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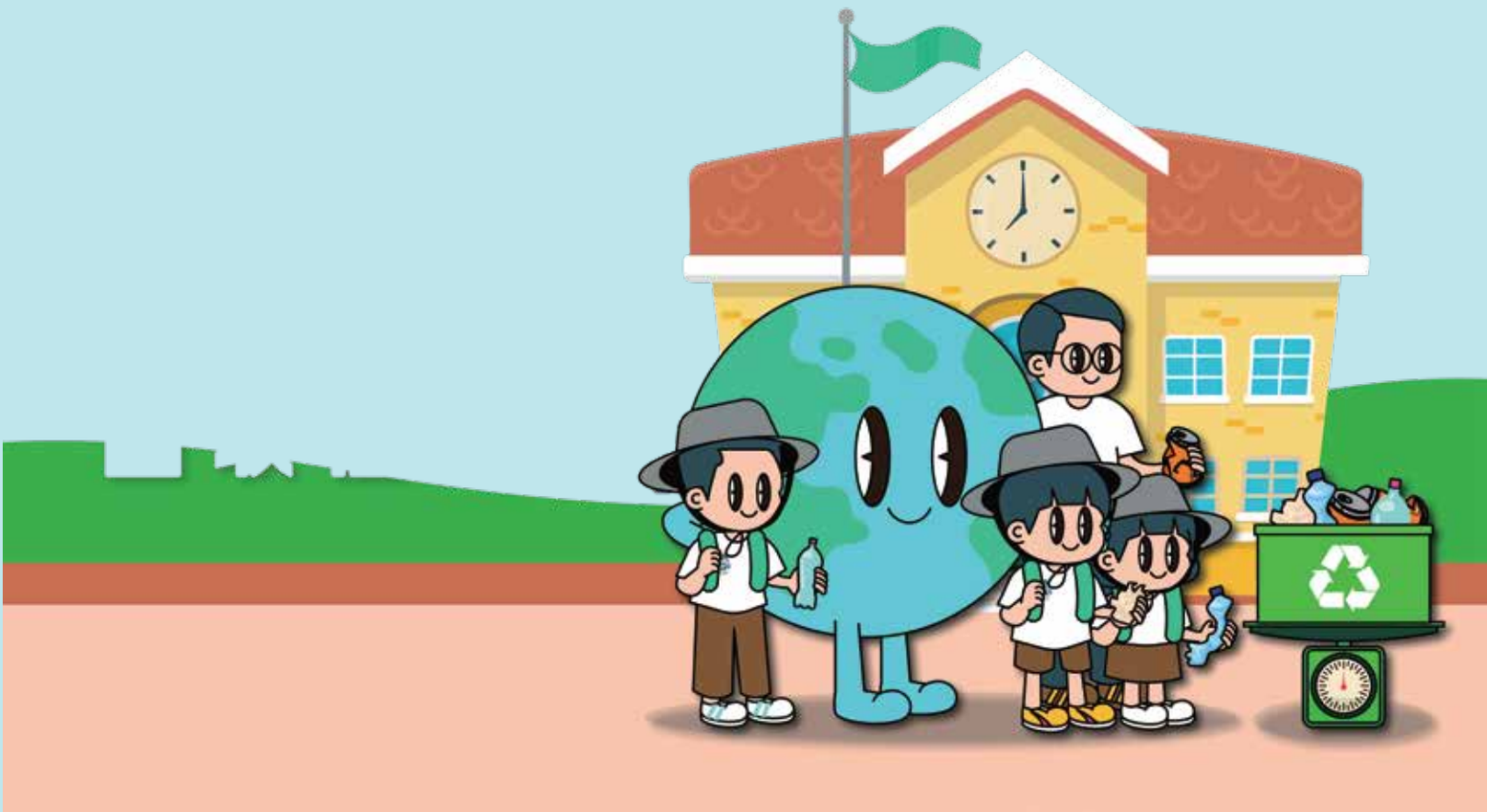
SGREEN

Recycle at School

Teaching Resources for Primary School



SGREEN
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SGREEN Background Information

Environmental education has been promoted among schools for many years. Many schools have set up recycling bins on campus to cultivate the habit of recycling waste in students. According to the most updated data from the Environmental Protection Department, Hong Kong's waste recycling rate is around 31%. What is the meaning to school? In view of the "Municipal Solid Waste Charging Scheme" which will be officially launched next year, how should schools prepare for it?

To get ready for "Municipal Solid Waste Charging Scheme", Ocean Park Conservation Alliance has been established to create recycling database in school through the implementation of SGREEN activities to formulate long-term waste reduction and recycling plans to cultivate recycling habits. Schools can also experience the management of waste recycling supply chain to ensure the process is effective and smooth.

For students, the habit of recycling can be cultivated through SGREEN activities, and thus actions of waste recycling, waste reduction and reuse in school can be encouraged.

