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**WEEK 1: LESSON 1**

**Strand:** Living Things and Their Environment

**Sub-Strand:** Fungi

**Specific Learning Outcomes:**

**- By the end of the lesson, learners should be able to:**

1. State the meaning of fungi.

2. Use digital devices to observe images of common fungi.

3. Appreciate the importance of fungi to the economy.

**Key Inquiry Questions:**

- What are fungi?

- Why are fungi important to our environment and economy?

**Learning Resources:**

- Grade 6 science and technology curriculum design

- Internet-enabled devices for research (tablets or computers)

- Images of various types of fungi (to be prepared in advance)

**Organisation of Learning:**

**Introduction (5 minutes):**

- Review the previous lesson about living organisms and their classifications.

- Ask students if they have ever encountered fungi and encourage them to share any experiences or knowledge they have.

**Lesson Development (25 minutes):**

**Step 1:** Introduction to Fungi

- Introduce the definition of fungi, explaining that they are a separate group of living organisms that include mold, yeast, and mushrooms.

- Discuss key characteristics that distinguish fungi from plants and animals, such as their cell structure and mode of nutrition.

- Provide examples of different types of fungi.

**Step 2:** Observing Fungi

- Guide students to use digital devices to research and explore images of common fungi (e.g., mushrooms, molds, and yeasts).

- Ask students to note what they find interesting about the different types of fungi they see.

- Discuss as a class the variety in shape, color, and habitat of the fungi they observed.

**Step 3:** Importance of Fungi

- Explain the economic significance of fungi, including their roles in food production (e.g., yeast in baking and brewing), medicine (e.g., penicillin), and environmental processes (e.g., decomposition).

- Engage students in a brief discussion on how fungi contribute to their daily lives.

**Step 4:** Summary Activity

- Invite students to share one interesting fact they learned about fungi during the lesson.

- Encourage them to think about how they see fungi in their environment.

**Conclusion (5 minutes):**

- Summarize the key points covered during the lesson: the definition of fungi, their different types, and their importance.

- Conduct an interactive quiz where students match images of fungi to their names or functions to reinforce learning.

- Preview the next session on a related topic, such as the role of fungi in ecosystems or the difference between various types of fungi.

**Extended Activities:**

- Fungi Diary: Students maintain a diary for a week to record any instances of fungi they observe in their day-to-day lives and research them.

- Fungi Research Project: Assign a small project where students can research an edible fungus (like mushrooms) or a harmful one (like mold) and present their findings to the class.

- Cooking with Fungi: Organize a simple cooking session where students can use yeast in a recipe (like bread or pizza dough) to see fungi in action.

**Teacher Self-Evaluation:**

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**WEEK 1: LESSON 2**

**Strand:** Living Things and Their Environment

**Sub Strand:** Fungi

**Specific Learning Outcomes:**

**- By the end of the lesson, learners should be able to:**

1. State the meaning of fungi

2. Use digital devices to observe images of common fungi

3.Appreciate the importance of fungi to the economy

**Key Inquiry Question(s):**

- What are fungi?

- How can we observe images of common fungi using digital devices?

**Learning Resources:**

- Grade 6 science and technology curriculum design

- Digital devices (tablets or computers) for image searching

- Images of common fungi (e.g., mushrooms, yeast, mold)

**Organisation of Learning:**

**Introduction (5 minutes):**

- Begin by reviewing the previous lesson on living organisms.

- Ask students what they remember about different types of living things.

- Introduce fungi as a unique group, explaining that they are not plants or animals.

**Lesson Development (25 minutes):**

**Step 1:** Defining Fungi

- Discuss what fungi are and their characteristics (e.g., they are eukaryotic, do not perform photosynthesis, often grow in damp places).

- Engage the class in a brief discussion about where they’ve seen fungi in their lives (e.g., on food, in gardens).

- Lead students to create a simple definition of fungi together.

**Step 2:** Exploring Common Fungi

- Divide students into small groups and provide them with digital devices.

- Instruct them to search for images of three common types of fungi (e.g., mushrooms, yeast, mold).

- Have each group share one interesting fact about the fungi they found while showing their images to the class.

**Step 3:** Importance of Fungi

- Discuss the importance of fungi in the economy.

- Mention their roles in food production (like bread and beer), medicine (such as penicillin), and decomposing organic matter.

- Encourage students to think about why fungi are valuable to us.

**Step 4:** Class Discussion

- Facilitate a class discussion on the information learned.

- Ask the students how understanding fungi can help us care for our environment better.

**Conclusion (5 minutes):**

- Summarize the key points: definition of fungi, examples, and their importance.

- Conduct a brief interactive quiz where students can write their answers on mini whiteboards when questions are posed.

- Preview the next session: “How do fungi reproduce and grow?”

**Extended Activities:**

- Field Observation: Students can go outside to look for fungi in their environment and take pictures or draw them to present in the next class.

- Research Project: Assign students to research a specific type of fungus and create a poster or digital presentation to share with the class.

- Cooking Area Exploration: If available, guide students to assist in making bread using yeast, discussing the role of yeast as a fungus during the process.

**Teacher Self-Evaluation:**

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**WEEK 1: LESSON 3**

**Strand:** Living Things and Their Environment

**Sub Strand:** Fungi

**Specific Learning Outcomes:**

**- By the end of the lesson, learners should be able to:**

1.Identify common fungi in the environment.

2. Take a walk in the school compound and take photographs of different types of fungi.

3. Appreciate the importance of fungi to the economy.

**Key Inquiry Questions:**

- What common fungi can we find in the environment around us?

- How do we identify different types of fungi?

**Learning Resources:**

- Grade 6 Science and Technology Curriculum Design

- Cameras or mobile devices for photography (if technology allows)

- Field guide on fungi (if available)

**Organisation of Learning:**

**Introduction (5 minutes):**

- Review: Begin by recalling what students learned in the previous lesson about living organisms and their habitats.

- Discussion: Ask students what they already know about fungi and guide them through relevant content from the learning resources, emphasizing their role in the environment and economy.

**Lesson Development (25 minutes):**

**Step 1:** Introduction to Fungi

- Explain what fungi are and provide examples (mushrooms, mold, yeast). Discuss their characteristics and where they typically grow.

- Show visuals or diagrams to help illustrate the different types of fungi.

**Step 2:** Fungi Observation and Identification

- Go over a brief explanation of how to identify fungi (color, shape, texture).

- Discuss safety tips for observing fungi and remind students not to touch them unless supervised.

**Step 3:** Nature Walk

- Take the students on a guided walk around the school compound.

- Instruct them to observe and photograph different types of fungi they find. Encourage them to note the locations and characteristics of each type they capture.

**Step 4:** Group Reflection (optional)

- Back in the classroom, have students share one photo they took and describe the type of fungus and where they found it. This can foster discussion and group learning.

**Conclusion (5 minutes):**

- Summarize the day's key points: what fungi are, examples found in the school compound, and their importance.

- Conduct a brief interactive activity: a quiz or a game where students match fungi photos to their names or characteristics.

- Preview the next session: highlight that they will learn about the roles fungi play in our ecosystem and economy.

**Extended Activities:**

- Fungi Research Project: Have students choose a specific type of fungus to research at home and create a presentation for the class.

- Fungal Growth Experiment: Students can set up a simple experiment to observe mold growth on bread in a controlled environment and record their findings over a week.

- Field Trip to a Local Park or Botanical Garden: Suggest visiting an area known for diverse fungi to enhance their experience and knowledge.

**Teacher Self-Evaluation:**

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**WEEK 1: LESSON 4**

**Strand:** Living Things and Their Environment

**Sub Strand:** Fungi

**Specific Learning Outcomes:**

**- By the end of the lesson, learners should be able to:**

1. Identify and mention common fungi in the environment (e.g., mushrooms, toadstools, puffballs, moulds).

2.Draw examples of common fungi found in the environment.

3. Appreciate the importance of fungi to the economy.

**Key Inquiry Questions:**

- What are some common fungi in the environment?

- Where do moulds grow, and how can we prevent them?

**Learning Resources:**

- Grade 6 science and technology curriculum design

- Images or samples of common fungi (mushrooms, toadstools, puffballs, moulds)

- Drawing materials (paper, colored pencils)

**Organisation of Learning:**

**Introduction (5 minutes):**

- Start by reviewing the previous lesson on living organisms.

- Ask students what they remember, and guide them to discuss types of living organisms.

- Introduce fungi and its different types, encouraging students to think about where they might have seen fungi in their environment.

**Lesson Development (25 minutes):**

**Step 1:** Introduction to Fungi

- Explain what fungi are, highlighting their characteristics: multicellular or unicellular, how they absorb nutrients, and their role in the ecosystem.

- Show images of common fungi: mushrooms, toadstools, puffballs, and moulds.

**Step 2:** Discussion on Common Fungi

- Engage students in a discussion about where they might find these fungi.

- Ask them to share their experiences with fungi (e.g., picking mushrooms, seeing mould on food).

- Write down their responses and any additional common fungi on the board.

**Step 3:** Drawing Fungi

- Have students select one type of fungus they learned about to draw.

- Encourage them to label their drawings with the name of the fungus and a brief description of where it can be found.

**Step 4:** Importance of Fungi

- Discuss the role of fungi in the economy and the environment, such as:

- Decomposers breaking down dead material,

- Food sources like mushrooms,

- Their use in medicine (e.g., antibiotics).

- Ask students how fungi can be both useful and harmful (like mould).

**Conclusion (5 minutes):**

- Summarize key points learned about fungi, including types, where they grow, and their economic importance.

- Conduct a quick interactive quiz or "popcorn" question session where students can share one fun fact they learned about fungi.

- Briefly preview the next lesson, which will cover the relationship between fungi and other living things.

**Extended Activities:**

- Fungi Research Project: Assign students to choose a specific fungus to research and present to the class (could be a famous edible mushroom, a medicinal fungus, or an interesting mould).

- Fungi Observation Journal: Encourage students to keep a journal during a week’s time to document fungi they see outside or at home (photographs or drawings could be included).

- Cooking with Fungi: If possible, have a cooking session where students can explore edible kinds of fungi, such as mushrooms, and discuss their culinary uses.

**Teacher Self-Evaluation:**

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**WEEK 2: LESSON 1**

**Strand:** Living Things and Their Environment

**Sub Strand:** Fungi

**Specific Learning Outcomes:**

**- By the end of the lesson, learners should be able to:**

1. Mention common fungi in the environment (e.g., mushrooms, toadstools, puffballs, moulds).

2. Draw common fungi in the environment.

3. Appreciate the importance of fungi to the economy.

**Key Inquiry Questions:**

- What are some common types of fungi we can find around us?

- How do we draw and recognize different types of fungi?

- Why are fungi important in our lives and the economy?

**Learning Resources:**

- Grade 6 science and technology curriculum design

- Images of common fungi

- Drawing materials (paper, colored pencils)

**Organization of Learning:**

**Introduction (5 minutes):**

- Begin by reviewing the previous lesson's key concepts related to living things in ecosystems.

- Introduce today's topic on fungi by asking students if they have ever seen any wild mushrooms or mould in their homes.

**Lesson Development (25 minutes):**

**Step 1:** Identifying Common Fungi

- Discuss with students some common types of fungi they may encounter, such as mushrooms, toadstools, puffballs, and moulds.

- Show images of these fungi and ask students to share where they might see them in their environment.

**Step 2:** Group Discussion

- Divide students into small groups and have them discuss the roles of fungi in nature and in the economy, such as food, medicine, and decomposers.

- Each group can share their ideas with the class, encouraging students to think critically about fungi's benefits.

**Step 3:** Drawing Common Fungi

- Provide students with drawing materials and ask them to choose a type of fungi and draw it.

- Encourage them to label their drawings with the name of the fungus and any interesting facts they remember.

**Step 4:** Importance of Fungi

- Conclude the lesson with a brief discussion about how fungi contribute to our lives, touching on their economic importance such as in food production (e.g., yeast in bread) and medicine (e.g., penicillin).

- Ask students why they think it is important to appreciate these organisms.

**Conclusion (5 minutes):**

- Summarize the key points discussed: types of fungi, their roles in the environment, and their importance.

- Conduct a brief interactive quiz (e.g., "What's that Fungus?") where students identify fungi from images shown.

- Preview the next lesson’s topic on more complex living organisms and their relationships in ecosystems.

**Extended Activities:**

- Fungi Hunt: Students can go on a nature walk with their families to identify different types of fungi and document them through photographs or drawings.

- Mould Exploration: A simple at-home experiment where students can observe mould growth on bread or fruit over a week and record their findings in a journal.

- Fungi Research Project: Students can choose a specific fungus (like truffles or yeast) and create a presentation about its importance, uses, and interesting facts.

**Teacher Self-Evaluation:**

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**WEEK 2: LESSON 2**

**Strand:** Living Things and Their Environment

**Sub Strand:** Fungi

**Specific Learning Outcomes:**

**- By the end of the lesson, learners should be able to:**

1. Identify the importance of fungi in nature.

2. Watch video clips on the importance of molds and yeast.

3. Appreciate the importance of fungi to the economy.

**Key Inquiry Question(s):**

- Why are fungi important in nature and the economy?

