes and phenomena with causes/ effects.	Relates the process of tooth decay with pH of saliva.
SCI1004	relates processes and phenomena with causes/ effects, such as hormones with their functions, tooth decay with pH of saliva, growth of plants with pH of the soil, survival of aquatic life with pH of water, blue colour of sky with scattering of light, deflection of compass needle due to magnetic effect of electric current, etc.		Relates the process of growth of plants with pH of the soil.
SCI1004	relates processes and phenomena with causes/ effects, such as hormones with their functions, tooth decay with pH of saliva, growth of plants with pH of the soil, survival of aquatic life with pH of water, blue colour of sky with scattering of light, deflection of compass needle due to magnetic effect of electric current, etc.		Relates the survival of aquatic life with pH of water.
SCI1004	relates processes and phenomena with causes/ effects, such as hormones with their functions, tooth decay with pH of saliva, growth of plants with pH of the soil, survival of aquatic life with pH of water, blue colour of sky with scattering of light, deflection of compass needle due to magnetic effect of electric current, etc.		Relates the phenomena of blue colour of sky with scattering of light.
SCI1004	relates processes and phenomena with causes/ effects, such as hormones with their functions, tooth decay with pH of saliva, growth of plants with pH of the soil, survival of aquatic life with pH of water, blue colour of sky with scattering of light, deflection of compass needle due to magnetic effect of electric current, etc.		Relates the phenomena of deflection of compass needle due to magnetic effect of electric current.
SCI1005	explains processes and phenomena, such as nutrition in human beings and plants, transportation in plants and plants, transportation in plants and animals, extraction of metals from ores, placement of elements in modern periodic table, displacement of metals from their salt solutions on the basis of reactivity series, working of electric motor and generator, twinkling of stars, advance sunrise and delayed sunset, formation of rainbow, etc.		Explains process of nutrition in human beings and plants.
SCI1005	explains processes and phenomena, such as nutrition in human beings and plants, transportation in plants and plants, transportation in plants and animals, extraction of metals from ores, placement of elements in modern periodic table, displacement of metals from their salt solutions on the basis of reactivity series, working of electric motor and generator, twinkling of stars, advance sunrise and delayed sunset, formation of rainbow, etc.	Explains process of transportation in plants and animals.	

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SCI1005	explains processes and phenomena, such as nutrition in human beings and plants, transportation in plants and plants, transportation in plants and animals, extraction of metals from ores, placement of elements in modern periodic table, displacement of metals from their salt solutions on the basis of reactivity series, working of electric motor and generator, twinkling of stars, advance sunrise and delayed sunset, formation of rainbow, etc.	Explains processes and phenomena.	Explains process of extraction of metals from ores.
SCI1005	explains processes and phenomena, such as nutrition in human beings and plants, transportation in plants and plants, transportation in plants and animals, extraction of metals from ores, placement of elements in modern periodic table, displacement of metals from their salt solutions on the basis of reactivity series, working of electric motor and generator, twinkling of stars, advance sunrise and delayed sunset, formation of rainbow, etc.		Explains process of placement of elements in modern periodic table.
SCI1005	explains processes and phenomena, such as nutrition in human beings and plants, transportation in plants and plants, transportation in plants and animals, extraction of metals from ores, placement of elements in modern periodic table, displacement of metals from their salt solutions on the basis of reactivity series, working of electric motor and generator, twinkling of stars, advance sunrise and delayed sunset, formation of rainbow, etc.		Explains phenomena of displacement of metals from their salt solutions on the basis of reactivity series.
SCI1005	explains processes and phenomena, such as nutrition in human beings and plants, transportation in plants and plants, transportation in plants and animals, extraction of metals from ores, placement of elements in modern periodic table, displacement of metals from their salt solutions on the basis of reactivity series, working of electric motor and generator, twinkling of stars, advance sunrise and delayed sunset, formation of rainbow, etc.		Explains process of working of electric motor and generator.
