Reducing Consumption of Disposables

Resource Pack for Schools

Credits

The National Environment Agency would like to thank the following for their contribution in co-developing content for this resource pack:

1. **Participants from the Citizens' Workgroup on Reducing Excessive Consumption of Disposables**
   Tan Yong Yi
   Rachel Ong
   Sangeeta Nair

2. **World Wide Fund for Nature Singapore**

Learning Outcomes

1. What are disposables?

2. Why does reducing disposables matter?

3. What has been done so far?

4. How to reduce disposables?

1. What Are Disposables?

What Are Disposables?

Disposables refer to products or packaging that are **designed for single use**.

Common Uses of Disposables

- For medical hygiene purposes
- Prevent cross contamination and infection

➢ **e.g. disposable face masks, sterile syringes, one-time use personal protective equipment (PPE), nitrile gloves**

- To contain food or drinks for takeaway or delivery

➢ **e.g. disposable takeaway boxes, forks, spoons, wrappers and trays**

- To provide convenient means for shoppers to carry their purchases
- To bag waste for disposal

➢ **e.g. disposable shopping bags, trash bags**

2. Why Does Reducing Disposables Matter?

Environmental Impact of Disposables

Disposables will have impact on the environment during their **production, transportation, and disposal.**

Production of disposables can consume a lot of **resources, energy, water and land**.

Food for Thought!

In Singapore's context, do you think disposables made of biodegradable materials are more eco-friendly than ordinary disposables? Why or why not?

What Does Biodegradable Mean?

When we say something is **biodegradable**, it means that it can **break down naturally**, typically in a short amount of time.

Things like food and fallen leaves are biodegradable.

Some biodegradable items can **release harmful toxins** when broken down if they contain toxic additives (e.g. dyes).

Did You Know?

Biodegradable disposables are not as beneficial to the environment in Singapore as waste is burnt to produce energy.

Production, consumption, and disposal of disposables contributes to global warming and climate change.

In 2020, we discarded around 200,000 tonnes of disposables*!

200,000 tonnes = 200,000,000 kilograms

This figure includes disposable carrier bags, food packaging, tableware, and utensils

Waste Management in Singapore

Every day, about 80% of our domestic waste generated is burnt at our waste-to-energy (WTE) incineration plants. There are three of these in Singapore:

1. Senoko
2. Tuas South
3. Keppel Seghers Tuas Waste-To-Energy Plant (KSTP)

Wastes incinerated are reduced to about 10% of its original volume – the resulting ash is then disposed of at the landfill. However, at the current rate of waste disposal, our only landfill will still run out of space by 2035!

Semakau Landfill's lifespan is running out!

It is expected to be fully filled by 2035.
There is simply no space for our waste!

Help!
I am running
out of space!

3. What Has Been Done So Far?

Zero Waste Masterplan - Reduce Waste by 30% by 2030

1. Extend Semakau Landfill's lifespan **beyond 2035**
2. Reduce amount of **waste sent to landfill per capita per day by 30%** by 2030
3. By 2030, achieve a **70% overall recycling rate**:
   81% non-domestic recycling rate
   30% domestic recycling rate

Initiatives on Reducing Disposables

Initiatives on Reducing Disposables

Disposable Carrier Bag Charge at Supermarkets

**to be implemented in mid-2023*

Encourage greater use of reusable water bottles by installing water dispensers at more public locations

Move towards using reusable utensils and tableware when dining in hawker centres and at more F&B outlets

4. How to Reduce Disposables?

Can We Completely Eliminate Disposables?

Not Exactly!

Medical Disposables

Cannot be reused as it compromises hygiene and sterility; especially during the COVID-19 pandemic.

Lack of Choice

Consumers are usually unable to opt out from the use of disposable containers/bags provided by retailers for food deliveries or grocery deliveries

But! In instances where we have the choice, and reusable alternatives readily exist, we can still **minimize the usage** of disposables and **opt for reusables**!