**Learning Resources:**

- Grade 6 Science and Technology Curriculum

- Video clips related to molds and yeast

- Textbook or printed materials discussing fungi

**Organisation of Learning:**

**Introduction (5 minutes):**

- Start with a brief review of the previous lesson on living organisms.

- Ask students to share their thoughts on what they remember about fungi.

- Introduce the day’s topic briefly and explain that they will be exploring the role of fungi in nature and the economy.

**Lesson Development (25 minutes):**

**Step 1:** Introduction to Fungi

- Explain what fungi are and their basic characteristics.

- Discuss different types of fungi (molds, yeasts, mushrooms).

- Use simple diagrams or images to visualize the information.

**Step 2:** Importance of Fungi in Nature

- Watch a short video clip on the role of molds in ecosystems (e.g., decomposing organic matter).

- Discuss how fungi contribute to soil health and support plant growth.

- Engage students by asking questions about how they think fungi interact with other living organisms.

**Step 3:** Economic Importance of Fungi

- Introduce the concept of fungi in food production (e.g., yeast in bread, molds in cheese).

- Discuss how certain fungi are used in medicine (e.g., penicillin).

- Briefly cover the agricultural aspects, such as how some fungi can be harmful (e.g., crop diseases) and others are beneficial (e.g., mycorrhizal fungi that help in nutrient absorption).

**Step 4:** Interactive Discussion

- Conduct an interactive discussion where students share any experiences they have had with fungi in their daily lives (e.g., baking, gardening).

- Have students think-pair-share about how their understanding of fungi can impact their lives.

**Conclusion (5 minutes):**

- Summarize key points discussed: roles of fungi in nature and their economic significance.

- Conduct a quick quiz or a thumbs-up/thumbs-down activity to reinforce understanding of the main topics.

- Preview the next session where students will learn about harmful fungi and how to identify them.

**Extended Activities:**

- Research Project: Ask students to choose a specific type of fungus and create a small poster or presentation outlining its benefits and dangers.

- Field Study: Plan a local outing to observe fungi in nature (if possible)—students can take photos or samples for discussion in class.

- Baking Activity: Conduct a simple baking project using yeast, showing its importance in food preparation, and allow students to taste the results.

**Teacher Self-Evaluation:**

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**WEEK 2: LESSON 3**

**Strand:** Living Things and Their Environment

**Sub Strand:** Fungi

**Specific Learning Outcomes:**

**- By the end of the lesson, learners should be able to:**

1.Identify the importance of fungi in nature.

2. Watch video clips on the importance of moulds and yeast.

3. Appreciate the importance of fungi to the economy.

**Key Inquiry Questions:**

- Why are fungi important in nature?

- How do moulds and yeast benefit us?

**Learning Resources:**

- Grade 6 Science and Technology Curriculum Design

- Video Clips on Moulds and Yeast

- Visual aids on Fungi

**Organisation of Learning:**

**Introduction (5 minutes):**

- Review the previous lesson on living organisms. Ask students to share one thing they remember about how different organisms contribute to the environment.

- Introduce fungi as an important group of living things. Guide students to read a short excerpt from the learning resources about fungi and discuss in pairs what they found interesting.

**Lesson Development (25 minutes):**

**Step 1:** Introduction to Yeast

- Discuss what yeast is and its role in bread-making.

- Show a short video clip demonstrating the process of yeast fermentation.

- Ask students: "What happens when yeast is added to dough?" Encourage them to share their thoughts.

**Step 2:** Moulds and Their Role

- Explain what moulds are and show another video clip showcasing their role in decomposing organic material.

- Discuss how moulds help recycle nutrients in the environment.

- Class discussion: “What would happen if moulds didn’t exist?”

**Step 3:** Economic Importance of Fungi

- Introduce the economic importance of fungi, particularly yeast in food and beverages (e.g., bread, beer).

- Engage students with a question: "Can you name any other foods that use fungi in their production?"

**Step 4:** Fungi in Medicine

- Briefly cover how fungi contribute to medicine (e.g., penicillin).

- Conduct a quick think-pair-share: “How do you think fungi help people stay healthy?”

**Conclusion (5 minutes):**

- Summarize key points:

- Yeast in food production, the role of moulds in nature, and economic aspects of fungi.

- Interactive Activity: "Fungi Grapevine" - Each student shares one fact they learned about fungi, creating a chain of knowledge.

- Preview next session: Introduce the topic of other microorganisms and their roles in ecosystems, prompting students to think about their environment.

**Extended Activities:**

**-** Fungi Exploration: Research Project - Have students pick either a type of fungus (e.g., mushroom, yeast, mould) and create a poster detailing its characteristics, uses, and importance to humans and the environment.

- Cooking Activity: Bake a simple bread recipe at home using yeast and observe the fermentation process. Share the results with the class in the next lesson.

- Field Trip: If possible, organize a trip to a local bakery or a farm that cultivates mushrooms, allowing students to see fungi in action.

**Teacher Self-Evaluation:**

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**WEEK 2: LESSON 4**

**Strand:** Living Things and Their Environment

**Sub Strand:** Fungi

**Specific Learning Outcomes:**

**- By the end of the lesson, learners should be able to:**

1. Outline precautions and safe disposal of wastes when handling fungi.

2. Use digital devices to search for safe handling of fungi.

3.Appreciate the importance of fungi to the economy.

**Key Inquiry Questions:**

- What precautions should you take when handling fungi?

- How can we safely dispose of waste when working with fungi?

**Learning Resources:**

- Grade 6 science and technology curriculum design

- Access to digital devices (tablets/laptops)

- Research materials (books/printouts about fungi)

**Organisation of Learning:**

**Introduction (5 minutes):**

- Begin the lesson by reviewing the previous class about living organisms' roles in ecosystems.

- Introduce the topic of fungi. Engage students in a brief discussion on what they know about fungi (mushrooms, molds, yeast), and note their responses on the board.

- Present the learning objectives for today: understanding safe handling practices for fungi and their importance in our economy.

**Lesson Development (25 minutes):**

**Step 1:** Discussion on Precautions

- Explain the importance of being careful when handling fungi, as some can be poisonous or cause allergic reactions.

- Discuss specific precautions (e.g., wearing gloves, avoiding direct contact with fungi, washing hands after handling).

- Ask students if they have ever seen or interacted with fungi and what precautions they took.

**Step 2:** Group Research

- Divide students into small groups and provide access to digital devices.

- Instruct them to research safe handling practices for fungi, focusing on one type. They can use approved websites or educational videos. Each group should prepare a short presentation on their findings.

**Step 3:** Safe Disposal Practices

- Reconvene and have each group share their presentation briefly.

- Lead a discussion about how to safely dispose of fungal waste, emphasizing the importance of not throwing them in regular trash and the methods used (like composting non-toxic fungi).

**Step 4:** Importance of Fungi

- Highlight how fungi are important in the economy: as food (mushrooms, yeast), in medicine (antibiotics), and in environmental processes (decomposing organic matter).

- Encourage students to think about the multiple roles fungi play in their lives.

**Conclusion (5 minutes):**

- Recap the precautions for handling fungi, the importance of safe disposal, and fungi's economic importance.

- Conduct a quick interactive activity: have students stand if they agree or sit if they disagree with statements like “All fungi are bad” or “Fungi can be helpful.”

- Give students a preview of the next lesson on other organisms, such as plants or bacteria, and pose a question for them to consider: "How do these organisms assist or compete with fungi in their environments?"

**Extended Activities:**

- Fungi Exploration Project: Assign students to create a small poster or digital presentation on a specific type of fungus, including its characteristics, safe handling tips, economic contributions, and environmental impact.

- Fungi in Our Lives Journal: Encourage students to keep a journal for a week to note any fungi they see in their communities and any relevant safety precautions they learn or observe.

**Teacher Self-Evaluation:**

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**WEEK 3: LESSON 1**

**Strand:** Living Things and Their Environment

**Sub Strand:** Invertebrates

**Specific Learning Outcomes:**

**- By the end of the lesson, learners should be able to:**

1. State the meaning of invertebrates.

2. Take photographs of invertebrates in the immediate environment.

3. Appreciate the importance of invertebrates in nature.

**Key Inquiry Questions:**

- In groups, discuss the meaning of invertebrates.

- Take photographs of invertebrates in the immediate environment.

**Learning Resources:**

- Grade 6 science and technology curriculum design.

**Organisation of Learning:**

**Introduction (5 minutes):**

- Begin the lesson by reviewing the previous topics covered about living things and their environments.

- Guide the learners to read from the learning resources and discuss key concepts about invertebrates, encouraging students to share prior knowledge.

**Lesson Development (25 minutes):**

**Step 1:** Define Invertebrates

- Introduce the term "invertebrates" and explain that they are animals without a backbone, using examples such as insects, worms, and jellyfish.

- Have students write down the definition and provide their own examples.

**Step 2:** Group Discussion

- Divide students into small groups. Each group will discuss why invertebrates are important to our ecosystems.

- Encourage groups to consider roles like decomposition, pollination, and serving as food for other animals.

**Step 3:** Outdoor Exploration

- Take students outside to search for invertebrates in your immediate environment.

- Ask each student to find and photograph at least one invertebrate. Ensure they observe its habitat and surrounding environment carefully.

**Step 4:** Group Sharing (Optional, based on time)

- If time permits, have students return to their groups to share the photographs they took, discuss what they observed, and reinforce the learning outcomes by connecting their findings back to the importance of invertebrates.

**Conclusion (5 minutes):**

- Summarize the key points discussed, emphasizing the definition of invertebrates and their roles in nature.

- Conduct a quick interactive Q&A session where students can share one interesting fact about the invertebrates they observed.

- Prepare students for the next session, possibly introducing a new topic, such as vertebrates or ecosystems, and asking them to think of questions related to what they might learn next.

**Extended Activities:**

- Have students create a digital scrapbook of invertebrates, where they can compile the photographs taken, add labels, and write a short description of each invertebrate and its role in the ecosystem.

- Invite students to research a specific invertebrate species at home and prepare a short presentation for the class, discussing its habitat, diet, and importance.

**Teacher Self-Evaluation:**

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**WEEK 3: LESSON 2**

**Strand:** Living Things and Their Environment

**Sub Strand:** Invertebrates

**Specific Learning Outcomes:**

**- By the end of the lesson, learners should be able to:**

1. State the meaning of invertebrates.

2. Take photographs of invertebrates in the immediate environment.

3. Appreciate the importance of invertebrates in nature.

**Key Inquiry Questions:**

- What are invertebrates?

- How do invertebrates contribute to our ecosystem?

**Learning Resources:**

- Grade 6 science and technology curriculum design.

- Cameras or smartphones for photography.

**Organisation of Learning:**

**Introduction (5 minutes):**

- Begin by revising the previous lesson on living organisms.

- Lead a brief discussion on what students remember about vertebrates and introduce the term "invertebrates."

- Write the word "invertebrates" on the board and ask the students to brainstorm what they think it means.

**Lesson Development (25 minutes):**

**Step 1:** Defining Invertebrates

- Facilitate a discussion where students can define invertebrates.

- Help them understand that invertebrates are animals without a backbone. Write their definitions on the board.

**Step 2:** Examples of Invertebrates

- Ask the class for examples of invertebrates (such as jellyfish and earthworms).

- Discuss their characteristics and how they differ from vertebrates.

- Introduce more examples like snails, insects, and octopuses.

**Step 3:** Real-Life Photography

- Take the class outside (if possible) or have them look around the classroom/school.

- Have students work in pairs to find and take photographs of invertebrates in their immediate environment (like snails, ants, or spiders).

- Remind them to be respectful of living creatures when taking photos.

**Step 4:** Group Discussion

- Gather students to share the photographs they took.

- Discuss the diversity of invertebrates they found and their roles in the ecosystem.

- Emphasize why invertebrates are important for the environment, such as pollination, decomposition, and serving as food for other animals.

**Conclusion (5 minutes):**

- Summarize what invertebrates are, the examples discussed, and their ecological importance.

- Conduct a quick interactive activity: Ask students to match pictures of invertebrates with their names on the board.

- Preview the next lesson (e.g., a closer look at specific invertebrates and their habitats).

**Extended Activities:**

- Invertebrate Research Project: Assign each student an invertebrate to research and create a poster that includes pictures, interesting facts, and its role in the ecosystem.

- Nature Journal: Encourage students to keep a nature journal where they document any invertebrates they observe in their neighborhood over a week.

- Invertebrate Habitat Model: Have students in groups create a simple model or diorama of a habitat where invertebrates can be found.

**Teacher Self-Evaluation:**

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**WEEK 3: LESSON 3**

**Strand:** Living Things and Their Environment

**Sub Strand:** Invertebrates

**Specific Learning Outcomes:**

**- By the end of the lesson, learners should be able to:**

1.Identify animals classified as invertebrates.