Introduction of SGREEN Toolkit

The SGREEN toolkit is designed to support teachers in organising recycling-related educational activities and to help teachers promote the concept of recycling in schools. It is hoped that through different teaching activities and school-wide extended activities, recycling awareness in the school will be aroused, thereby formulating recycling goods and directions through an established recycling database.

Introduction of SGREEN Suggested Activity

To incorporate SGREEN throughout the school year, different activities are suggested to implement into lessons or activities day. Through a series of activities, students can acquire environmental recycling relaated knowledge faster and environmental recycling habit in school. In addition, recycling data can be created through various types of activities. With the database schools can foresee recycling trends, and thus set school recycling goals and conservation directions. Concepts of environmental recycling could even be integrated into various school subjects and promoted to the community.

Seahorse Rangers are encourage to promote and assist teachers in coordinating the suggested activities and encourage teachers and students across the school to participate in SGREEN.

Main Learning Objective:

- Understand the concept and purpose of environmental recycling
- Practice proper source separation of waste and clean recycling to develop recycling habits
- Collect on-campus recycling data, define recycling and waste reduction goals and conservation directions
- Integrate the concepts of environmental protection, recycling and waste reduction into campus and the community, to promote recycling

Objectives of Suggested Activities

Goals

Through this activity, students are able to:

1. Acquire an in-depth understanding of garbage classification and types of recycling materials
2. Understand the current social and global recycling situation.
3. Analyse the school recycling system and propose improvement ideas based on the collected data
4. Promote the concept of environmental recycling to teachers and students throughout the school creatively

Preparation

1. According to the students' levels, find out their understanding towards issues related to conservation related, environmental protection, waste reduction, and recycling matters
2. Incorporate topics related to conservation, environmental protection, waste reduction, and recycling into regular classes to help students understand the relevant information before the activities

Introduction

1. Invite students to search for recyclable materials on campus
2. Arouse students' interest in environmental recycling issues by referancing current social events and news related to environmental recycling

Relevant concepts	Music	Visual Arts	General studies	Mathematics

Suggested Classroom Activities

Part 1：Understand the concepts of waste reduction at source, garbage classification and recycling

Main learning objective: Understand the concepts of garbage classification and recycling (please refer to supplementary powerpoint slide 4–19)

1. Three steps: avoid generating garbage, reduce creating garbage, classify and recycle garbage
2. Understand the collection, transportation and sorting process of recyclables
3. Understand the concept of upcycling

Suitable for: Visual Arts, General Studies or Music

Example

Waste Reduction and Recycling Day

1. Introduction activity: teachers may invite students to observe what wastes are created on the school campus.

2. Question for students: various wastes are created in classrooms every day. Can you recognize the recyclable items in classrooms?
    a. Extended question: What are the recyclable items on campus?

3. Teachers may gather students for searching recyclable and non–recyclable items on campus, and may circle them on the campus map, stating out their locations and amount.

4. Unleash students' creativity, create school activity materials using different recycled items
    Examples:
        a. Visual Arts Class Making musical instruments: Use potato chip cans to make drums and water bottles to make maracas
        b. Visual Arts Class Mid–Autumn Festival Activity: Use foam fruit wrapper/ used paper/ plastic bottles to make environmentally friendly lanterns
        c. General Studies Class: Entries made of environmentally friendly materials (remote control car/ egg drop contest)
        d. Music Class: Use recycled materials to create musical instruments/ sing songs about the nature and environmental concerns

Part 2：Analyse the current school recycling system, explore and propose ways for improvement

Main learning objective: Understanding social recycling data (please refer to supplementary powerpoint slide 4–8)

1. On–site inspection of the locations of recycling bins and the quantity of various recyclable waste collected
2. Perform statistical analysis on the frequency of use of on–campus recycling bins and the overall recycling data

Suitable for: Mathematics

Example

Waste Reduction and Recycling Day

1. Based on the first part of the activity, reflect on the recycling practices of teachers and students.
    a. Which recycling bin has higher usage?
    b. Which recycling bin has the largest amount of recyclable items?
    c. Which stakeholders have the highest participation in waste recycling?

2. Mathematics Statistics Topics — Perform statistical analysis and suggest potential school recycling targets.

Based on on–site inspection and analysis, study the recycling situation in school.

a. Calculate the usage of recycling bins and trash bins on campus
b. Divide students in groups to observe the usage of recycling bins and trash bins in school during recess, lunch and after school periods

Waste disposal status

Amount of recyclables in the recycling bin		Number of students: _____	
Quantity	Plastic bottles:	Used paper:	Aluminium cans:

Amount of recyclables in the rubbish bin		Number of students: _____	
Quantity	Plastic bottles:	Used paper:	Aluminium cans:

c. Multiply the above data by the number of days to calculate the monthly recycling amount and garbage amount

Average monthly recycling amount	(Total amount of recyclalbes in recycling bin in a day * no. of bins) * no. of weekdays
Average monthly garbage amount	(Total amount of recyclalbes in rubbish bin in a day * no. of bins) * no. of weekdays

Example (cont.)

d. Through calculation, find out the average monthly recycling amount and average monthly garbage amount throughout the year
e. Find out the recycling and garbage ratio (recycling: garbage)

3. Encourage students to take waste reduction and recycling actions beyond school.
   a. Find out the usage rate of recycling bins, as well as the time to reach full capacity
   b. Suggest ways to improve, e.g. places of recycling bins, on-campus promotion status, related knowledge of students etc.