Pledge to “Say YES to Waste Less” today

TO CLEAN REUSABLE BOTTLES

TO BUYING JUST ENOUGH

TO CLEAN REUSABLE CARRIER BAGS

TO CLEAN REUSABLE CONTAINERS

TO ORDERING JUST ENOUGH

Reducing Disposables & Other Waste At School!

Bring your own bottle to the canteen for drinks!

Avoid disposable straws!

Reuse materials like scrap paper, toilet rolls and bottle caps etc. for arts and craft!

Use both sides of writing papers!

Use refillable stationery like mechanical pencils!

Share your presentation materials electronically!

Reducing Disposables & Other Waste Outside!

Bring your own lunchbox and utensils when packing food!

Say no to disposable carrier bags, bring your own bag!

Plan your shopping to avoid over-buying!

Shop for groceries at packaging-free stores and bring your own containers to pack the items you purchase!

Avoid using single-serve packets!

Reducing Disposables & Other Waste At Home!

Reuse containers and carrier bags!

Opt for electronic newsletters and mailers!

Buy fresh produce and make your own meals instead of consuming pre-packaged foods!

Avoid disposable self-care essentials and use refillable products!

Avoid disposable kitchen towels; use cloths instead!

Ways to Extend Lifespan of Disposables & Product Packaging

Wash and reuse or recycle disposable wares, whenever possible.

Food delivery bags, boxes, potato chip bags and bread bags can be used to **collect rubbish or to line the rubbish bin.**

Engage your creative side and have fun:

a) Extra cardboard boxes can be made into art/toys or a playground for pets
b) Bubble wrap can be reused as stuffing for shoes and bags in storage
c) Plastic lids from disposable food containers can be turned into coasters or paint palettes.

Packaging
(including plastics, paper etc.)

Recycle Right

Conclusion

It is **not possible to completely eliminate** use of disposables.

However, we can do our part to **REDUCE** our waste simply by **CONSUMING LESS** and switching to reusables wherever possible.

By consuming only what we need and reducing waste generation, we send less waste to the landfill and extend its lifespan.

5. Suggested Activities

Suggested Activity 1: Creating Awareness

1) Share this video with students:
   How can Singapore kick its plastic bag habit?
   https://youtu.be/id6r22OO0oY

2) Discussion questions with students:
   a) Why do you need disposable bags when you go grocery shopping?
   b) Without plastic bags, what other items can you use to bag rubbish and line the rubbish bins?
   c) Why is it important to use your own bags, and reuse them as much as possible?
   d) Do you bring your own bags to grocery stores?

Suggested Activity 2: Web of Waste

1. Form groups of 3 to 4
2. Write out on the paper the disposables you see or use in daily life
3. Circle those that are used in similar situations (e.g. disposable plates and disposable forks/spoons are used when dining out)
4. Think about whether such disposables are necessary. How can we reduce our usage of such disposables?

Suggested Activity 3: The Great Collector

1. Over the span of a week, get students to collect disposables that they have used and place them into a collecting bag instead of throwing it away.
2. After the week, students can come together and compare the amount and type of disposables that they have used over the 1-week period.
3. Think about whether such disposables are necessary. How can we reduce our usage of such disposables?