2. Describe the general characteristics of invertebrates.

3. Appreciate the importance of invertebrates in nature.

**Key Inquiry Questions:**

- What animals are classified as invertebrates?

- What are the general characteristics of invertebrates?

**Learning Resources:**

- Grade 6 Science and Technology curriculum design

- Pictures and samples of various invertebrates (if available)

**Organisation of Learning:**

**Introduction (5 minutes):**

- Begin by reviewing the previous lesson on living organisms.

- Ask students what they remember about vertebrates and transition to the topic of invertebrates.

- Guide learners to read a relevant excerpt from the curriculum about invertebrates, prompting a discussion on what they already know.

**Lesson Development (25 minutes):**

**Step 1:** Introduction to Invertebrates

- Show images or physical samples of different invertebrates (e.g., jellyfish, spiders, worms).

- Explain that invertebrates are animals without a backbone.

- Discuss the proportion of invertebrates in the animal kingdom (about 95%).

**Step 2:** Characteristics of Invertebrates

- List and describe key characteristics of invertebrates:

1. No backbone

2. Variety of body forms (soft-bodied, hard-shelled)

3. Can be found in various habitats (land, water)

4. Reproduction methods (sexual and asexual)

- Engage students in identifying which characteristics of invertebrates they observe in the images.

**Step 3:** Types of Invertebrates

- Introduce different categories of invertebrates (e.g., arthropods, mollusks, annelids).

- Provide examples of each type:

- Arthropods: insects, spiders

- Mollusks: snails, octopuses

- Annelids: earthworms

- Encourage students to share any invertebrates they know about.

**Step 4:** Importance of Invertebrates

- Discuss the ecological roles of invertebrates, such as:

Pollination (e.g., bees)

Decomposition (e.g., earthworms)

Food sources for other animals

- Facilitate a short discussion on how invertebrates affect our daily lives.

**Conclusion (5 minutes):**

- Summarize the key points covered: what invertebrates are, their characteristics, the types, and their importance in nature.

- Conduct a brief interactive activity where students name an invertebrate and share one fact they learned about it.

- Preview the next session, which might explore specific invertebrates and their habitats or ecological contributions.

**Extended Activities:**

- Invertebrate Zoo: Have students research different invertebrates and create a miniature diorama or poster showcasing their chosen animal and its habitat.

- Class Presentation: Each student can choose an invertebrate to present to the class, including information about its habitat, diet, and interesting facts.

- Field Trip Idea: If possible, plan a field trip to a local aquarium or natural history museum to see live or preserved invertebrates.

**Teacher Self-Evaluation:**

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**WEEK 3: LESSON 4**

**Strand:** Living Things and Their Environment

**Sub Strand:** Invertebrates

**Specific Learning Outcomes:**

**- By the end of the lesson, learners should be able to:**

1.Identify animals classified as invertebrates.

2. Watch video clips of invertebrates.

3. Appreciate the importance of invertebrates in nature.

**Key Inquiry Questions:**

- What animals are classified as invertebrates?

- How do invertebrates contribute to our ecosystem?

**Learning Resources:**

- Grade 6 Science and Technology Curriculum Design

- Selected video clips on invertebrates (e.g., jellyfish, spiders, earthworms, etc.)

**Organisation of Learning:**

**Introduction (5 minutes):**

- Begin by reviewing the previous lesson about vertebrates. Ask students to name characteristics of vertebrates they learned.

- Introduce today’s topic by explaining that invertebrates are animals without a backbone. Briefly discuss the importance of understanding different types of animals.

**Lesson Development (25 minutes):**

**Step 1:** Definition and Examples

- Start by defining invertebrates. Explain that they make up about 95% of all animal species!

- Ask students to brainstorm examples of invertebrates they know (e.g., insects, worms, jellyfish).

**Step 2:** Classification

- Introduce different categories of invertebrates (e.g., arthropods, mollusks, annelids).

- Show images of animals in each category and discuss their characteristics. Have students group examples into the appropriate categories.

**Step 3:** Video Clips

- Show short video clips of various invertebrates in their natural habitats.

- After each clip, engage students with a quick discussion about what they observed and learned. What were the key features of each animal?

**Step 4:** Importance in Ecosystem

- Discuss how invertebrates play essential roles in ecosystems (e.g., pollination, decomposing plant material, serving as food for other animals).

- Prompt students to share how they see or interact with invertebrates in their daily lives.

**Conclusion (5 minutes):**

- Summarize the key points discussed regarding invertebrates and their significance in nature.

- Conduct an interactive activity, such as a quick quiz game (e.g., Kahoot!) where students identify invertebrates shown on the board.

- Preview the next session where they will learn about specific invertebrates' habitats and behaviors, eliciting questions they might have.

**Extended Activities:**

- Invertebrate Research Project: Students can choose an invertebrate to research and create a poster or digital presentation highlighting its characteristics, habitat, and importance in the ecosystem.

- Field Trip/Virtual Tour: Organize a visit to a local aquarium or a virtual tour of a marine science lab to observe live invertebrates.

- Class Invertebrate Guide: Create a class booklet where each student contributes a page about different invertebrates, which can include drawings, fun facts, and their findings from research.

**Teacher Self-Evaluation:**

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**WEEK 4: LESSON 1**

**Strand:** Living Things and Their Environment

**Sub Strand:** Invertebrates

**Specific Learning Outcomes:**

**- By the end of the lesson, learners should be able to:**

1. State examples of sea invertebrates

2. Draw sea invertebrates (e.g., octopus and crabs)

3. Appreciate the importance of invertebrates in nature

**Key Inquiry Questions:**

- What are sea invertebrates?

- How do sea invertebrates impact their environment?

**Learning Resources:**

- Grade 6 science and technology curriculum design

- Pictures and illustrations of various sea invertebrates

**Organisation of Learning:**

**Introduction (5 minutes):**

- Begin by reviewing what was learned in the previous lesson about living things.

- Ask students to recall some examples of invertebrates they studied before.

- Introduce the topic for today: sea invertebrates, highlighting their diversity and significance in marine ecosystems.

**Lesson Development (25 minutes):**

**Step 1:** Introduction to Sea Invertebrates

- Explain what invertebrates are: animals without a backbone.

- Discuss the characteristics of invertebrates, focusing specifically on sea invertebrates.

- Show pictures of different sea invertebrates such as jellyfish, sea stars, octopuses, and crabs.

**Step 2:** Observational Activity

- Divide students into small groups and distribute various images of sea invertebrates.

- Instruct each group to observe their images closely, discussing the features they notice (e.g., body shape, colors, textures).

- Ask groups to list their observations on chart paper.

**Step 3:** Drawing Activity

- Each student picks one sea invertebrate from the images discussed and draws it.

- Encourage them to add labels to their drawings that highlight distinctive features (e.g., tentacles, shells).

**Step 4:** Importance of Sea Invertebrates

- Discuss why sea invertebrates are important to the ocean ecosystem (e.g., roles as prey/predators, decomposition, coral reef health).

- Encourage students to share what they believe to be the most surprising or interesting fact about sea invertebrates.

**Conclusion (5 minutes):**

- Summarize the key points covered during the lesson: what sea invertebrates are, examples of them, their features, and their importance to marine environments.

- Conduct a quick interactive quiz or game, asking students to name the sea invertebrates they learned about or share one fact.

- Prepare students for the next session by hinting that they will learn about vertebrates next and how they compare to invertebrates.

**Extended Activities:**

- Research Project: Assign students to find and present on a specific sea invertebrate of their choice, including its habitat, diet, and role in the ecosystem.

- Craft Project: Using recycled materials, students can create a 3D model of a sea invertebrate and display their name and a fun fact about it.

- Field Trip: If feasible, plan a trip to an aquarium or a marine center to observe live sea invertebrates in their habitats.

**Teacher Self-Evaluation:**

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**WEEK 4: LESSON 2**

**Strand:** Living Things and Their Environment

**Sub Strand:** Invertebrates

**Specific Learning Outcomes:**

**- By the end of the lesson, learners should be able to:**

1.State examples of sea invertebrates

2. Draw sea invertebrates

3.Appreciate the importance of invertebrates in nature

**Key Inquiry Questions:**

- What are some examples of sea invertebrates?

- How can we identify and draw sea invertebrates like octopuses and crabs?

**Learning Resources:**

- Grade 6 Science and Technology Curriculum Design

- Pictures of various sea invertebrates

**Organisation of Learning:**

**Introduction (5 minutes):**

- Begin the lesson by reviewing key concepts from the previous lesson focusing on living things and their environments.

- Encourage students to share what they learned about invertebrates, leading to a discussion about what makes an animal an invertebrate.

- Introduce the topic of sea invertebrates and highlight their importance in marine ecosystems.

**Lesson Development (25 minutes):**

**Step 1:** Identifying Sea Invertebrates

- Show pictures of different sea invertebrates (e.g., octopus, jellyfish, crab).

- Ask students to work in pairs to identify and share at least two examples.

- Write examples on the board as students share.

**Step 2:** Characteristics of Sea Invertebrates

- Discuss the characteristics of the sea invertebrates shown and explain how they adapt to their environment.

- Highlight unique features (e.g., the ability of octopuses to camouflage) and why these features are essential for survival.

**Step 3:** Drawing Sea Invertebrates

- Provide students with drawing materials (pencils, colored pencils, paper).

- Instruct them to choose one of the sea invertebrates discussed and draw it, focusing on its unique characteristics.

- Encourage creativity and use of colors, explaining how different colors can represent different species.

**Step 4:** Importance of Invertebrates

- Engage the class in a discussion on why invertebrates are important in the ecosystem, such as their role as food sources, pollinators, and contributors to biodiversity.

- Have some students share their drawings and explain the invertebrate they chose and its ecological importance.

**Conclusion (5 minutes):**

- Summarize the key points discussed: examples of sea invertebrates, their characteristics, and their significance in nature.

- Conduct a quick interactive quiz where students can shout out answers or raise their hands to answer, reinforcing key vocabulary and concepts from the lesson.

- Preview the next session, hinting at exploring the relationships between invertebrates and their environments, and suggest students think about how these animals might impact human life.

**Extended Activities:**

- Create a sea invertebrate handbook, where students can research and compile information about different sea invertebrates, including drawings and facts about their habitats and adaptations.

- Organize a field trip to a local aquarium (if possible) or have a virtual tour of an ocean exhibit, where students can see live sea invertebrates and learn more about them in their environment.

**Teacher Self-Evaluation:**

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**WEEK 4: LESSON 3**

**Strand:** Living Things and Their Environment

**Sub Strand:** Invertebrates

**Specific Learning Outcomes:**

**- By the end of the lesson, learners should be able to:**

1.Mention animals classified as invertebrates.

2. Create a portfolio of different types of invertebrates in their locality.

3.Appreciate the importance of invertebrates in the environment.

**Key Inquiry Questions:**

- What animals are classified as invertebrates?

- How can we collect and present information about invertebrates in our area?

**Learning Resources:**

- Grade 6 Science and Technology Curriculum Design

- Pictures or charts of common invertebrates

- Art supplies for portfolio creation (paper, colored pencils, markers, etc.)

**Organisation of Learning:**

**Introduction (5 minutes):**

- Begin the lesson by reviewing the previous topics discussed, such as the characteristics of living things.

- Prompt students with a few questions about what they learned about invertebrates, guiding them to read relevant content from the learning resources. Encourage discussion around invertebrates and their significance.

**Lesson Development (25 minutes):**

**Step 1:** Introduction to Invertebrates

- Define invertebrates: Explain that invertebrates are animals without a backbone.

- Present examples such as jellyfish, worms, snails, and insects. Use pictures or charts to visually demonstrate these animals.

**Step 2:** Group Discussion

- Organize students into small groups and provide an opportunity for them to discuss what they know about invertebrates they see in their local environment. Each group should list at least three invertebrates and one interesting fact about each one.

**Step 3:** Portfolio Creation

- Introduce the concept of a portfolio: Explain that a portfolio is a collection of work showcasing what they have learned.

- Instruct students to create a simple portfolio page for one invertebrate they discussed, including a drawing, its name, and interesting facts. If they have seen any invertebrates around the school or at home, they can draw those as well.

**Step 4:** Share and Reflect

- Allow students to briefly share their portfolio pages with a partner or a small group. Encourage them to discuss the importance of the invertebrate they chose and its role in the ecosystem.

**Conclusion (5 minutes):**

- Summarize the key points discussed: the definition of invertebrates, examples, and their importance to the environment.

- Conduct a brief interactive activity: Ask students to participate in a "Invertebrate Bingo" where they can volunteer to call out characteristics of different invertebrates for the class to identify.

- Preview next session: Discuss that in the next lesson, they will explore habitats of invertebrates and how they interact with their environment.

**Extended Activities:**

- Field Trip: Organize a field trip to a local park or nature reserve to observe invertebrates in their natural habitat.