Part 3 : Integrate all information and promote recycling to all teachers and students in school

Main learning objective: Understanding garbage classification and recycling system (please refer to supplementary powerpoint slide 8–21)

*Optional extension: activities can be arranged according to school needs

1. Integrate the concept of environmental recycling into school activities
2. Unleash creativity to promote garbage classification and recycling to students in different ways
3. Encourage students to spread waste reduction and recycling messages at home

Suitable for: Visual Arts, General Studies or Language

Example

1. With reference to the collected data, discuss the recycling status and propose ways for improvement. Such discussion can be led by teachers (for junior grades) or the members of “Seahorse Rangers” (for senior grades).

2. Through project-based learning (General Studies), students can reflect and develop a deeper understanding regarding the activity as well as related knowledges.
   a. P.1 to P.2: Review the current events discussed at the beginning of the activity. In the form of project-based learning, students may reflect their daily practices as well as possible ways of improvement
   b. P.3 to P.4: In the form of project-based learning, develop deeper understanding on the current waste disposal situation of Hong Kong and promote report to other students by creating posters or other materials

Example (cont.)

c. P.5 to P.6: In the form of individual project contest, research on any topics regarding waste disposal and recycling according to the personal interest of students and actualise the plan on campus
   - Suggested research topics: In view of the situations of waste disposal and recycling on campus, correction between places and usage of recycling bins, the public knowledge of recycling, the current recycling situation of the public etc.
   - Presentation: In morning assembly, invite class representatives to present (The form of presentations is not limited to slides. Alternative forms such as videos and websites are also welcome. Students are free to choose their own form of presentation.)
   - Conclusion: Create a poster of the conclusion on the research outcomes of the class representatives. Share their learning outcomes and recycling-related topics with on campus and to the public

Extended Activity: Recycle other materials on campus through members of "Seahorse Rangers"

1. Recycle used school uniforms during change of the seasons.
   a. Invite members of "Seahorse Rangers" and senior form students to help with the organisation
   b. Discuss and confirm event dates, event procedures, and event manpower arrangements
   c. Invite students to pass second hand school uniforms to those who are in need

Visual Art Class:
   a. Put up posters designed by students to promote waste reduction information

Language Class : Composition (junior grades) / Poetry and essays (senior grades) / Literary work appreciation
   a. Create poems/ articles on the topic of environmental protection and recycling
   b. Reflect and guide students to test the knowledge they have learned in class through appreciation of poems and articles.

Suggested Extended Activities

Relevant concepts | Visual Arts

Objective:
Connect different parties in school to promote the concept of recycling

Part 1 : Share recycling achievements within/outside school

Main learning objective: Understanding social recycling data (please refer to supplementary powerpoint slide 4–8)

1. Create large–scale artworks with non–recyclable items, such as paintings, and think about the possibility of turning unavoidable garbage/recycling items into new artworks
2. Demonstrate creativity and imagination through artworks and encourage others to “upcycle”
3. Encourage students to spread waste reduction and recycling messages at home and participate in environmental protection, waste reduction and recycling activities with their families

Example

Create Christmas tree from waste plastic/paper

Invite all teachers and students to create the artwork together (on a school basis), or on a form/class basis.

1. Collect waste plastic/paper as raw materials for the Christmas trees.
    a. Before making the Christmas tree, list out the needed materials and invite all teachers and students to collect them together

2. Create a design sketch for the Christmas tree.

3. Teachers and students create the Christmas trees together.
    a. As one of the after–school activities

4. Pass the materials to student organisation/ visual arts teacher.

Example (cont.)

Large-scale artwork made from recycled materials

1. Collect recycled materials as raw materials for the artwork.
2. Analyse the material of each recycled item and select suitable materials for the artwork.
3. Unleash creativity to produce large-scale artworks for promotional purposes.

Part 2 : Participate in community recycling activities and promote environmental recycling education in the community

Cooperate with non-governmental organisations (NGOs) to publicise and promote recycling in the community to raise public awareness on environmental protection

Example

Based on recycling experience in schools, promote and spread environmental protection, waste reduction and recycling messages in the community.

1. Contact relevant environmental organisations to organise promotional activities.
2. Organise activities in the community and encourage all teachers and students to participate.
3. Educate the community on correct garbage classification and recycling procedures, share experiences with them.

Roles of Seahorse Rangers

On-campus communication	Communicate with relevant student groups (e.g. existing environmental groups on campus)
Off-campus communication	Approach and communicate with non-profit environmental organizations to discuss the possibility of cooperation

*It is recommended that senior form students can approach off-campus organisations while junior form students can communicate with on-campus groups

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SGREEN Toolkit

Supplementary powerpoint

Teaching resources

Poster