Suggested Activity 4: Kahoot Quiz

Correct answers highlighted in green

Questions	Follow Up Response
1) Singapore has more than one active landfill. a) Yes b) No	Semakau Landfill is Singapore's only active landfill. It receives more than 2,000 tonnes of incineration ash from our waste-to-energy plants and non-incinerable waste daily.
2) Which of the following are NOT one of the main ways which Singapore manages waste? a) Incineration b) Offshore landfilling c) Recycling d) Composting/digestion	The three main ways which Singapore manages waste is through recycling, incineration, and disposing of it on Semakau Landfill. Other waste reclamation initiatives like composting or digestion are currently on a much smaller scale. For example, there is a pilot scheme where food waste is digested in hawker centres to produce water and energy.
3) Which of the following are considered disposables? a) Wooden chopsticks b) Aluminum foil container c) Plastic bag d) Biodegradable plate	Disposables are present in many settings, most of which are unexpected! A good test to see if a product is a disposable is to look at whether it has been designed and made to be reused many times.
4) Which of the following is NOT a reason why we should reduce our use of disposables? a) Making disposables can use a lot of energy b) Using disposables contributes to the amount of waste we generate c) Disposables make life convenient d) Disposables can pollute the environment	
5) The amount of waste produced per day in Singapore is equivalent to the weight of how many adult elephants? a) 10 b) 300 c) 800 d) 2,700	An adult elephant can weigh as heavy as 6 tonnes. In comparison, a staggering 16,110 tonnes of waste is generated in Singapore each day!

Suggested Activity 4: Kahoot Quiz (continued)

Correct answers highlighted in green

Questions	Follow Up Response
6) Which of the following products can be easily recycled? a) Paper coffee cups b) Styrofoam containers c) Glass jars d) Post-it notes	Paper coffee cups are lined with wax or plastic on the inside, making it hard to recycle as it must be separated from the paper. Styrofoam, like some plastics, cannot be recycled at low cost and used to make good products. Post-it notes have glue, which can affect the recycling process.
7) Are biodegradable materials a better alternative to reduce waste in Singapore? a) Yes b) No	Waste generated in Singapore is either recycled or incinerated. Unlike in many other countries, our waste is not landfilled directly. As such, the environmental benefits of using biodegradables do not apply in Singapore's context. Some biodegradables such as well oxo-degradable plastics could even interfere with the recycling process when mixed with conventional plastics. A more sustainable approach for Singapore is to reduce the use of all disposables and increase the recycling rate.
8) Which of the following can result in humans accidentally consuming plastic? a) Burning plastic waste b) Using disposables c) Microplastics in the sea d) Recycling the wrong type of plastic	Microplastics are formed when plastics are broken down into microscopic fragments over time. Typically, plastic trash found in the ocean break down into microplastics, which are ingested by fish. We then unknowingly eat these fish which are full of microplastics.
9) What is Singapore doing to reduce disposables usage? a) Bring-Your-Own campaigns b) Stop using disposables for dine-in c) Implement a disposable carrier bag charge d) All of the above!	ZeroWasteSG pioneered the Bring-Your-Own (BYO) campaigns, where people are given rewards for bringing their own bags or containers when buying products. The Government requires all stall owners at newly-built hawker centers to not provide disposable dining ware for customers dining in. Disposable carrier bag charges are increasingly common in Singapore to deter people from using them unnecessarily, from FairPrice to UNIQLO.
10) How can you help to reduce disposables usage? a) Bring your own containers when packing food b) Decline a straw when buying drinks c) Bring your own bag when you go shopping d) All of the above!	

Suggested Activity 5: Fun Facts

Food for Thought:

How many disposable carrier bags can be saved if each student from the class saved one every day for a year by bringing along a reusable bag on shopping trips with their parents?

1) 40 students in class x 365 days = 14,600 bags saved! The length of these bags laid out would be more than 6km!

2) If there are 1,000 students in the school, that will be a saving of 365,000 plastic bags!

Imagine the waste we can reduce if we do the same for other disposables such as straws and takeaway containers.

Suggested Activity 5: Fun Facts (continued)

Paper/Cardboard waste generated

2019: **1.01 million tonnes**

2020: **1.14 million tonnes (13% increase)**

Overall recycling rate of paper/cardboard

2019: 2020:

Do You Know?

Paper/cardboard waste make up the largest waste stream in 2020. Recycling rate of paper/cardboard was also reduced in 2020.

Online orders generate disposables waste such as discarded plastic, wrapping paper, cartons, cardboard boxes and paper bags.

Households disposed of more packaging waste as more online shopping and food deliveries were made during Circuit Breaker against COVID-19.