SCI1005	explains processes and phenomena, such as nutrition in human beings and plants, transportation in plants and plants, transportation in plants and animals, extraction of metals from ores, placement of elements in modern periodic table, displacement of metals from their salt solutions on the basis of reactivity series, working of electric motor and generator, twinkling of stars, advance sunrise and delayed sunset, formation of rainbow, etc.		Explains phenomenon of twinkling of stars.



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SCI1005	explains processes and phenomena, such as nutrition in human beings and plants, transportation in plants and animals, extraction of metals from ores, placement of elements in modern periodic table, displacement of metals from their salt solutions on the basis of reactivity series, working of electric motor and generator, twinkling of stars, advance sunrise and delayed sunset, formation of rainbow, etc.	Draws labelled diagrams/ flow charts/ concept map/graphs.	Explains phenomenon of advance sunrise and delayed sunset.
SCI1005	explains processes and phenomena, such as nutrition in human beings and plants, transportation in plants and animals, extraction of metals from ores, placement of elements in modern periodic table, displacement of metals from their salt solutions on the basis of reactivity series, working of electric motor and generator, twinkling of stars, advance sunrise and delayed sunset, formation of rainbow, etc.		Explains phenomenon of formation of rainbow.
SCI1006	draws labelled diagrams/ flow charts/ concept map/graphs, such as digestive, respiratory, circulatory, excretory and reproductive systems, electrolysis of water, electron dot structure of atoms and molecules, flow chart for extraction of metals from ores, ray diagrams, magnetic field lines, etc.		Draws labelled diagram of digestive system.
SCI1006	draws labelled diagrams/ flow charts/ concept map/graphs, such as digestive, respiratory, circulatory, excretory and reproductive systems, electrolysis of water, electron dot structure of atoms and molecules, flow chart for extraction of metals from ores, ray diagrams, magnetic field lines, etc.		Draws labelled diagram of respiratory system.
SCI1006	draws labelled diagrams/ flow charts/ concept map/graphs, such as digestive, respiratory, circulatory, excretory and reproductive systems, electrolysis of water, electron dot structure of atoms and molecules, flow chart for extraction of metals from ores, ray diagrams, magnetic field lines, etc.		Draws labelled diagram of circulatory system.
SCI1006	draws labelled diagrams/ flow charts/ concept map/graphs, such as digestive, respiratory, circulatory, excretory and reproductive systems, electrolysis of water, electron dot structure of atoms and molecules, flow chart for extraction of metals from ores, ray diagrams, magnetic field lines, etc.		Draws labelled diagram of excretory system.
SCI1006	draws labelled diagrams/ flow charts/ concept map/graphs, such as digestive, respiratory, circulatory, excretory and reproductive systems, electrolysis of water, electron dot structure of atoms and molecules, flow chart for extraction of metals from ores, ray diagrams, magnetic field lines, etc.		Draws labelled diagram of reproductive systems.
SCI1006	draws labelled diagrams/ flow charts/ concept map/graphs, such as digestive, respiratory, circulatory, excretory and reproductive systems, electrolysis of water, electron dot structure of atoms and molecules, flow chart for extraction of metals from ores, ray diagrams, magnetic field lines, etc.		Draws labelled diagram of electrolysis of water.

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SCI1006	draws labelled diagrams/ flow charts/ concept map/graphs, such as digestive, respiratory, circulatory, excretory and reproductive systems, electrolysis of water, electron dot structure of atoms and molecules, flow chart for extraction of metals from ores, ray diagrams, magnetic field lines, etc.	Analyses and interprets data/ graph/ figure.	Draws labelled diagram of electron dot structure of atoms and molecules.
SCI1006	draws labelled diagrams/ flow charts/ concept map/graphs, such as digestive, respiratory, circulatory, excretory and reproductive systems, electrolysis of water, electron dot structure of atoms and molecules, flow chart for extraction of metals from ores, ray diagrams, magnetic field lines, etc.		Draws flow chart of extraction of metals from ores.
SCI1006	draws labelled diagrams/ flow charts/ concept map/graphs, such as digestive, respiratory, circulatory, excretory and reproductive systems, electrolysis of water, electron dot structure of atoms and molecules, flow chart for extraction of metals from ores, ray diagrams, magnetic field lines, etc.		Draws labelled ray diagrams.