- Invertebrate Diary: Encourage students to keep a diary of any invertebrates they observe over a week, noting where and when they saw them and including sketches or photos.

- Research Project: Assign a research project on a specific invertebrate, where students can dive deeper into the biology, habitat, and role of that invertebrate in its ecosystem.

**Teacher Self-Evaluation:**

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**WEEK 4: LESSON 4**

**Strand:** Living Things and Their Environment

**Sub Strand:** Invertebrates

**Specific Learning Outcomes:**

**- By the end of the lesson, learners should be able to:**

1. Mention animals classified as invertebrates.

2. Make a portfolio of different types of invertebrates in their locality.

3. Appreciate the importance of invertebrates in the environment.

**Key Inquiry Questions:**

- What animals are classified as invertebrates?

- How can we create a portfolio of different types of invertebrates found in our area?

**Learning Resources:**

- Grade 6 science and technology curriculum design

- Pictures and samples of local invertebrates (if available)

- Art supplies for portfolio creation (e.g., paper, coloring materials)

**Organisation of Learning:**

**Introduction (5 minutes):**

- Start with a brief review of the previous lesson on animals and habitats.

- Introduce invertebrates by explaining that they are animals without a backbone. Ask students if they can name any invertebrates they know (e.g., jellyfish, worms, insects) and write their responses on the board.

**Lesson Development (25 minutes):**

**Step 1:** Introduction to Invertebrates

- Discuss the characteristics of invertebrates, emphasizing that they make up a large part of the animal kingdom.

- Present examples of invertebrates that students might find in their locality (e.g., butterflies, snails, crabs).

- Highlight the differences between invertebrates and vertebrates.

**Step 2:** Classifying Invertebrates

- Teach the classification of invertebrates into groups (e.g., mollusks, arthropods, cnidarians).

- Use visuals or species examples to explain each group.

- Ask students to categorize some pictures of invertebrates into these groups as a quick activity.

**Step 3:** Importance of Invertebrates

- Discuss the roles invertebrates play in the ecosystem (e.g., pollinators, decomposers).

- Encourage students to think about how invertebrates affect our environment and why they are important for biodiversity.

**Step 4:** Portfolio Creation

- Explain the portfolio project: students will collect pictures or samples of invertebrates from their local environment.

- Provide guidelines for the portfolio, including what information to include (name, habitat, importance, etc.).

- Encourage students to start thinking about how they will gather this information in the upcoming days.

**Conclusion (5 minutes):**

- Summarize the key points about what invertebrates are and their importance in our ecosystem.

- Conduct a brief interactive activity, like a “Guess the Invertebrate” game based on clues or pictures.

- Preview the next lesson topic on vertebrates and prompt students to think about the differences they have learned today.

**Extended Activities:**

- Nature Walk: Organize a guided nature walk where students can search for and identify local invertebrates, encouraging them to observe their habitats and behaviors.

- Research Project: Assign students to research a specific type of invertebrate and present their findings to the class, highlighting its features and importance in the ecosystem.

- Art Project: Have students create an artistic representation of their favorite invertebrate, including facts that they learned during the lesson.

**Teacher Self-Evaluation:**

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**WEEK 5: LESSON 1**

**Strand:** Living Things and Their Environment

**Sub Strand:** Invertebrates

**Specific Learning Outcomes:**

**- By the end of the lesson, learners should be able to:**

1. Identify the importance of invertebrates in the environment.

2. Observe safety precautions when handling invertebrates.

3. Appreciate the importance of invertebrates in the ecosystem.

**Key Inquiry Question(s):**

- What is the importance of invertebrates in the environment, such as food sources and soil aeration?

- What safety precautions should we observe when handling invertebrates?

**Learning Resources:**

- Grade 6 Science and Technology Curriculum Design Document

- Images and samples of common invertebrates (e.g., worms, insects, and mollusks)

**Organisation of Learning:**

**Introduction (5 minutes):**

- Begin by reviewing the previous lesson on living organisms, focusing on the difference between invertebrates and vertebrates.

- Guide students to read a brief section from the learning resources about invertebrates, discussing the key concepts and prompting questions to engage their thoughts.

**Lesson Development (25 minutes):**

**Step 1:** The Role of Invertebrates in the Ecosystem

- Discuss how invertebrates contribute to the ecosystem, focusing on their roles in food chains as both producers and consumers.

- Introduce examples of invertebrates that are vital for ecological balance (e.g., earthworms aerating the soil, bees pollinating plants).

**Step 2:** Invertebrates in Soil Health

- Explore how invertebrates like earthworms improve soil quality by aeration and nutrient recycling.

- Conduct a mini-experiment simulation using a ‘soil jar’ to observe how soil layers change when “invertebrates” (like small rocks and plastic beads representing invertebrates) are added.

**Step 3:** Safety Precautions When Handling Invertebrates

- Discuss the importance of being careful when handling invertebrates and what precautions should be taken (e.g., washing hands, not handling poisonous species).

- Role-play scenarios where students demonstrate proper handling techniques for safe interaction with invertebrates.

**Step 4:** Real-world Connection

- Group activity: Let students examine pictures and samples of invertebrates, categorizing them based on their roles (decomposers, pollinators, etc.).

- Encourage students to share how they can help protect local invertebrate populations in their community.

**Conclusion (5 minutes):**

- Summarize key points: the roles of invertebrates in ecosystems, their importance for soil health, and safety in handling.

- Conclude with a fun quiz or game to reinforce learning (e.g., matching invertebrates to their function).

- Provide a teaser for the next lesson, focusing on vertebrates and comparing them with invertebrates.

**Extended Activities:**

- Nature Walk: Organize a field trip to a nearby park or garden where students can observe invertebrates in their natural habitat. Encourage them to take notes and pictures.

- Project Creation: Have students create a poster or presentation about a specific invertebrate, highlighting its role in the environment, habitat, and interesting facts.

- Class Journal: Launch a 'class journal' where students can record their observations or thoughts on invertebrates they encounter in real life or in media.

**Teacher Self-Evaluation:**

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**WEEK 5: LESSON 2**

**Strand:** Living Things and Their Environment

**Sub Strand:** Invertebrates

**Specific Learning Outcomes:**

**- By the end of the lesson, learners should be able to:**

1.Identify the importance of invertebrates in the environment.

2. Observe safety precautions when handling invertebrates.

3. Appreciate the importance of invertebrates in the environment.

**Key Inquiry Questions:**

- Why are invertebrates important in our environment?

- What safety precautions should be observed when handling invertebrates?

**Learning Resources:**

- Grade 6 Science and Technology Curriculum Design

- Pictures and charts of various invertebrates

- Safety guidelines poster for handling invertebrates

**Organisation of Learning:**

**Introduction (5 minutes):**

- Briefly review what was learned in the previous lesson about vertebrates and their classifications.

- Introduce the topic of invertebrates and engage students in a discussion by asking them to share what they know about them. Refer to the learning resources for context.

**Lesson Development (25 minutes):**

**Step 1:** Importance of Invertebrates

- Present information about invertebrates (e.g., insects, worms, jellyfish).

- Discuss their roles in the ecosystem, including pollination, decomposition, and serving as food for other animals.

- Ask students to think-pair-share about how they interact with invertebrates in their daily lives.

**Step 2:** Safety Precautions

- Introduce safety precautions when handling invertebrates, such as:

1. Always wash hands before and after.

2. Handle gently to avoid harming them.

3. Avoid handling wild invertebrates if you're unsure about their safety.

4. Use appropriate tools (like tweezers) for picking up small invertebrates.

5. Follow any teacher's instructions regarding handling.

- Have students discuss these precautions in small groups and share examples of situations where they would apply them.

**Step 3:** Observation Activity

- If possible, present students with a safe invertebrate (e.g., a jar with worms or a virtual tour of an insect habitat).

- Encourage students to observe the invertebrate without disturbing it to decide how it contributes to its environment.

**Step 4:** Reflection

- Have students write down one new thing they learned about invertebrates and one safety precaution they will remember.

- Invite a few students to share their reflections with the class.

**Conclusion (5 minutes):**

- Summarize the importance of invertebrates and the safety precautions discussed.

- Conduct a brief interactive quiz or game where students can match invertebrates to their roles in the ecosystem or safety tips.

- Provide a preview of the next lesson focused on specific types of invertebrates in more detail.

**Extended Activities:**

- Invertebrate Investigation: Have students research a specific invertebrate and prepare a short presentation or poster on its role in the environment.

- Field Trip: Arrange a nature walk where students can observe invertebrates in their natural habitats and practice safety precautions when observing them.

**Teacher Self-Evaluation:**

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**WEEK 5: LESSON 3**

**Strand:** Living Things and Their Environment

**Sub Strand:** Human Circulatory System

**Specific Learning Outcomes:**

**- By the end of the lesson, learners should be able to:**

1. Define the term "human circulatory system."

2. Draw parts of the human circulatory system.

3. Appreciate the importance of a healthy circulatory system.

**Key Inquiry Question(s):**

- What is the human circulatory system?

- What are the parts of the human circulatory system?

**Learning Resources:**

- Grade 6 science and technology curriculum design

- Diagrams of the human circulatory system

- Markers, whiteboard, and paper

- Interactive online animations or videos

**Organisation of Learning:**

**Introduction (5 minutes):**

- Begin by reviewing the previous lesson (e.g., the human body systems or nutrition). Ask students to recall what they learned and how it might relate to the circulatory system.

- Guide learners to read a brief paragraph from the textbook or a handout that introduces the human circulatory system and its importance, facilitating discussion around the key concepts.

**Lesson Development (25 minutes):**

**Step 1:** Define the Human Circulatory System

- Present the definition of the human circulatory system as the system responsible for transporting blood, nutrients, oxygen, carbon dioxide, and hormones throughout the body.

- Engage students by asking them why they think this system is important for human health.

**Step 2:** Identify and Draw Parts of the Circulatory System

- Show a diagram of the human circulatory system, labeling the heart, blood vessels (arteries, veins, capillaries), and blood.

- Guide students as they draw their own diagrams of the circulatory system in their notebooks, labeling each part correctly. Offer assistance as needed to ensure comprehension.

**Step 3:** The Importance of a Healthy Circulatory System

- Discuss factors that contribute to a healthy circulatory system (e.g., diet, exercise, avoiding smoking).

- Ask students to think about what can happen if the circulatory system is not healthy. Encourage them to share ideas in small groups.

**Step 4:** Class Discussion and Questions

- Facilitate a class discussion to clarify any misunderstandings and reinforce the learning objectives. Prompt students with open-ended questions, such as "How does regular exercise benefit our circulatory system?"

**Conclusion (5 minutes):**

- Summarize the key points discussed: definition, parts, and importance of the human circulatory system.

- Conduct a brief interactive quiz or a quick game (e.g., a “Circulatory System Relay”) where students answer questions in teams to reinforce the main topics.

- Preview the next session discussing the function of the heart in more detail and pose questions for students to think about (e.g., "What role does the heart play in circulation?").

**Extended Activities:**

- Creative Poster Project: Students create an informational poster about the human circulatory system, including illustrations, definitions, and facts about how to keep it healthy.

- Interactive Research Assignment: Students research one cardiovascular disease and present their findings to the class, including causes, effects, and prevention measures.

- Healthy Habits Journal: Have students keep a one-week journal tracking their exercise and dietary choices, relating their habits to circulatory health.

**Teacher Self-Evaluation:**

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**WEEK 5: LESSON 4**

**Strand:** Living Things and Their Environment

**Sub Strand:** Human Circulatory System

**Specific Learning Outcomes:**

**- By the end of the lesson, learners should be able to:**

1.Define the term human circulatory system.

2.Draw parts of the human circulatory system.

3. Appreciate the importance of a healthy circulatory system.

**Key Inquiry Questions:**

- What is the human circulatory system?

- What are the parts of the human circulatory system?

**Learning Resources:**

- Grade 6 science and technology curriculum design.

- Diagrams of the human circulatory system.

- Markers and paper for drawing.

**Organisation of Learning:**

**Introduction (5 minutes):**

- Review the previous lesson on the body's systems.

- Introduce the topic of the human circulatory system by asking students if they can name any parts they might already know. Guide them to read and discuss relevant content from the learning resources, emphasizing understanding key concepts.

**Lesson Development (25 minutes):**

**Step 1:** Define the Human Circulatory System

- Discuss the human circulatory system and its primary function: transporting blood, nutrients, and oxygen throughout the body.

- Encourage students to think about how the circulatory system connects with their overall health.

**Step 2:** Identify Parts of the Human Circulatory System

- Present key components: heart, blood vessels (arteries, veins, capillaries), and blood.

- Use a diagram to show how these parts work together. Ask students to identify these parts during the discussion.

**Step 3:** Drawing the Circulatory System

- Provide students with paper and markers to draw their own version of the human circulatory system.

- Ask them to label each part as they draw. Encourage creativity!

**Step 4:** Discussion of Healthy Circulatory Practices

- Talk about what keeps our circulatory system healthy (exercise, diet, avoiding tobacco, etc.).