Food for Thought:

1) Do you make unnecessary purchases during online sales e.g. Black Friday, 11.11?
2) When ordering online:
   - Do you indicate in the remarks to reduce packaging, especially for groceries?
   - Did you avoid requesting for disposable utensils?
3) For takeaway orders, do you reduce wastage of straws, stoppers, napkins, stirrers, condiment sachets by taking only what you need?

Suggested Activity 5: Fun Facts (continued)

Do You Know?

Singapore in the 1960s and 1970s was marked by night soil buckets, water rationing, and unhygienic street hawkers.

Workers shovelled refuse from open roadside bin points onto push carts, and discarded them at open dumping grounds across the island.

This form of waste collection was irregular and inefficient. In 1964, only around 60% of each day's refuse was cleared. Refuse often piled up along roads, in back alleys and other common areas. This left streets reeking of decomposing refuse and caused pest problems, both made worse by the hot and humid weather.

Food for Thought:

Waste management has always been a challenge for Singapore. With limited space, where can our waste go?

Suggested Activity 5: Fun Facts (continued)

Do You Know?

Packaging waste makes up about one-third of domestic waste disposed of in Singapore.

In 2018, about one-third of domestic waste disposed of consisted of packaging waste.

Approximately 55% of the packaging waste was plastic packaging, whilst 25% was paper packaging. The remaining 20% was made up of other types of packaging materials, such as metal and glass.

Food for Thought:

Packaging can be made from any material and is used to contain, protect, handle, deliver or present goods. A large proportion of our domestic waste is packaging waste.

As packaging is so common yet hardly reused, we need to find ways to reduce and consume them more sustainably.

Suggested Activity 5: Fun Facts (continued)

Logo for Products with Reduced Packaging (LPRP):

Do You Know?

You can do their part to support Reduced Packaging Products!

You can choose products that show the Logo for Products with Reduced Packaging (LPRP), showing the product has undergone improvements to reduce the amount of packaging material used.

You can provide feedback to manufacturers or retailers if you encounter excessive packaging or poor packaging design.

Additional Ideas

1) Make a pledge to reduce the use of disposables.

2) Think twice before using disposable products. Consider more sustainable alternatives whenever possible. Make the right choices:
   a) Use rechargeable batteries instead of non-rechargeable ones.
   b) Bring along a reusable bag with you on shopping trips.
   c) Bring your own containers and utensils for take-aways.
   d) Use cloth to clean your table instead of paper towels.
   e) Use a sports towel to wipe off perspiration after exercising, instead of tissue.

3) When shopping, consider the impacts of product packaging:
   a) Buy household products that are used frequently in large or economy-sized packaging. Buy refill packs for your cleaning and personal care products.
   b) Choose products with less packaging.
   c) Support products with packaging made from recycled material.
   d) Choose packaging that is reusable or recyclable. Instead of bottled water, choose refillable bottles and refill with tap water.

4) Consider other eco-friendly methods to using disposables:
   a) Use hand dryer instead of paper towel
   b) Clean your hands with water instead of tissue
   c) Reuse wrapping papers or use newspapers or upcycled papers for gift wrappings
   d) Shop for food and groceries at sustainable stores where you are encouraged to bring your own containers and purchase unpacked items such as nuts, herbs, coffee, cereals and rice

6. Educational Materials and Information Sources

Educational Materials - Printables

1. Wobblers, tent cards and factoid posters on reducing disposables

2. A guide to 3R practices for households

3. Facts on packaging waste in Singapore

4. Tips to reduce waste

5. Eco hacks to reduce disposables

6. Scorecard on actions to reduce disposables

Educational Materials - Videos

For Section 2: Why Does it Matter?