SCI1006	draws labelled diagrams/ flow charts/ concept map/graphs, such as digestive, respiratory, circulatory, excretory and reproductive systems, electrolysis of water, electron dot structure of atoms and molecules, flow chart for extraction of metals from ores, ray diagrams, magnetic field lines, etc.		Draws labelled magnetic field lines.
SCI1007	analyses and interprets data/ graph/ figure, such as melting and boiling points of substances to differentiate between covalent and ionic compounds, pH of solutions to predict the nature of substances, V-I graphs, ray diagrams		Analyses and interprets melting and boiling points of substances to differentiate between covalent and ionic compounds.
SCI1007	analyses and interprets data/ graph/ figure, such as melting and boiling points of substances to differentiate between covalent and ionic compounds, pH of solutions to predict the nature of substances, V-I graphs, ray diagrams		Analyses and interprets pH of solutions to predict the nature of substances.
SCI1007	analyses and interprets data/ graph/ figure, such as melting and boiling points of substances to differentiate between covalent and ionic compounds, pH of solutions to predict the nature of substances, V-I graphs, ray diagrams		Analyses and interprets V-I graphs.
SCI1007	analyses and interprets data/ graph/ figure, such as melting and boiling points of substances to differentiate between covalent and ionic compounds, pH of solutions to predict the nature of substances, V-I graphs, ray diagrams		Analyses and interprets ray diagrams.
SCI1008	calculates using the data given, such as number of atoms in reactants and products to balance a chemical equation, resistance of a system of resistors, power of a lens, electric power, etc.		Calculates and Equalizes the number of atoms in reactants and products to balance a chemical equation using the given data.
SCI1008	calculates using the data given, such as number of atoms in reactants and products to balance a chemical equation, resistance of a system of resistors, power of a lens, electric power, etc.		Calculates the resistance potential differences in resistance of a system of resistors using the given.

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SCI1008	calculates using the data given, such as number of atoms in reactants and products to balance a chemical equation, resistance of a system of resistors, power of a lens, electric power, etc.	Calculates using the data given.	Calculates the focal length of power of a lens using given data.
SCI1008	calculates using the data given, such as number of atoms in reactants and products to balance a chemical equation, resistance of a system of resistors, power of a lens, electric power, etc.		Calculates the amount of electric power using given data.
SCI1009	uses scientific conventions to represent units of various quantities/ symbols/ formulae/ equations, such as balanced chemical equation by using symbols and physical states of substances, sign convention in optics, SI units, etc.	Uses scientific conventions to represent units of various quantities/ symbols/ formulae/ equations.	Represents balanced chemical equation by using symbols.
SCI1009	uses scientific conventions to represent units of various quantities/ symbols/ formulae/ equations, such as balanced chemical equation by using symbols and physical states of substances, sign convention in optics, SI units, etc.	Uses scientific conventions to represent units of various quantities/ symbols/ formulae/ equations.	Represents units of various quantities in physical states of substances.
SCI1009	uses scientific conventions to represent units of various quantities/ symbols/ formulae/ equations, such as balanced chemical equation by using symbols and physical states of substances, sign convention in optics, SI units, etc.	Uses scientific conventions to represent units of various quantities/ symbols/ formulae/ equations.	Represents units and measure the various distances of sign convention in optics
SCI1009	uses scientific conventions to represent units of various quantities/ symbols/ formulae/ equations, such as balanced chemical equation by using symbols and physical states of substances, sign convention in optics, SI units, etc.	Uses scientific conventions to represent units of various quantities/ symbols/ formulae/ equations.	Uses of scientific conventions in SI units.
SCI1010	measures physical quantities using appropriate apparatus/ instruments /devices, such as pH of substances using different indicators, electric current and potential difference using ammeter and voltmeter, etc	Measures physical quantities using appropriate apparatus/ instruments /devices.	Measures physical quantities using appropriate apparatus/ instruments /devices, such as pH of substances using different indicators.