- Invite students to share ideas on how they can maintain a healthy lifestyle.

**Conclusion (5 minutes):**

- Summarize key points: definition, parts of the circulatory system, and the importance of keeping it healthy.

- Conduct a quick interactive activity such as a "Circulatory System Quiz" where students can answer questions or identify parts from their drawings.

- Prepare learners for the next session by previewing topics such as "Nutrient Transport and the Role of Blood."

**Extended Activities:**

- Research Assignment: Have students research a circulatory system-related topic (e.g., diseases, the role of exercise) and present their findings to the class.

- Hands-on Activity: Set up a simple model of the circulatory system using tubing to demonstrate how blood flows, helping students visualize how each part functions in real life.

- Creative Writing: Ask students to write a short story or a diary entry from the perspective of a blood cell traveling through the circulatory system.

**Teacher Self-Evaluation:**

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**WEEK 6: LESSON 1**

**Strand:** Living Things and Their Environment

**Sub Strand:** Human Circulatory System

**Specific Learning Outcomes:**

**- By the end of the lesson, learners should be able to:**

1. Identify the main parts of the human circulatory system.

2. Watch video clips on the main parts of the human circulatory system.

3. Appreciate the importance of a healthy circulatory system.

**Key Inquiry Questions:**

- What are the main parts of the human circulatory system?

- How does each part contribute to overall health?

**Learning Resources:**

- Grade 6 science and technology curriculum design

- Video clips on the human circulatory system (e.g., YouTube educational videos)

- Diagrams of the human circulatory system

**Organisation of Learning:**

**Introduction (5 minutes):**

- Begin with a brief review of the previous lesson on human body systems. Ask students if they remember any other systems they discussed.

- Present a few key questions to engage learners: “What do you think keeps our blood moving?” or “Why is blood important?”

- Guide learners to read a brief excerpt from their learning resources that introduces the circulatory system.

**Lesson Development (25 minutes):**

**Step 1:** Introduction to the Circulatory System

- Explain that the circulatory system is responsible for transporting blood throughout the body.

- Introduce key terms: heart, blood vessels (arteries and veins), and blood.

- Show a simple diagram of the circulatory system and label the parts together.

**Step 2:** The Heart

- Discuss the role of the heart as the central organ of the circulatory system.

- Show a short video clip focusing on the heart’s structure and function.

- Discuss how the heart pumps blood and why it's important for living. Encourage students to ask questions and share what they learned from the video.

**Step 3:** Blood Vessels

- Explain the different types of blood vessels: arteries carry blood away from the heart, and veins carry blood toward the heart.

- Display a video or animated clip illustrating how blood flows through the body, mentioning how oxygen and nutrients are delivered to cells.

- Ask students to think about how lifestyle choices (like exercise and diet) might affect their circulatory health.

**Step 4:** The Importance of a Healthy Circulatory System

- Discuss the importance of maintaining a healthy circulatory system for overall well-being.

- Introduce concepts such as nutrition, exercise, and avoiding harmful substances.

- Invite students to share their ideas for keeping their heart healthy, possibly writing them on the board.

**Conclusion (5 minutes):**

- Summarize the key points covered: the parts of the circulatory system, the role of the heart, blood vessels, and the importance of a healthy lifestyle.

- Conduct a brief interactive quiz where students can match terms to their definitions or label a diagram of the circulatory system.

- Provide a preview of the next session: “Next time, we will explore how the circulatory system interacts with other body systems!”

**Extended Activities:**

- Draw a diagram: Have students create their own labeled diagrams of the human circulatory system.

- Healthy Heart Challenge: Encourage students to keep a log of their physical activities for one week, reflecting on how they contribute to a healthy circulatory system.

- Research Project: Assign students to research a heart-related disease and present their findings to the class.

**Teacher Self-Evaluation:**

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**WEEK 6: LESSON 2**

**Strand:** Living Things and Their Environment

**Sub Strand:** Human Circulatory System

**Specific Learning Outcomes:**

**- By the end of the lesson, learners should be able to:**

1. State functions of the main parts of the human circulatory system.

2. Use locally available materials to model the human circulatory system.

3.Appreciate the importance of a healthy circulatory system.

**Key Inquiry Question(s):**

- What are the main parts of the human circulatory system and their functions?

- How can we model the human circulatory system using materials available around us?

**Learning Resources:**

- Grade 6 Science and Technology Curriculum Design (textbook and supplementary materials)

**Organisation of Learning:**

**Introduction (5 minutes):**

- Review the previous lesson on the basic structure of living organisms.

- Guide learners to read and discuss the circulatory system by asking open-ended questions about what they already know and what they would like to learn.

**Lesson Development (25 minutes):**

**Step 1:** Introduction to Circulatory System Parts

- Introduce the main components of the circulatory system: the heart, blood vessels, and blood.

- Use diagrams from the textbook to visually display these parts.

- Engage students by asking, “What do you think each part does?”

**Step 2:** Functions of Each Component

- Discuss the functions of each part:

- Heart: Pumps blood throughout the body.

- Blood Vessels: Arteries carry blood away from the heart; veins carry blood to the heart; capillaries exchange nutrients and waste.

- Blood: Transports oxygen, nutrients, and waste.

- Use a matching activity where students match parts with their functions.

**Step 3:** Modeling the Circulatory System

- Present a simple task where students will create a model using locally available materials (e.g., straws for blood vessels, a balloon for the heart).

- Show them examples of how they can construct this model.

**Step 4:** Discussion on Healthy Circulatory System

- Discuss the importance of maintaining a healthy circulatory system (e.g., exercise, diet).

- Prompt students to consider how lifestyle choices can impact their hearts and overall health.

**Conclusion (5 minutes):**

- Summarize key points: the parts of the circulatory system and their functions, and the importance of keeping our circulatory system healthy.

- Conduct an interactive activity where students can share one thing they learned and one question they still have.

- Preview upcoming topics, such as diseases related to the circulatory system.

**Extended Activities:**

- Create a Poster: Students can create a poster on a specific part of the circulatory system and present it to the class.

- Healthy Habits Journal: Encourage students to keep a week-long journal of their exercise and eating habits and reflect on how these choices affect their health.

- Invite a Guest Speaker: Organize a visit from a healthcare professional to talk about heart health and diet.

**Teacher Self-Evaluation:**

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**WEEK 6: LESSON 3**

**Strand:** Living Things and Their Environment

**Sub Strand:** Human Circulatory System

**Specific Learning Outcomes:**

**- By the end of the lesson, learners should be able to:**

1.Identify parts of the heart.

2. Draw and label parts of the heart.

3. Appreciate the importance of parts of the heart.

**Key Inquiry Question(s):**

- What are the different parts of the heart as seen in pictures?

- How can we draw and label the heart accurately?

**Learning Resources:**

- Grade 6 science and technology curriculum design

- Diagrams of the heart

- Markers and paper for drawing

**Organization of Learning:**

**Introduction (5 minutes):**

- Begin by briefly reviewing the previous lesson about the circulatory system and its components.

- Engage learners in a discussion about the heart, prompting them to recall any prior knowledge they might have. Ask questions like, “What do you think the heart does?” and “Why is it important?”

**Lesson Development (25 minutes):**

**Step 1:** What is the Heart?

- Introduce the heart as a vital organ in the body. Explain its main function: to pump blood and circulate nutrients and oxygen throughout the body.

- Show students images of the heart and point out its location in the human body.

**Step 2:** Identifying the Parts of the Heart

- Present a labeled diagram of the heart.

- Guide students to identify and name the different parts: right atrium, left atrium, right ventricle, left ventricle, valves, and arteries.

- Ask students to repeat the names of the parts as they are pointed out in the diagram.

**Step 3:** Drawing and Labeling the Heart

- Instruct students to draw their own diagram of the heart on paper.

- Encourage them to replicate the parts they just learned and label each part correctly.

- Walk around the classroom to provide support and feedback on their drawings.

**Step 4:** Importance of Each Part of the Heart

- Discuss the function of each part of the heart and how they contribute to the overall function of the circulatory system.

- Encourage questions and facilitate a brief discussion on why it is important for each part to work correctly.

**Conclusion (5 minutes):**

- Summarize the key points discussed in the lesson, emphasizing the parts of the heart and their functions.

- Conduct a brief interactive activity, such as a "heart quiz" where students raise their hands to answer questions about the heart's parts and functions.

- Preview the next lesson: “How does blood flow through the heart?” Encourage students to think about why the heart needs to be strong and healthy for this process.

**Extended Activities:**

- Heart Model Project: Have students create a 3D model of the heart using clay or paper mache. They can label the parts and present their models to the class.

- Research Assignment: Encourage students to research famous heart-related diseases and their impact on health, making a presentation to share what they learned.

- Heart Health Journal: Students can keep a weekly journal about their physical activities and how these affect their heart health.

**Teacher Self-Evaluation:**

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**WEEK 6: LESSON 4**

**Strand:** Living Things and Their Environment

**Sub Strand:** Human Circulatory System

**Specific Learning Outcomes:**

**- By the end of the lesson, learners should be able to:**

1. Identify parts of the heart

2. Draw and label parts of the heart

3.Appreciate the importance of parts of the heart

**Key Inquiry Questions:**

- What are the parts of the heart?

- How does each part of the heart function?

**Learning Resources:**

- Grade 6 science and technology curriculum design

- Pictures and diagrams of the heart

**Organisation of Learning:**

**Introduction (5 minutes):**

- Start with a brief review of the previous lesson about the circulatory system and its importance.

- Engage learners in a discussion: "Why do we need our heart?" Encourage them to share ideas and thoughts.

- Introduce the topic for today: the parts of the heart and their functions.

**Lesson Development (25 minutes):**

**Step 1:** Identification of Heart Parts

- Present pictures and diagrams of the human heart.

- Guide the class to identify and name the main parts: left atrium, right atrium, left ventricle, right ventricle, aorta, pulmonary artery, and veins.

- Write the names on the board as students share their observations.

**Step 2:** Discussion of Function

- Discuss the function of each part identified in Step 1.

- Ask students why each part is important for the heart's job of pumping blood around the body.

- Encourage pairs to discuss which part they think is most important and why.

**Step 3:** Drawing the Heart

- Hand out blank paper and colored pencils.

- Instruct students to draw the heart and label its parts. Provide them with a reference image if needed.

**Step 4:** Class Sharing

- Invite students to share their drawings with the class.

- Allow volunteers to present their labeled diagrams and explain the function of one part they find interesting.

**Conclusion (5 minutes):**

- Summarize the key points discussed about the parts and functions of the heart.

- Conduct a quick interactive quiz: Ask questions like “Which part pumps blood to the body?” and “What is the function of the aorta?” to reinforce learning.

- Preview the next lesson: "How does blood flow through the heart?" Encourage students to think about this over the next few days.

**Extended Activities:**

- Create a Heart Model: Encourage students to create a 3D model of the heart using materials at home (e.g., clay, cardboard).

- Heart Health Poster: Have students design a poster focusing on how to keep the heart healthy, including diet, exercise, and lifestyle choices.

- Research Activity: Assign students to research a famous person with heart health issues and present their findings, focusing on the heart's importance.

**Teacher Self-Evaluation:**

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**WEEK 7: LESSON 1**

**Strand:** Living Things and Their Environment

**Sub Strand:** Human Circulatory System

**Specific Learning Outcomes:**

**- By the end of the lesson, learners should be able to:**

1. Identify parts of the heart.

2. Describe the functions of the parts of the heart.

3.Appreciate the importance of parts of the heart.

**Key Inquiry Questions:**

- What are the parts of the heart, such as auricles and ventricles?

- What are the functions of the different parts of the heart?

**Learning Resources:**

- Grade 6 Science and Technology Curriculum Design

- Diagrams of the heart

- Multimedia resources (videos or animations explaining the heart's function)

**Organisation of Learning:**

**Introduction (5 minutes):**

- Briefly review the content learned in the previous lesson related to living organisms and their environments.

- Pose questions related to the heart to engage student interest, such as: "Why do you think the heart is important?"

- Invite students to read and discuss content from their learning resources with a focus on identifying different parts of the heart.

**Lesson Development (25 minutes):**

**Step 1:** Identify the Parts of the Heart

- Introduce the main parts of the heart: auricles (atria), ventricles, valves, and major blood vessels.

- Use a labeled diagram to show these parts, asking students to point them out on their own diagrams.

**Step 2:** Discuss Functions of the Auricles

- Lead a group discussion on the role of the auricles in receiving blood.

- Create a chart on the board capturing students' responses to "What do auricles do?"

- Explain how they help pump blood into the ventricles.

**Step 3:** Explore the Functions of the Ventricles

- Explain that ventricles are responsible for pumping blood out of the heart: the right ventricle sends blood to the lungs, and the left ventricle sends blood to the rest of the body.

- Encourage students to compare and contrast the roles of the auricles and ventricles.