1. In 2019 alone, we discarded 200,000 tonnes of disposables and the problem just keeps growing. If we continue like this, future generations will have to pay for our choices - **Say YES to WASTE Less** (Video length: 47 seconds)
   https://www.youtube.com/watch?v=fbmNXsbyUkE

2. Semakau landfill's lifespan is getting shorter by the minute - **Save Semakau** (Video length: 1 min 25 seconds)
   https://www.youtube.com/watch?v=5o8MboWKaas

3. **Singapore's Plastic Problem: Can We Curb Our Plastic Addiction?** (Video length: 48 min 3 seconds)
   https://www.youtube.com/watch?v=gbzm31Kjbxs

Educational Materials - Videos

For Section 3: What Has Been Done So Far?

1. Singapore's waste management solutions and the future of the world's garbage dilemma – **How Singapore fixed its big trash problem** (Video length: 12 min 55 seconds)
   https://www.youtube.com/watch?v=r-q5V6LDxEY

2. **Say YES to WASTE LESS Music Video** (Video length: 1 min 30 seconds)
   https://youtu.be/UjlT5GsxNno

Educational Materials - Videos

For Section 4: Reflection for Students - How to Reduce Disposables

1. Insights to Singapore's plastic bag habit - **How can Singapore kick its plastic bag habit** (Video length: 4 min 28 seconds)
   https://youtu.be/id6r22OO0oY

2. **Nearly 3,000 premises pledge to reduce food waste, use of disposables** (Video length: 1 min 53 seconds)
   https://www.youtube.com/watch?v=Eoh4sXPKbAg

Additional Information - Packaging Partnership Programme (PPP)
Manufacturers are also doing their part!

PACKAGING PARTNERSHIP PROGRAMME

Do You Know?
Some **manufacturers are also doing their part to** reduce packaging waste!

The aims and objectives of the Packaging Partnership Programme are to build up industry capability in sustainable packaging waste management and support companies in fulfilling current and future regulatory requirements, starting with the Mandatory Packaging Reporting (MPR).

The Programme focuses on building up industry capability through the exchange of best practices in sustainable packaging waste management, bridging the gap between companies, regulators and service provider, and bringing thought leadership to companies of sustainability issues related to packaging waste.

Additional Information - Mandatory Packaging Reporting (MPR)

For teachers/students who want to understand more about other Government efforts in reducing packaging waste:

Packaging waste, including plastics, makes up about one-third of domestic waste disposed of in Singapore. It is therefore one of the key waste streams identified in the Zero Waste Masterplan that we will need to focus our efforts on to close the resource loop and to help Singapore achieves its goal of towards becoming a Zero Waste Nation.

Under the Mandatory Packaging Reporting (MPR) framework, producers of packaged products, such as brand owners, manufacturers and importers, as well as retailers such as supermarkets, are required to submit packaging data and 3R plans to the NEA. Companies will have to provide information on the packaging placed on the Singapore market, broken down according to type of packaging material (e.g. plastic, paper, metal, glass), packaging form (e.g. carrier bags, bottles) and the corresponding weights.

The 3R plans that companies are required to submit will have to include details of key initiatives, key performance indicators (KPIs) and targets. Companies will be required to report on the progress of these plans in subsequent years of reporting. The types of 3R plans for packaging that companies could consider include: (i) packaging reduction; (ii) packaging collection for reuse or recycling; (iii) consumer or industry outreach related to packaging 3Rs; (iv) use of recycled content in packaging material; and (v) improvements in recyclability of packaging.

Mandatory packaging reporting aims to raise companies' awareness of the benefits of packaging reduction and to spur companies to reduce the amount of packaging used. It will lay the foundation for an Extended Producer Responsibility (EPR) framework for packaging waste management, which will be implemented no later than 2025.

Information Sources

Websites:

NEA (https://www.nea.gov.sg)

CGS (https://www.cgs.gov.sg)

MSE (https://mse.gov.sg)

SG Green Plan (https://www.greenplan.gov.sg)

NCCS (https://nccs.gov.sg)

Earth Hour (https://www.earthhour.org)

Towards Zero Waste (https://www.towardszerowaste.gov.sg)

Energy Efficient Singapore (https://www.e2singapore.gov.sg)

LTA (https://www.lta.gov.sg)