SCI1010	measures physical quantities using appropriate apparatus/ instruments /devices, such as pH of substances using different indicators, electric current and potential difference using ammeter and voltmeter, etc	Measures physical quantities using appropriate apparatus/ instruments /devices.	Measures physical quantities using appropriate apparatus/ instruments /devices, such as electric current and potential difference using Ammeter and Voltmeter.
SCI1011	applies learning to hypothetical situations, such as What happens if all herbivores removed from an ecosystem? What will happen if all non-renewable sources of energy are exhausted	Narrates/Discusses the hypothetical situations by applying previous learning.	Discusses the consequences if all the herbivores are removed from an ecosystem and the significance of each each trophic levels in an Ecosystem.
SCI1011	applies learning to hypothetical situations, such as What happens if all herbivores removed from an ecosystem? What will happen if all non-renewable sources of energy are exhausted	Narrates/Discusses the hypothetical situations by applying previous learning.	Discusses the consequences if all non-renewable sources of energy are exhausted./ Discusses the effects if renewable sources of energy are replenished.



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SCI1012	applies scientific concepts in daily life and solving problems, such as takes precautions to prevent Sexually Transmitted Infections, uses appropriate electrical plugs (5/15A) for different electrical devices, uses vegetative propagation to develop saplings in gardening, performs exercise to keep in good health, avoids using appliances responsible for ozone layer depletion, applies concept of decomposition reaction of baking soda to make spongy cakes, etc.	Applies scientific concepts in daily life and solving problems.	Applies scientific concepts in daily life and solving problems, such as taking precautions to prevent Sexually Transmitted Infections.
SCI1012	applies scientific concepts in daily life and solving problems, such as takes precautions to prevent Sexually Transmitted Infections, uses appropriate electrical plugs (5/15A) for different electrical devices, uses vegetative propagation to develop saplings in gardening, performs exercise to keep in good health, avoids using appliances responsible for ozone layer depletion, applies concept of decomposition reaction of baking soda to make spongy cakes, etc.		Applies scientific concepts in daily life and solving problems, such as using appropriate electrical plugs (5/15A) for different electrical devices.
SCI1012	applies scientific concepts in daily life and solving problems, such as takes precautions to prevent Sexually Transmitted Infections, uses appropriate electrical plugs (5/15A) for different electrical devices, uses vegetative propagation to develop saplings in gardening, performs exercise to keep in good health, avoids using appliances responsible for ozone layer depletion, applies concept of decomposition reaction of baking soda to make spongy cakes, etc.		Applies scientific concepts in daily life and solving problems, such as using vegetative propagation to develop saplings in gardening.
SCI1012	applies scientific concepts in daily life and solving problems, such as takes precautions to prevent Sexually Transmitted Infections, uses appropriate electrical plugs (5/15A) for different electrical devices, uses vegetative propagation to develop saplings in gardening, performs exercise to keep in good health, avoids using appliances responsible for ozone layer depletion, applies concept of decomposition reaction of baking soda to make spongy cakes, etc.		Applies scientific concepts in daily life and solving problems, such as performing exercise to keep in good health.
SCI1012	applies scientific concepts in daily life and solving problems, such as takes precautions to prevent Sexually Transmitted Infections, uses appropriate electrical plugs (5/15A) for different electrical devices, uses vegetative propagation to develop saplings in gardening, performs exercise to keep in good health, avoids using appliances responsible for ozone layer depletion, applies concept of decomposition reaction of baking soda to make spongy cakes, etc.		Applies scientific concepts in daily life and solving problems, such as avoiding using appliances responsible for ozone layer depletion.
SCI1012	applies scientific concepts in daily life and solving problems, such as takes precautions to prevent Sexually Transmitted Infections, uses appropriate electrical plugs (5/15A) for different electrical devices, uses vegetative propagation to develop saplings in gardening, performs exercise to keep in good health, avoids using appliances responsible for ozone layer depletion, applies concept of decomposition reaction of baking soda to make spongy cakes, etc.		