**Step 4:** Appreciate the Importance of the Heart

- Discuss why understanding the heart is essential for health and how it impacts other body systems.

- Use real-life examples to connect the importance of a healthy heart to students’ lives.

**Conclusion (5 minutes):**

- Summarize the main points covered about the parts and functions of the heart.

- Engage students in a quick quiz game where they must identify parts of the heart or describe functions.

- Preview the next lesson, which will cover how the circulatory system interacts with other systems in the body.

**Extended Activities:**

- Heart Model Activity: Students can create a 3D model of the heart using craft materials to visually represent the parts discussed.

- Heart Health Research Project: Students can research ways to maintain a healthy heart and present their findings in a short report or presentation.

- Guest Speaker: Invite a health professional to speak about cardiovascular health and fitness, allowing students to ask questions.

**Teacher Self-Evaluation:**

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**WEEK 7: LESSON 2**

**Strand:** Living Things and Their Environment

**Sub Strand:** Human Circulatory System

**Specific Learning Outcomes:**

**- By the end of the lesson, learners should be able to:**

1.Identify parts of the heart.

2. Describe the functions of the parts of the heart.

3.Appreciate the importance of the parts of the heart.

**Key Inquiry Questions:**

- What are the parts of the heart, such as auricles and ventricles?

- What are the functions of these parts of the heart?

**Learning Resources:**

- Grade 6 Science and Technology Curriculum Design

- Diagrams of the heart

- Interactive heart models (if available)

**Organisation of Learning:**

**Introduction (5 minutes):**

- Begin with a quick review of the previous lesson on the circulatory system.

- Ask students to brainstorm names of different parts of the heart.

- Guide learners to read a short passage from the learning resources about the heart, discussing its importance in the circulatory system.

**Lesson Development (25 minutes):**

**Step 1:** Identify Parts of the Heart

- Use a diagram of the heart to point out the auricles (atria) and ventricles.

- Have students label a blank heart diagram in groups.

- Discuss the role of each part with the class, ensuring clear understanding.

**Step 2:** Functions of the Auricles

- Explain that the auricles receive blood from the body and lungs.

- In small groups, discuss the importance of the auricles and how they cooperate with the ventricles.

**Step 3:** Functions of the Ventricles

- Discuss that the ventricles pump blood out of the heart: the right ventricle sends blood to the lungs, and the left ventricle sends blood to the rest of the body.

- Use an interactive model (if available) to demonstrate this process.

- Class discussion: What happens if the ventricles don’t work properly?

**Step 4:** Importance of a Healthy Heart

- Discuss why it is important to take care of the heart (e.g., exercise, healthy eating).

- Pose a question: "What can we do to keep our hearts healthy?" Allow students to share ideas.

**Conclusion (5 minutes):**

- Summarize the key points: the four main parts of the heart, their functions, and why they are important.

- Conduct a brief quiz in pairs where one student asks about a part's name or function, then switches roles to reinforce learning.

- Preview the next session: Exploring blood circulation and its journey through the body.

**Extended Activities:**

- Heart Model Creation: Have students create a 3D model of the heart using materials like clay or paper. They can label each part and explain its function.

- Healthy Heart Research Project: Assign students to research and present on what lifestyles or activities support a healthy circulatory system.

- “Day in the Life of Blood” Diary Entry: Ask students to write a diary entry from the perspective of a red blood cell, detailing its journey through the heart and body.

**Teacher Self-Evaluation:**

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**WEEK 7: LESSON 3**

**Strand:** Living Things and Their Environment

**Sub Strand:** Human Circulatory System

**Specific Learning Outcomes:**

**- By the end of the lesson, learners should be able to:**

1. Mention major blood vessels

2. Describe the functions of the major blood vessels

3.Appreciate the importance of a healthy circulatory system

**Key Inquiry Question(s):**

- What are the major blood vessels?

- What are the functions of the major blood vessels?

**Learning Resources:**

- Grade 6 science and technology curriculum design

- Diagrams of the human circulatory system

- Short video clip on blood flow in the circulatory system

**Organization of Learning:**

**Introduction (5 minutes):**

- Welcome students and briefly review the previous lesson on the human heart and its role in circulation.

- Ask students to share what they remember about the heart, leading into discussions about blood flow and major blood vessels.

- Introduce the day's topic by guiding learners to read relevant content from the curriculum resources, emphasizing key concepts about blood vessels.

**Lesson Development (25 minutes):**

**Step 1:** Identify the Major Blood Vessels

- Present a diagram of the circulatory system.

- Discuss and label the following major blood vessels: arteries, veins, and capillaries.

- Encourage students to name and describe where each blood vessel is located and its role in the circulatory system.

**Step 2:** Discuss the Functions of Arteries

- Explain that arteries carry oxygen-rich blood away from the heart.

- Ask students why it's essential for our body to receive oxygen and what happens if the body lacks oxygen.

**Step 3:** Discuss the Functions of Veins

- Describe how veins carry deoxygenated blood back to the heart.

- Engage students in a discussion about how the body gets rid of carbon dioxide and the importance of this process.

**Step 4:** Discuss the Role of Capillaries

- Explain that capillaries connect arteries and veins.

- Describe their function in enabling the exchange of oxygen, carbon dioxide, nutrients, and waste products between blood and body cells.

- Allow students to ask questions to clarify their understanding.

**Conclusion (5 minutes):**

- Summarize the key points: the names and functions of the major blood vessels.

- Conduct a brief interactive activity, such as a "Think-Pair-Share," where students discuss what they've learned about blood vessels with a partner.

- Prepare learners for the next session by previewing topics such as the role of blood in the body and the importance of maintaining a healthy circulatory system.

**Extended Activities:**

- Create a Model: Students can create a simple model of the circulatory system using materials like straws (for blood vessels) and balloons (for the heart).

- Research Project: Assign students to research diseases related to the circulatory system, such as hypertension or anemia, and prepare a short presentation to share with the class.

- Healthy Habits Chart: Have students create a chart that lists healthy habits that support a healthy circulatory system, such as exercise, balanced diet, and hydration.

**Teacher Self-Evaluation:**

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**WEEK 7: LESSON 4**

**Strand:** Living Things and Their Environment

**Sub Strand:** Human Circulatory System

**Specific Learning Outcomes:**

**- By the end of the lesson, learners should be able to:**

1.Identify major blood vessels (arteries, veins, capillaries)

2. Understand the functions of major blood vessels

3. Appreciate the importance of a healthy circulatory system

**Key Inquiry Question(s):**

- What are the major blood vessels in the human body?

- What roles do arteries, veins, and capillaries play in our circulatory system?

**Organisation of Learning:**

**Introduction (5 minutes):**

- Begin with a brief review of the previous lesson about the human body and its systems.

- Engage the learners by asking them if they can name any blood vessels and what they know about them.

- Introduce the topic: Explain that today’s focus will be on the human circulatory system and its major blood vessels. Use a few visuals from the learning resources to spark interest.

**Lesson Development (25 minutes):**

**Step 1:** Introduction to Blood Vessels

- Show a video clip that explains blood vessels (arteries, veins, capillaries) and their functions.

- After the video, ask students to discuss in pairs: What did they learn about each type of blood vessel?

**Step 2:** Functions of Arteries

- Explain the function of arteries in delivering oxygen-rich blood away from the heart.

- Discuss how the structure of arteries supports their function (thicker walls, elastic tissue).

- As a quick reinforcement, ask students to draw a simple diagram of an artery and label it.

**Step 3:** Functions of Veins

- Describe how veins carry deoxygenated blood back to the heart.

- Discuss the presence of valves in veins and their importance in preventing backflow of blood.

- Students can work in pairs to create an analogy for how veins work (e.g., a one-way street).

**Step 4:** Functions of Capillaries

- Introduce capillaries as tiny blood vessels where gas exchange occurs.

- Explain the importance of capillaries in delivering nutrients to cells and removing waste products.

- Students can write one sentence explaining why capillaries are essential to the circulatory system.

**Conclusion (5 minutes):**

- Summarize the key points discussed: the three types of blood vessels and their functions.

- Conduct a brief interactive activity: ask students to match photos of blood vessels to their names and functions in a quick quiz format.

- Introduce the next topic: the relationship between the circulatory system and overall health.

**Extended Activities:**

- Create a Model: Students can create a simple 3D model of the circulatory system using common materials to illustrate how blood flows through arteries, veins, and capillaries.

- Research Project: Assign students to research a cardiovascular condition (like hypertension or atherosclerosis) and present their findings to the class.

- Healthy Habits Campaign: Design a campaign poster promoting heart-healthy habits and why maintaining a healthy circulatory system is important.

**Teacher Self-Evaluation:**

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**WEEK 9: LESSON 1**

**Strand:** Living Things and Their Environment

**Sub Strand:** Human Circulatory System

**Specific Learning Outcomes:**

**- By the end of the lesson, learners should be able to:**

1.Identify the components of blood

2.Explain the functions of the components of blood vessels

3.Appreciate the importance of a healthy circulatory system

**Key Inquiry Question(s):**

- What are the components of blood?

- How do the components of blood function?

**Learning Resources:**

- Grade 6 science and technology curriculum design

- Pictures of blood components (red blood cells, white blood cells, platelets)

**Organization of Learning:**

**Introduction (5 minutes):**

- Review the previous lesson on the general function of living systems.

- Ask students what they remember about blood and its role in the body.

- Guide learners to read and discuss relevant content from the learning resources, stressing the three main components of blood.

**Lesson Development (25 minutes):**

**Step 1:** Identify the Components of Blood

- Introduce the three main components of blood: red blood cells, white blood cells, and platelets.

- Show pictures of each component and ask students to describe what they see.

- Discuss how many red blood cells are present in a single drop of blood.

**Step 2:** Explore Functions of Red Blood Cells

- Explain the role of red blood cells in transporting oxygen from the lungs to the rest of the body.

- Engage students in a quick experiment by having them breathe deeply and feeling their pulse to understand oxygen flow.

- Highlight the importance of hemoglobin in red blood cells.

**Step 3:** Discuss Functions of White Blood Cells

- Introduce white blood cells and their critical role in fighting infection.

- Discuss different types of white blood cells (like lymphocytes and neutrophils) briefly.

- Share a quick story about how the body fights off a cold with white blood cells.

**Step 4:** Learn About Platelets

- Explain the function of platelets in blood clotting and preventing bleeding when injured.

- Use a simple analogy (like a plug in a sink) to help students visualize how platelets work.

- Optionally, show a short video clip demonstrating how blood clots form.

**Conclusion (5 minutes):**

- Summarize key points regarding the components of blood and their functions.

- Ask students questions like, "Why is it important to have healthy blood?" to recap learning objectives.

- Conduct a brief interactive activity such as a true/false quiz on the blood components discussed to reinforce understanding.

- Prepare learners for the next session by giving a preview of the heart's role in the circulatory system.

**Extended Activities:**

- Blood Component Models: Have students create models of red blood cells, white blood cells, and platelets using clay or other art supplies.

- Healthy Circulatory System Research Project: Students research how lifestyle choices impact the circulatory system and present their findings.

- Blood Component Role-Play: In groups, have students role-play as different blood components and demonstrate how they work together in scenarios, such as during an injury.

**Teacher Self-Evaluation:**

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**WEEK 9: LESSON 2**

**Strand:** Living Things and Their Environment

**Sub Strand:** Human Circulatory System

**Specific Learning Outcomes:**

**- By the end of the lesson, learners should be able to:**

1. Identify the components of blood

2. Watch video clips on the functions of the components of blood vessels

3.Appreciate the importance of a healthy circulatory system

**Key Inquiry Question(s):**

- What are the components of blood?

- How do the components of blood vessels function?

**Learning Resources:**

- Grade 6 Science and Technology Curriculum Design

- Video Clips (e.g., educational videos on blood components and circulatory system functions)

**Organisation of Learning:**

**Introduction (5 minutes):**

- Review the previous lesson on the basic functions of the circulatory system.

- Guide learners to read and discuss relevant content from the curriculum design, focusing on the components of blood (red blood cells, white blood cells, platelets, plasma).

**Lesson Development (25 minutes):**

**Step 1:** Introduction to Blood Components

- Begin by introducing the four main components of blood: red blood cells, white blood cells, platelets, and plasma.

- Ask students to brainstorm what they might already know about these components and write their responses on the board.

**Step 2:** Functions of Blood Components

- Divide the students into small groups and assign each group a specific component of blood (e.g., one group for red blood cells, another for white blood cells).

- Provide resources or allow them to watch brief video clips (2-3 minutes each) related to the functions of their assigned component.

**Step 3:** Group Presentations

- Have each group present their findings on the functions of their blood component to the class.

- Encourage questions and discussions to enhance understanding.

**Step 4:** Importance of a Healthy Circulatory System

- Discuss the importance of maintaining a healthy circulatory system.

- Highlight lifestyle choices (e.g., exercise, diet) that positively impact heart health and circulation.

**Conclusion (5 minutes):**

- Summarize the key points: the components of blood and their functions, and why a healthy circulatory system is important.

