Vision Empower & XRCVC

Teacher Instruction KIT

Waste is Wealth

Syllabus: Karnataka State Board
Subject: Environmental Science
Grade: 4
Textbook Name: Karnataka State Board
Chapter Number & Name: 11.Waste is Wealth

1. OVERVIEW

1.1 OBJECTIVE

Objective

- *To distinguish between the rural wastes and urban wastes.*
- *To understand the proper methods of disposal of waste.*
- *To practice the habits of reducing and reusing waste.*

Prerequisite Concept

- Waste - EVS , *Grade 3, Chapter 9: Pretty House*

Content Index

*Kindly Note: Activities marked with * are mandatory*

IMPORTANT GUIDELINES*

Exercise Reading
Perform Textbook Activity
Provide Homework

2. LEARN

2.1 KEY POINTS

- Waste: Waste is everything that no longer has a use or purpose and needs to be disposed of.

- Segregation of waste:
    - Dry waste: This includes plastic, glasses, rubbers, metals, etc. which will not disintegrate over time, thus we should put them in a separate waste bin. These are also referred to as inorganic or non-biodegradable.
    - Wet waste: leftover food, vegetable waste, leaves, flowers , pieces of paper, etc. which decomposes or decay over time and also is converted into manure. This manure can be used to grow plants. These are also referred to as organic or biodegradable waste.
    - Hazardous waste: this includes paints, insecticides, poisonous chemicals, broken tube lights, used batteries, expired medicines etc. This should be disposed of in municipal bins in bags.
    - Polluted waste: this includes used bandages, syringes, needles, etc. which should be disposed of in municipal bins in separate bags.

- Compost is decomposed organic material, such as leaves, grass clippings, and kitchen waste. It provides many essential nutrients for plant growth and therefore is often used as fertilizer.

2.2 LEARN MORE
None

3. ENGAGE

3.1 INTEREST GENERATION ACTIVITY

Interaction

Activity 1: Interaction
Materials required: None
Prerequisites: None

Activity Flow
Ask the following questions to the students and build a discussion on what is waste?

1. *Do you find a dustbin in the classroom?*
2. *Why do we keep a dustbin?*
3. *Give an example for waste?*
4. *Do you know there are two broad divisions called dry waste and wet waste?*

3.2 CONCEPT INTRODUCTION ACTIVITIES

Waste segregation

Activity 2: Waste segregation
Materials required: None
Prerequisites: None

Activity Flow

- *Ask the following question to start a discussion about waste and it's segregation.*
    - *What do you do with the wrapper of a toffee/chocolate/chips/and other wastes?*
    - *Do you put them into a dustbin?*
    - *What wastes do you generally find in your environment (home, hostel, school, park, etc.)?*
- *They can make a list and then ask them if they can segregate them as per any of their properties.*
- *Teachers can provide hints to the children such as dry waste, wet waste, plastic waste, etc.*
- *Then the teacher can introduce how all these wastes are being segregated.*
- *After introducing these types of waste ask the children why we should segregate our waste?*
- *The following points can be included in the discussion:*
    - *Because some of them can decompose easily and some of them don't.*
    - *Mixed dry and wet waste in landfills causes environmental issues such as polluted water sources, produces harmful gases, and leads to climate change.*
    - *There are few wastes which we can reuse and recycle but if we mix wet and dry waste then it won't be reused.*

Calculate your impact

Activity 3: Calculate your impact
Materials required: None
Prerequisites: None

Activity Flow

- *Now the children are aware about the waste they find around them and their categories.*
- *Ask them to calculate how much trash/waste they generate in a day, week, and month.*
- *Then how much trash their family, school, town and city generates per year.*
- *So it is our responsibility to reduce consumption and reuse materials because all this trash affects our environment.*

Composting project

Activity 4: Composting project

Materials required: wet materials (kitchen wastes, green leaves, etc.) and brown items(dried plant material)
Prerequisites: None

Activity Flow
Compost is decomposed organic material, such as leaves, grass clippings, and kitchen waste. It provides many essential nutrients for plant growth and therefore is often used as fertilizer.

- *Select an area where you want to do compositing (it can be your school garden, near to the park, etc.)*
- *Dig it around 2-3 feet deep.*
- *Start building your compost pile by combining wet materials (kitchen wastes, green leaves, etc.) with brown items(dried plant material)*
- *Water your pile: sprinkle water over the pile regularly but don't add too much water. You can simply reach into the middle of the pile with your hand to check this.*
- *Stir up your pile: turn the pile once a week to prevent material from becoming matted down.*
- *Feed your garden: when the compost becomes dry, brown and crumbly, it is ready to be used for flower beds and into flower pots.*

Reuse and Recycle

Activity 5: Reuse and Recycle

Materials required: Plastic waste, papers, items which are not in use.
Prerequisites: None

Activity Flow

- Use existing plastic waste at school/home, like empty bottles, bottle caps, egg cartons, wrappers to make creative craftwork. Few examples:
    - A plastic bottle can be used as a vase.
    - Using magazine papers for writing Braille.

    - Use plastic containers/ bottles to germinate seeds/ plant a flower.
- It is important that the students use existing waste and not buy new items for this.
- After doing this activity, students can put their craftwork for display and students of other classes can come and explore these items

3.3 LET'S DISCUSS: RELATE TO DAILY LIFE*

Disposing of waste has huge environmental impacts and can cause serious problems. Some waste will eventually rot, but not all.
Overflowing waste causes air pollution and respiratory diseases. One of the outcomes of overflowing garbage is air pollution, which causes various respiratory diseases and other adverse health effects as contaminants are absorbed from lungs into other parts of the body.

4. EXERCISES & REINFORCEMENT

4.1 EXERCISES & REINFORCEMENT

Scavenger hunt

Activity 6: Scavenger hunt
Materials required: Recyclable items like bottles, plastics, various paper items and so on.
Prerequisites: None

Activity Flow

1. *This scavenger hunt requires children to find recyclable items. Make a list of all the recyclable items that the players have to find. You can even assign a time limit for the task. 30 minutes would be more than enough.*
2. *Alternatively, children can go through a pile of recyclable items and ask them to get one of each item. It won't just educate them on what can be recycled, but will also make them consider things that may not have actually been recyclable.*
3. *The player who manages to get the most number of recycled items will win.*

Waste free

Activity 7: How can I live waste free
Materials required: None
Prerequisites: None

Activity Flow
Five Principles of Zero-waste From the Experts

1. Refuse - refuse to buy things with lots of packaging
2. Reduce - don't buy things you don't really need
3. Reuse - repurpose worn out items, shop for used goods, and purchase reusable products like steel water bottles
4. Compost - up to 80 percent of waste by weight is organic. But this rarely decomposes in landfills
5. Recycle – It still takes some energy and resources to recycle, but it's better than sending stuff to the landfill or allowing it to become litter.
Note: These are listed in order of importance.

4.2 IMPORTANT GUIDELINES*

Exercise Reading
It is very important that the children practice their learnings as well as their reading. Hence have the children read out the newly learned concepts from their textbooks or other available resources.

Perform Textbook Activity
It is good practice to have the children perform the textbook activities. Your textbook activities might not be accessible hence go through this resource to learn how to make textbook content accessible

Provide Homework
To evaluate their understanding and to help the student revise and implement the new learnt concept ensure to provide them with homework. Students should perform one or two of the questions mentioned above or from the textbook exercises with the teacher in Class and the remaining may be given for homework. Also, ensure that the student knows their special skills linked to independently using their accessible books as it will be critical to doing homework independently

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