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SCI1012	applies scientific concepts in daily life and solving problems, such as takes precautions to prevent Sexually Transmitted Infections, uses appropriate electrical plugs (5/15A) for different electrical devices, uses vegetative propagation to develop saplings in gardening, performs exercise to keep in good health, avoids using appliances responsible for ozone layer depletion, applies concept of decomposition reaction of baking soda to make spongy cakes, etc.		Applies scientific concepts in daily life and solving problems, such as applying concept of decomposition reaction of baking soda to make spongy cakes.
SCI1013	derives formulae/ equations/ laws, such as equivalent resistance of resistors in series and parallel, etc.	Derives formulae/ equations/ laws.	Writes formulae/ equations/ laws of equivalent resistance of resistors in series.
SCI1013	derives formulae/ equations/ laws, such as equivalent resistance of resistors in series and parallel, etc.		Writes formulae/ equations/ laws of equivalent resistance of resistors in parallel.
SCI1014	draws conclusion, such as traits/ features are inherited through genes present on chromosomes, a new species originates through evolutionary processes, water is made up of hydrogen and oxygen, properties of elements vary periodically along the groups and periods in periodic table, potential difference across a metal conductor is proportional to the electric current through it, etc.		Draws conclusion, such as traits/ features are inherited through genes present on chromosomes.
SCI1014	draws conclusion, such as traits/ features are inherited through genes present on chromosomes, a new species originates through evolutionary processes, water is made up of hydrogen and oxygen, properties of elements vary periodically along the groups and periods in periodic table, potential difference across a metal conductor is proportional to the electric current through it, etc.		Draws conclusion, such as a new species originates through evolutionary processes.
SCI1014	draws conclusion, such as traits/ features are inherited through genes present on chromosomes, a new species originates through evolutionary processes, water is made up of hydrogen and oxygen, properties of elements vary periodically along the groups and periods in periodic table, potential difference across a metal conductor is proportional to the electric current through it, etc.		Draws conclusion, such as water is made up of hydrogen and oxygen.
SCI1014	draws conclusion, such as traits/ features are inherited through genes present on chromosomes, a new species originates through evolutionary processes, water is made up of hydrogen and oxygen, properties of elements vary periodically along the groups and periods in periodic table, potential difference across a metal conductor is proportional to the electric current through it, etc.		Draws conclusion, such as properties of elements vary periodically along the groups and periods in periodic table.

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SCI1014	draws conclusion, such as traits/ features are inherited through genes present on chromosomes, a new species originates through evolutionary processes, water is made up of hydrogen and oxygen, properties of elements vary periodically along the groups and periods in periodic table, potential difference across a metal conductor is proportional to the electric current through it, etc.		Draws conclusion, such as potential difference across a metal conductor is proportional to the electric current through it.
SCI1015	takes initiative to know about scientific discoveries/ inventions, such as Mendel's contribution in understanding the concept of inheritance, Dobereiner for discovering triads of elements, Mendeleev for the development of the periodic table of elements, Oersted discovery that electricity and magnetism are related, discovery of relation between potential difference across a metal conductor and the electric current through it by Ohm, etc		Articulates Mendel's contribution in understanding the concept of inheritance
SCI1015	takes initiative to know about scientific discoveries/ inventions, such as Mendel's contribution in understanding the concept of inheritance, Dobereiner for discovering triads of elements, Mendeleev for the development of the periodic table of elements, Oersted discovery that electricity and magnetism are related, discovery of relation between potential difference across a metal conductor and the electric current through it by Ohm, etc		Articulates Dobereiner contribution in discovering triads of elements
SCI1015	takes initiative to know about scientific discoveries/ inventions, such as Mendel's contribution in understanding the concept of inheritance, Dobereiner for discovering triads of elements, Mendeleev for the development of the periodic table of elements, Oersted discovery that electricity and magnetism are related, discovery of relation between potential difference across a metal conductor and the electric current through it by Ohm, etc		Articulates Mendeleev for the development of the periodic table of elements
SCI1015	takes initiative to know about scientific discoveries/ inventions, such as Mendel's contribution in understanding the concept of inheritance, Dobereiner for discovering triads of elements, Mendeleev for the development of the periodic table of elements, Oersted discovery that electricity and magnetism are related, discovery of relation between potential difference across a metal conductor and the electric current through it by Ohm, etc		Articulates Oersted discovery that electricity and magnetism are related.