- Conduct a brief interactive activity, such as a "blood component matching game" where students match components to their functions.

- Preview the next session's topic by asking students to think about the heart's structure and how it supports the functions of the circulatory system.

**Extended Activities:**

- Creative Project: Have students create a model of the circulatory system using craft materials. They can label the components and provide a brief description of their functions.

- Research Assignment: Each student can choose one component of blood to research further and prepare a short presentation on interesting facts or recent scientific findings related to that component.

- Healthy Choices Chart: Create a chart where students can list healthy habits they can practice to keep their circulatory system healthy, and share it in the next class.

**Teacher Self-Evaluation:**

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**WEEK 9: LESSON 3**

**Strand:** Living Things and Their Environment

**Sub Strand:** Human Circulatory System

**Specific Learning Outcomes:**

**- By the end of the lesson, learners should be able to:**

1.Outline common healthy conditions of the human circulatory system.

2.Watch video clips on symptoms and prevention of common health conditions of the human circulatory system.

3.Appreciate the importance of a healthy circulatory system.

**Key Inquiry Questions:**

- What are the common healthy conditions of the human circulatory system?

- How can we recognize symptoms and prevent issues related to the circulatory system?

**Organization of Learning:**

**Introduction (5 minutes):**

- Review the previous lesson on human body systems, focusing on how they work together.

- Guide learners to read and discuss selected sections from the Grade 6 science and technology curriculum related to the circulatory system.

**Lesson Development (25 minutes):**

**Step 1:** Introduction to the Circulatory System

- Start with a brief overview of the circulatory system's main components (heart, blood vessels, and blood).

- Discuss the function of the circulatory system in delivering oxygen and nutrients to cells.

**Step 2:** Identifying Healthy Conditions

- List and describe common healthy conditions of the circulatory system (e.g., regular blood pressure, healthy cholesterol levels).

- Use a chart to visually represent these conditions, emphasizing their importance for overall health.

**Step 3:** Symptoms and Prevention

- Show video clips that illustrate symptoms of conditions such as high blood pressure and heart disease.

- Discuss preventive measures (e.g., regular exercise, healthy diet) that help maintain a healthy circulatory system.

**Step 4:** Group Discussion

- In small groups, have students discuss what they learned about the symptoms and preventive measures.

- Ask each group to share one key takeaway with the class.

**Conclusion (5 minutes):**

- Summarize the key points discussed: importance of a healthy circulatory system, common conditions, and prevention strategies.

- Conduct a brief interactive quiz using questions from the lesson.

- Preview the next session on the impact of lifestyle choices on circulatory health.

**Extended Activities:**

- Research Project: Have students research a specific condition of the circulatory system (e.g., hypertension). They can create a poster detailing symptoms, consequences if untreated, and prevention methods.

- Healthy Lifestyle Challenge: Encourage students to create a healthy habits chart for one week, tracking their daily exercise and food intake to see how they can improve their circulatory health.

**Teacher Self-Evaluation:**

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**WEEK 9: LESSON 4**

**Strand:** Living Things and Their Environment

**Sub-Strand:** Human Circulatory System

**Specific Learning Outcomes:**

**- By the end of the lesson, learners should be able to:**

1. Identify the importance of a healthy circulatory system.

2.Develop a routine plan for maintaining a healthy circulatory system.

3.Appreciate the importance of a healthy circulatory system.

**Key Inquiry Questions:**

- Why is a healthy circulatory system important?

- How can we maintain a healthy circulatory system?

**Learning Resources:**

- Grade 6 science and technology curriculum design

- Visual aids (diagrams of the circulatory system)

- Videos on circulatory system functions

**Organisation of Learning:**

**Introduction (5 minutes):**

- Review the previous lesson on body systems.

- Introduce the topic of the circulatory system, asking students what they know about it.

- Engage students in a short discussion about the role of the heart, blood, and blood vessels.

**Lesson Development (25 minutes):**

**Step 1:** Importance of the Circulatory System

- Discuss functions of the circulatory system (transporting oxygen, nutrients, and removing waste).

- Ask students to list why these functions are vital for the body.

- Create a visual chart on the board highlighting the key functions of the circulatory system.

**Step 2:** Consequences of an Unhealthy Circulatory System

- Explain the problems caused by an unhealthy circulatory system (e.g., heart disease, high blood pressure).

- Facilitate a think-pair-share where students discuss how unhealthy habits (like poor diet and lack of exercise) can impact the circulatory system.

- Use a simple case study: discuss a fictional character who neglected their health.

**Step 3:** Developing a Healthy Routine Plan

- Guide students in brainstorming ways to maintain a healthy circulatory system (exercise, balanced diet, hydration, avoiding tobacco).

- Have students create their own healthy lifestyle plan on paper that includes daily and weekly activities.

- Share a few plans with the class for peer feedback.

**Conclusion (5 minutes):**

- Summarize key points about the circulatory system's importance and how to keep it healthy.

- Conduct a brief interactive quiz (using slips of paper with true/false statements) to reinforce learning.

- Preview the next lesson topic: "How does the heart work?" and pose guiding questions such as, "What do you think happens to our blood during exercise?"

**Extended Activities:**

- Research Project: Have students choose a health-related topic (such as heart diseases or nutrition) and prepare a short presentation to share with classmates.

- Field Trip: Organize a trip to a local health center or invite a guest speaker (such as a healthcare professional) to talk about heart health and prevention.

- Healthy Eating Challenge: Encourage students to track their food intake for a week, aiming to include heart-healthy foods, and share their experiences with the class.

**Teacher Self-Evaluation:**

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**WEEK 10: LESSON 1**

**Strand:** Living Things and Their Environment

**Sub Strand:** Human Circulatory System

**Specific Learning Outcomes:**

**- By the end of the lesson, learners should be able to:**

1.Identify the importance of a healthy circulatory system.

2. Develop a routine plan for maintaining a healthy circulatory system.

-3.Appreciate the importance of a healthy circulatory system.

**Key Inquiry Questions:**

- What is the importance of a healthy circulatory system?

- How can we develop a routine plan for maintaining a healthy circulatory system?

**Learning Resources:**

- Grade 6 science and technology curriculum design

- Diagrams of the circulatory system

- Health pamphlets on heart health

- Access to online resources (e.g., educational videos)

**Organisation of Learning:**

**Introduction (5 minutes):**

- Start with a brief review of the previous lesson on the human body systems. Ask students to name the systems we've discussed and how they relate to each other.

- Introduce the circulatory system: Ask students what they already know about it and its role in the body. Use this discussion to guide them into reading and discussing content from the learning resources that highlight the key concepts.

**Lesson Development (25 minutes):**

**Step 1:** Importance of the Circulatory System

- Discuss the role of the circulatory system in transporting blood, nutrients, oxygen, and waste across the body.

- Use a diagram to show the parts of the circulatory system (heart, blood vessels, etc.).

- Engage students by asking why they think a healthy circulatory system is essential. Compile their thoughts on the board (e.g., energy, overall health).

**Step 2:** Factors Affecting Circulatory Health

- Introduce common factors that can affect heart health, such as diet, exercise, smoking, and stress.

- Create small groups, and let each group discuss one factor. Have them find ways this factor can harm or help the circulatory system and then share with the class.

**Step 3:** Developing a Healthy Routine

- Guide students in brainstorming a healthy routine. On the board, list activities that can improve heart health (e.g., eating fruits and vegetables, drinking water, exercising regularly).

- Discuss how long and how often these activities should be done each week for optimal health (like 30 minutes of exercise most days).

**Step 4:** Appreciating Heart Health

- Explore how a healthy circulatory system contributes to a better quality of life.

- Discuss empathy and support for those with circulatory problems, emphasizing the importance of taking care of one’s own heart while being aware of others' needs.

**Conclusion (5 minutes):**

- Summarize key points discussed: the function of the circulatory system, factors affecting its health, and ways to maintain it.

- Conduct a quick interactive activity like a “Heart Healthy Pledge,” where each student states one commitment they will make to keep their circulatory system healthy.

- Preview the next session’s topic, hinting at the exploration of related systems like the respiratory system and how they work together with the circulatory system.

**Extended Activities:**

- Art Project: Create a "Heart Health Poster" showcasing different aspects of maintaining a healthy heart and circulatory system (e.g., healthy foods, exercise).

- Research Assignment: Each student can choose a specific heart condition to research and present its impact on the body and ways to prevent it.

- Journaling Activity: Maintain a weekly health journal, documenting their physical activities and choices related to diet and lifestyle that support a healthy circulatory system.

**Teacher Self-Evaluation:**

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**WEEK 10: LESSON 2**

**Strand:** Matter

**Sub Strand:** Change of State

**Specific Learning Outcomes:**

**- By the end of the lesson, learners should be able to:**

1. State the meaning of change of state of matter

2. Watch video clips of changes of the state of matter

3. Appreciate applications of change of state of matter

**Key Inquiry Questions:**

- What does "change of state of matter" mean?

- Can you describe some examples of how matter changes states?

**Learning Resources:**

- Grade 6 science and technology curriculum design

**Organisation of Learning:**

**Introduction (5 minutes):**

- Begin with a brief review of the previous lesson on the states of matter (solid, liquid, gas).

- Ask learners to brainstorm what they think "change of state" means—write down their responses on the board.

- Guide learners to read and discuss any relevant content from the learning resources, emphasizing key concepts like melting, freezing, evaporation, condensation, and sublimation.

**Lesson Development (25 minutes):**

**Step 1:** Definition and Explanation

- Provide a clear definition of "change of state": The process by which matter changes from one state to another (e.g., solid to liquid, liquid to gas, etc.).

- Discuss the concepts of temperature and pressure and their role in these changes.

**Step 2:** Video Clips

- Show short video clips illustrating different changes of state (e.g., ice melting, water boiling, clouds forming).

- Pause after each clip to ask students questions about what they saw and ensure understanding.

**Step 3:** Group Discussion

- Split students into small groups. Ask each group to discuss real-life examples of changes of state, such as ice cream melting or water turning into steam.

- Invite each group to share their examples with the class.

**Step 4:** Application Activity

- Provide examples of everyday products that rely on changes of state (e.g., refrigerators, air conditioners).

- Discuss why understanding changes of state is important in various industries (food, manufacturing, etc.).

**Conclusion (5 minutes):**

- Summarize key points: Define "change of state" and highlight examples discussed in class.

- Conduct a brief interactive activity, such as a quick quiz or a true or false game related to the lesson.

- Preview the next session on more in-depth exploration of a specific change of state (e.g., water cycle).

**Extended Activities:**

- Experiment: Students can create a simple experiment by freezing different liquids to see how their states change from liquid to solid, documenting the process and outcomes.

- Creative Writing: Students can write a short story from the perspective of a water droplet experiencing changes of state (e.g., melting, evaporating) through the water cycle.

- Science Journal: Encourage students to keep a science journal where they can document and draw the changes of state they observe at home over a week.

**Teacher Self-Evaluation:**

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**WEEK 10: LESSON 3**

**Strand:** Matter

**Sub Strand:** Change of State

**Specific Learning Outcomes:**

**- By the end of the lesson, learners should be able to:**

1. State the meaning of change of state of matter.

2. Watch video clips of changes of the state of matter.

3. Appreciate applications of change of state of matter.

**Key Inquiry Questions:**

- What does "change of state" mean?

- How do we observe changes in the state of matter around us?

**Learning Resources:**

- Grade 6 science and technology curriculum design

- Video clips demonstrating changes of state (e.g., melting, freezing, evaporation, condensation)

**Organisation of Learning:**

**Introduction (5 minutes):**

- Begin with a brief review of the previous lesson on matter, asking students to recall what they learned about solids, liquids, and gases.

- Introduce the topic of "change of state" by guiding learners to read and discuss relevant content from the learning resources, focusing on the key inquiry questions.

**Lesson Development (25 minutes):**

**Step 1:** Define Change of State

- Engage students in a discussion to define "change of state." Ask: What happens when ice melts?

- Write their responses on the board and guide them to the official definition.

**Step 2:** Identify Changes of State

- Introduce the different types of changes (melting, freezing, evaporation, condensation, sublimation).

- Display images or sketches for each change of state and ask students to match the process to the image.

**Step 3:** Watch Video Clips

- Show brief video clips that illustrate each change of state (e.g., ice melting, water boiling, dew forming).

- After each clip, pause to discuss what they observed and reinforce vocabulary.

**Step 4:** Applications of Change of State

- Discuss real-life applications of these changes (e.g., how ice is used to keep drinks cold, how evaporation helps in cooling).

- Encourage students to think of other examples they observe in their daily lives.

**Conclusion (5 minutes):**

- Summarize key points and objectives achieved during the lesson, reiterating what change of state means and examples of how it applies.

- Conduct a brief interactive activity where students can physically illustrate a change of state using a cube of ice (melting it or pouring hot water over it) and noting the observations.

- Quick preview of the next topic: "What happens to water when it heats up?"

**Extended Activities:**

1. Experiment Assignment:

- Students can conduct a simple experiment at home to observe melting (e.g., ice cubes in different environments) and record their observations about the time each ice cube takes to melt.

2. Creative Writing:

- Ask students to write a short story or a comic strip that includes at least three different changes of state.

3. Art Project:

- Create a poster showcasing the changes of state with drawings or images of each state change and real-life examples.

**Teacher Self-Evaluation:**

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**WEEK 10: LESSON 4**

**Strand:** Matter

**Sub Strand:** Change of State

**Specific Learning Outcomes:**

**- By the end of the lesson, learners should be able to:**

1.Identify the changes of state when substances are heated.

2. Carry out activities to demonstrate change of state of matter when heated.

3.Appreciate applications of change of state of matter.

**Key Inquiry Questions:**

- What happens to a substance when it is heated?

- How can we demonstrate change of state in matter?

**Learning Resources:**

- Grade 6 science and technology curriculum design

- Common household items for demonstrations (ice, water, kettle, etc.)

**Organization of Learning:**

**Introduction (5 minutes):**

- Quickly review the previous lesson on states of matter (solid, liquid, gas).

- Discuss what students remember about changes in state and why they occur, prompting students to think about when they have seen these changes in their daily lives.

**Lesson Development (25 minutes):**

**Step 1:** Introduction to Heating and Matter

- Explain that heating a substance can cause it to change its state. Discuss the three main changes: melting (solid to liquid), evaporating (liquid to gas), and sublimation (solid to gas).

- Ask students for examples of each change (e.g., ice melting to water).

**Step 2:** Demonstration of Melting

- Conduct a simple demonstration using ice cubes and a heat source (like a sunny window or a lamp).

- Ask students to observe what happens to the ice cubes as they start to melt. Discuss their observations as a class.

**Step 3:** Evaporation Experiment

- Set up a small pot of water on the stove or hot plate (safely managed by the teacher) and bring it to a boil.

- While waiting for it to boil, explain the process of evaporation. Discuss how water turns into steam, the gas phase, when heat is applied.

**Step 4:** Application and Reflection

- Have students think-pair-share their ideas on how these changes of state could be useful in real life (e.g., cooking, weather patterns).

- Engage students in a discussion about everyday applications, such as how evaporation helps in cooling, or how melting is used in food preparation.

**Conclusion (5 minutes):**

- Summarize the key points: states of matter, heating effects, and examples of changes of state.

- Conduct a brief interactive activity, such as a quiz or brainstorming session where students shout out examples of change of states they've seen.

- Preview the next lesson, which will explore the reverse processes (cooling and freezing).

**Extended Activities:**

- Conduct an at-home experiment where students observe the melting of ice and the evaporation of water in different conditions (e.g., sunny vs. cloudy).

- Create a poster that outlines the different states of matter and the changes involved with heating and cooling.

**Teacher Self-Evaluation:**

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**WEEK 11: LESSON 1**

**Strand:** Matter

**Sub Strand:** Change of State

**Specific Learning Outcomes:**

**- By the end of the lesson, learners should be able to:**

1. Identify the changes of state when substances are cooled.

2. Carry out activities to demonstrate change of state of matter when cooled.

3. Appreciate applications of change of state of matter.

**Key Inquiry Question(s):**

- What happens to a substance when it is cooled?

- How can we demonstrate change of state?

**Learning Resources:**

- Grade 6 science and technology curriculum design

- Ice, water, and various substances that change state (e.g. wax crayons, chocolate)

**Organisation of Learning:**

**Introduction (5 minutes):**

- Review the previous lesson on the states of matter (solid, liquid, gas).

- Ask students to recall examples of each state and discuss their properties.

- Briefly introduce the idea of how cooling can change states, prompting students to share any prior knowledge.

**Lesson Development (25 minutes):**

**Step 1:** Understanding Cooling and State Changes

- Discuss what happens to particles in each state of matter when cooled. Explain that cooling slows down the particles.

- Show visuals or animations demonstrating molecules in solids, liquids, and gases when they are cooled.

**Step 2:** Demonstration of Cooling

- Conduct a live demonstration:

- Use ice to show the change from solid to liquid (melting) and then refreeze to get back to solid.

- Show how cooling chocolate will solidify it again after melting.

- Ask students to observe and take notes on the changes they see.

**Step 3:** Hands-On Activity

- Divide the class into small groups. Give each group substances like ice, water, and melted chocolate.

- Instruct them to perform the cooling demonstrations themselves:

- Melt the chocolate and observe its state change.

- Freeze the melted chocolate to see it go back to solid.

- Encourage students to discuss what they observe in their groups.

**Step 4:** Real-World Applications

- Discuss where we see changes of state in everyday life (e.g., in cooking, weather).

- Ask students to share their thoughts on why understanding these changes might be useful in real life (e.g., in food preservation, construction, etc.).

**Conclusion (5 minutes):**

- Summarize the key points:

- How cooling affects the state of matter.

- The relationship between temperature and particle motion in solids, liquids, and gases.

- Engage students in an interactive quiz (e.g., raise hands for true/false questions related to the lesson).

- Preview the next session: "What happens when substances are heated?" and encourage them to think about examples they observe in daily life related to heating.

**Extended Activities:**

- Research Task: Assign students to research different materials that change states and present their findings in the next class.

- Creative Project: Have students create a poster illustrating the process of cooling and the changes in states of matter with relevant images and descriptions.

**Teacher Self-Evaluation:**

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**WEEK 11: LESSON 2**

**Strand:** Matter

**Sub Strand:** Change of State

**Specific Learning Outcomes:**

**- By the end of the lesson, learners should be able to:**

1.Outline the changes and applications of the change of state of matter.

2. Search for information using digital devices on applications of the change of state of matter.

3. Appreciate the applications of change of state of matter in everyday life.

**Key Inquiry Questions:**

- What are the different applications of the change of state of matter?

- How can we find information on these applications using digital devices?

**Learning Resources:**

- Grade 6 Science and Technology Curriculum Design

- Internet-enabled devices (for research)

- Visual aids for illustrating changes in states of matter (charts, diagrams)

**Organisation of Learning:**

**Introduction (5 minutes):**

- Begin the lesson by reviewing the previous lesson on matter. Ask students to recall the three primary states of matter: solid, liquid, and gas.

- Discuss the concept of changing states (melting, freezing, evaporation, condensation) and ask students how they encounter these processes in daily life.

**Lesson Development (25 minutes):**

**Step 1:** Define Changes of State

- Introduce the concept of change of state. Explain terms such as melting, freezing, evaporation, condensation, and sublimation with simple definitions.

- Use a brief visual presentation to illustrate these concepts dynamically.

**Step 2:** Explore Real-Life Applications

- Divide the class into small groups. Assign each group a specific change of state (e.g., melting — ice to water, evaporation — water to steam).

- Encourage groups to discuss how this change of state is useful in everyday life (e.g., cooking, weather).

- After discussion, each group shares their findings with the class.

**Step 3:** Research Activity

- Introduce a technology component. Ask students to use tablets or computers to find an example of how a change of state is applied in technology or industry (e.g., refrigeration, distillation).

- Encourage students to find at least one interesting fact about their chosen application and be ready to present it.

**Step 4:** Present and Discuss Findings

- Invite groups to present their research findings to the class.

- Facilitate a discussion on the variety of applications of the change of state they discovered, highlighting the interconnectedness of science with real-world applications.

**Conclusion (5 minutes):**

- Summarize the key points discussed in the lesson. Reinforce the importance of understanding the changes of state and their applications.

- Conduct a brief interactive activity, such as a quiz or a simple Q&A where students can answer questions based on what they learned.

- Preview the next lesson, which will cover the impact of temperature on changes of state, and encourage students to think about other states of matter they encounter daily.

**Extended Activities:**

- Create a series of illustrations or a comic strip that depicts one change of state in a fun, engaging way.

- Assign students to track and report real-life examples of changes of state they observe over a week (e.g., ice melting, water boiling).

- Have students create a simple experiment at home that demonstrates a change of state, like making ice cream or boiling water, and present their findings in the next class.

**Teacher Self-Evaluation:**

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**WEEK 11: LESSON 3**

**Strand:** Matter

**Sub-Strand:** Change of State

**Specific Learning Outcomes:**

**- By the end of the lesson, learners should be able to:**

1. Identify the importance of change of state of matter.

2. Observe safety measures when changing matter from one state to another.

3. Appreciate applications of change of state of matter.

**Key Inquiry Questions:**

- Why is change of state important in our everyday lives?

- What safety measures should we follow when changing matter from one state to another?

**Learning Resources:**

- Grade 6 science and technology curriculum design

- Science textbooks and online resources

- Safety guidelines for simple experiments

**Organisation of Learning:**

**Introduction (5 minutes):**

- Review the previous lesson on the states of matter (solid, liquid, gas).

- Guide learners to read and discuss relevant content from the curriculum, emphasizing the significance and applications of changing states.

**Lesson Development (25 minutes):**

**Step 1:** Introduction to Change of State

- Introduce the concept of change of state (melting, freezing, evaporating, condensing).

- Discuss real-life examples (e.g., ice melting into water, water boiling into steam).

- Encourage students to think about where they see these changes in everyday life.

**Step 2:** Importance of Change of State

- Discuss why understanding change of state is essential (e.g., cooking, weather patterns, the water cycle).

- In small groups, have students list examples of where they notice changes of state and how it affects them or their environment.

**Step 3:** Safety Measures

- Introduce safety measures to follow during simple experiments (e.g., wearing goggles, not touching hot items, handling materials safely).

- Show a short video or demonstration that includes an important safety lesson related to changing states (for example, boiling water).

**Step 4:** Applications of Change of State

- Discuss various applications in everyday life, such as refrigeration, weather forecasting, and industrial processes.

- Ask students to think of a situation where changing states of matter helps solve a problem (e.g., ice packs to reduce swelling).

**Conclusion (5 minutes):**

- Summarize key points covered in the lesson: types of state changes, importance in daily life, and safety measures.

- Conduct a brief interactive activity, such as a quick quiz or a think-pair-share, to reinforce understanding.

- Prepare learners for the next session with a preview of upcoming topics or questions: “What happens during a phase change?”

**Extended Activities:**

- Create a "Change of State" poster: Students draw or create a poster illustrating different changes of state with examples and explanations.

- Conduct a simple home experiment (with parental guidance), such as freezing water to make ice or melting chocolate, and share observations in class.

- Explore the water cycle in depth by researching and presenting how water transitions through different states in nature.

**Teacher Self-Evaluation:**

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**WEEK 11: LESSON 4**

**Strand:** Matter

**Sub Strand:** Change of State

**Specific Learning Outcomes:**

**- By the end of the lesson, learners should be able to:**

1. Identify the importance of change of state of matter.

2. Observe safety measures when changing matter from one state to another.

3.Appreciate applications of change of state of matter.

**Key Inquiry Question(s):**

- Why is it important to understand the change of state of matter?

- What safety measures should we observe when changing matter from one state to another?

**Learning Resources:**

- Grade 6 science and technology curriculum design

- Printable safety measure handouts

- Visual aids (diagrams of different states of matter)

**Organisation of Learning:**

**Introduction (5 minutes):**

- Begin by reviewing the previous lesson on matter and states. Encourage students to share what they remember.

- Read relevant content about changes of state from the learning resources and discuss key concepts as a class, such as melting, freezing, evaporation, condensation, and sublimation.

**Lesson Development (25 minutes):**

**Step 1:** Group Discussion

- Break students into small groups.

- Each group discusses the importance of changing states of matter in everyday life (e.g., cooking, weather changes).

**Step 2:** Safety Measures Brainstorming

- Ask each group to brainstorm and write down 5 safety measures to take when changing matter from one state to another (e.g., using gloves when touching hot substances, working in a well-ventilated area).

- Groups will share their ideas with the class.

**Step 3:** Practical Demonstration

- Conduct a simple demonstration such as melting ice to water. Discuss what is happening to the molecules during the change of state.

- Encourage students to identify safety measures they observed during the demonstration.

**Step 4:** Applications Discussion

- As a whole class, discuss how understanding changes in states of matter can affect areas such as environmental science, cooking, or industry.

**Conclusion (5 minutes):**

- Summarize the key points regarding the importance of understanding changes of state and the safety precautions to consider.

- Engage students in an interactive quiz or game (e.g., Kahoot or a simple Q&A) to reinforce what they learned.

- Briefly inform learners about the next session on states of matter in real-world applications, encouraging them to think about where they see these changes in their daily lives.

**Extended Activities:**

- Create a Safety Poster: Students design a poster that includes safety measures when changing states of matter, which can be displayed in the classroom.

- Change of State Experiment: Students conduct a simple experiment at home (such as making ice cream) and present the results in the next class, describing the changes of state that occur during the process.

- Research Project: Assign students a project to research a specific application of matter changing states and present their findings to the class.

**Teacher Self-Evaluation:**