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SCI1015	takes initiative to know about scientific discoveries/ inventions, such as Mendel's contribution in understanding the concept of inheritance, Dobereiner for discovering triads of elements, Mendeleev for the development of the periodic table of elements, Oersted discovery that electricity and magnetism are related, discovery of relation between potential difference across a metal conductor and the electric current through it by Ohm, etc		Articulates Ohm's discovery of relation between potential difference across a metal conductor and the electric current.
SCI1016	exhibits creativity in designing models using eco-friendly resources, such as working model of respiratory, digestive and excretory systems, soda acid fire extinguisher, periodic table, micelles formation, diamond/ graphite/ Buckminster fullerene, human eye, electric motor and generator, etc.	Exhibits creativity in designing models using eco-friendly resources.	Designs working models of respiratory, digestive and excretory systems using eco-friendly resources.
SCI1016	exhibits creativity in designing models using eco-friendly resources, such as working model of respiratory, digestive and excretory systems, soda acid fire extinguisher, periodic table, micelles formation, diamond/ graphite/ Buckminster fullerene, human eye, electric motor and generator, etc.		Designs a working model of soda acid fire extinguisher using eco-friendly resources.
SCI1016	exhibits creativity in designing models using eco-friendly resources, such as working model of respiratory, digestive and excretory systems, soda acid fire extinguisher, periodic table, micelles formation, diamond/ graphite/ Buckminster fullerene, human eye, electric motor and generator, etc.		Designs a model of periodic table using eco-friendly resources.
SCI1016	exhibits creativity in designing models using eco-friendly resources, such as working model of respiratory, digestive and excretory systems, soda acid fire extinguisher, periodic table, micelles formation, diamond/ graphite/ Buckminster fullerene, human eye, electric motor and generator, etc.		Designs a model of micelles formation using eco-friendly resources.
SCI1016	exhibits creativity in designing models using eco-friendly resources, such as working model of respiratory, digestive and excretory systems, soda acid fire extinguisher, periodic table, micelles formation, diamond/ graphite/ Buckminster fullerene, human eye, electric motor and generator, etc.		Designs models of diamond, graphite/and Buckminster fullerene using eco-friendly resources.
SCI1016	exhibits creativity in designing models using eco-friendly resources, such as working model of respiratory, digestive and excretory systems, soda acid fire extinguisher, periodic table, micelles formation, diamond/ graphite/ Buckminster fullerene, human eye, electric motor and generator, etc.		Designs a model of human eye using eco-friendly resources.
SCI1016	exhibits creativity in designing models using eco-friendly resources, such as working model of respiratory, digestive and excretory systems, soda acid fire extinguisher, periodic table, micelles formation, diamond/ graphite/ Buckminster fullerene, human eye, electric motor and generator, etc.		Designs models of electric motor and generator using eco-friendly resources.
SCI1016	exhibits creativity in designing models using eco-friendly resources, such as working model of respiratory, digestive and excretory systems, soda acid fire extinguisher, periodic table, micelles formation, diamond/ graphite/ Buckminster fullerene, human eye, electric motor and generator, etc.		



LO No	State LO	Competency	Micro Competencies
SCI1017	exhibits values of honesty/ objectivity/ rational thinking/ freedom from myth/ superstitious beliefs while taking decisions, respect for life, etc. such as reports and records experimental data accurately, says no to consumption of alcohol and sensitizes others about its effect on physical and mental health, motivates for organ donation, prevents pre-natal sex determination, etc.	Exhibits values of honesty/ objectivity/ rational thinking/ freedom from myth/ superstitious beliefs while taking decisions, respect for life.	Records and reports experimental data accurately by taking decisions with objectivity, honestly with respect to life.
SCI1017	exhibits values of honesty/ objectivity/ rational thinking/ freedom from myth/ superstitious beliefs while taking decisions, respect for life, etc. such as reports and records experimental data accurately, says no to consumption of alcohol and sensitizes others about its effect on physical and mental health, motivates for organ donation, prevents pre-natal sex determination, etc.		Creates awareness to others about the ill-effects of alcohol on physical and mental health.
SCI1017	exhibits values of honesty/ objectivity/ rational thinking/ freedom from myth/ superstitious beliefs while taking decisions, respect for life, etc. such as reports and records experimental data accurately, says no to consumption of alcohol and sensitizes others about its effect on physical and mental health, motivates for organ donation, prevents pre-natal sex determination, etc.		Takes oath and register their names for organ donation during birthdays to save others life.
SCI1017	exhibits values of honesty/ objectivity/ rational thinking/ freedom from myth/ superstitious beliefs while taking decisions, respect for life, etc. such as reports and records experimental data accurately, says no to consumption of alcohol and sensitizes others about its effect on physical and mental health, motivates for organ donation, prevents pre-natal sex determination, etc.		Creates awareness and seek attitudinal and behaviour change among the public about the issues related to pre natal sex determination.
SCI1018	communicates the findings and conclusions effectively, such as those of experiment/ activity/ project orally and in written form using appropriate figures/ tables/ graphs/ digital form, etc		Communicates the findings and conclusions effectively.
SCI1018	communicates the findings and conclusions effectively, such as those of experiment/ activity/ project orally and in written form using appropriate figures/ tables/ graphs/ digital form, etc	Discusses various procedure of science experiments and explain it to others effectively.	
SCI1018	communicates the findings and conclusions effectively, such as those of experiment/ activity/ project orally and in written form using appropriate figures/ tables/ graphs/ digital form, etc	Diagnoses suitable statistical analysis to analyse the data to arrive conclusion.	
SCI1018	communicates the findings and conclusions effectively, such as those of experiment/ activity/ project orally and in written form using appropriate figures/ tables/ graphs/ digital form, etc	Records the findings and interpreting the results of statistical tests graphically.	
SCI1019	makes efforts to conserve environment realizing the inter-dependency and interrelationship in the biotic and abiotic factors of environment, such as appreciates and promotes segregation of biodegradable and non - biodegradable wastes, takes steps to promote sustainable management of resources in day to day life, advocates use of fuels which produces less pollutants, uses energy efficient electric devices, uses fossil fuels judiciously, etc.		Discusses conservation of environment by appreciating and promoting segregation of biodegradable and non - biodegradable wastes.

LO No	State LO	Competency	Micro Competencies
SCI1019	makes efforts to conserve environment realizing the inter-dependency and interrelationship in the biotic and abiotic factors of environment, such as appreciates and promotes segregation of biodegradable and non - biodegradable wastes, takes steps to promote sustainable management of resources in day to day life, advocates use of fuels which produces less pollutants, uses energy efficient electric devices, uses fossil fuels judiciously, etc.	Discuss about the conservation of environment by realizing the inter-dependency and interrelationship in the biotic and abiotic factors of environment.	Practices sustainable waste management in day to day life
SCI1019	makes efforts to conserve environment realizing the inter-dependency and interrelationship in the biotic and abiotic factors of environment, such as appreciates and promotes segregation of biodegradable and non - biodegradable wastes, takes steps to promote sustainable management of resources in day to day life, advocates use of fuels which produces less pollutants, uses energy efficient electric devices, uses fossil fuels judiciously, etc.		Creates a pollution free environment in his/her immediate surroundings.
SCI1019	makes efforts to conserve environment realizing the inter-dependency and interrelationship in the biotic and abiotic factors of environment, such as appreciates and promotes segregation of biodegradable and non - biodegradable wastes, takes steps to promote sustainable management of resources in day to day life, advocates use of fuels which produces less pollutants, uses energy efficient electric devices, uses fossil fuels judiciously, etc.		Uses energy resources efficiently in day to day life.
SCI1019	makes efforts to conserve environment realizing the inter-dependency and interrelationship in the biotic and abiotic factors of environment, such as appreciates and promotes segregation of biodegradable and non - biodegradable wastes, takes steps to promote sustainable management of resources in day to day life, advocates use of fuels which produces less pollutants, uses energy efficient electric devices, uses fossil fuels judiciously, etc.		Uses fossil fuels judiciously in day to day life.