




Sustainability Report

The San Francisco School, 2019
By Sarah Zaheer



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"Being able to handover a sustainable environment to the future generation is my goal."

This work was done by Sarah Zaheer, an Interaction Design student at California College of the Arts.

Introduction

Sustainability reporting is valuable in ensuring that organizations consider their impacts on sustainability issues thus improving the environmental health and quality of life on this planet.

This report provides a review of the sustainability performance of the preschool at The San Francisco School based on data collected over two months in 2019. It focuses on the management of the materials used there including their purchase and disposal. The objective of this document is to give the SFS Preschool a picture of their practices with regards to sustainability and to offer actionable recommendations. In other areas, the SFS has established practices that foster sustainability and this report aims to develop them further in a more concerted approach.

About the SFS

The **San Francisco School (SFS)**, is one of the oldest independent, coeducational day schools in San Francisco. It provides students with a supportive and rigorous academic environment that is committed to developing the full and unique potential of every student. Moreover, the school continually strives to mirror the diversity of the Bay Area by providing a well-established academic program, giving an equal amount of importance to the prosocial skills like sharing, cooperating, and helping one another along with focusing on unique programs, culture, and traditions around the world.

The preschool includes two multi-age classrooms of approximately 36 students and a team of five teachers offering diverse social-emotional curriculum as the older children share their experience and model behaviors for their younger friends. Daily activities include independent and small-group work periods, circle time, outdoor play, and time for academic focus on themes like phonetics, math, Spanish, music, art, PE, and science.





Sharon Ng
Special Programs
Director



Angelica Faustino
North Class Teaching
Assistant & Extended
Day



Michael Travis
South Class Preschool
& Kindergarten Teacher
Assistant



Hector Rivera
South Class Preschool
& Kindergarten Teacher
Assistant, Extended
Day Teacher



Diana Tirado
North Class Preschool
& Kindergarten Teacher
Assistant



In regards to sustainability, The SFS is committed to modeling and promoting environmental sustainability. They've implemented that in the following ways:

Awareness: The faculty makes it a point to educate students about environment-related issues making them aware of it as well as encouraging them to promote a healthy environment.

The Idea of Reusing: The school is also committed to reusing their materials as much as possible. They have a "Reusable Material" room where they store already used materials like lids, empty bottles, etc and try to make use of them in the activities conducted in school. They also store their scrap papers and encourage students to use those ones before asking for new ones. Moreover, they buy whatever materials possible from "SCRAP", a local, non-profit creative reuse center.

Donations: The SFS does a wonderful job at donating a lot of the materials and toys that are no longer in use to Non Profit schools rather than disposing them off.

Process

I was embedded in the school and conducted my research concurrently. There were three aspects to my work:

1) Create and conduct activities.

I integrated my design and art skills with sustainability practices in the activities I conducted every week at the school. For example, we led a "street clean up" activity where the students picked all the trash from the streets and made two posters that said "reduce, reduce, recycle" and "zero plastic" out of it. In another activity to tackle the problem of students hanging on the tree in the school and breaking its tender branches, we made students make a poster that would tell them not to hang on the tender branch. In a collaborative artwork of an ocean with various aquatic species, we highlighted the issue of sea pollution. On the special occasion of Diwali (a festival celebrated in my native country India), we conducted rangoli making activity where the students made patterns from "nontoxic" colored sand.

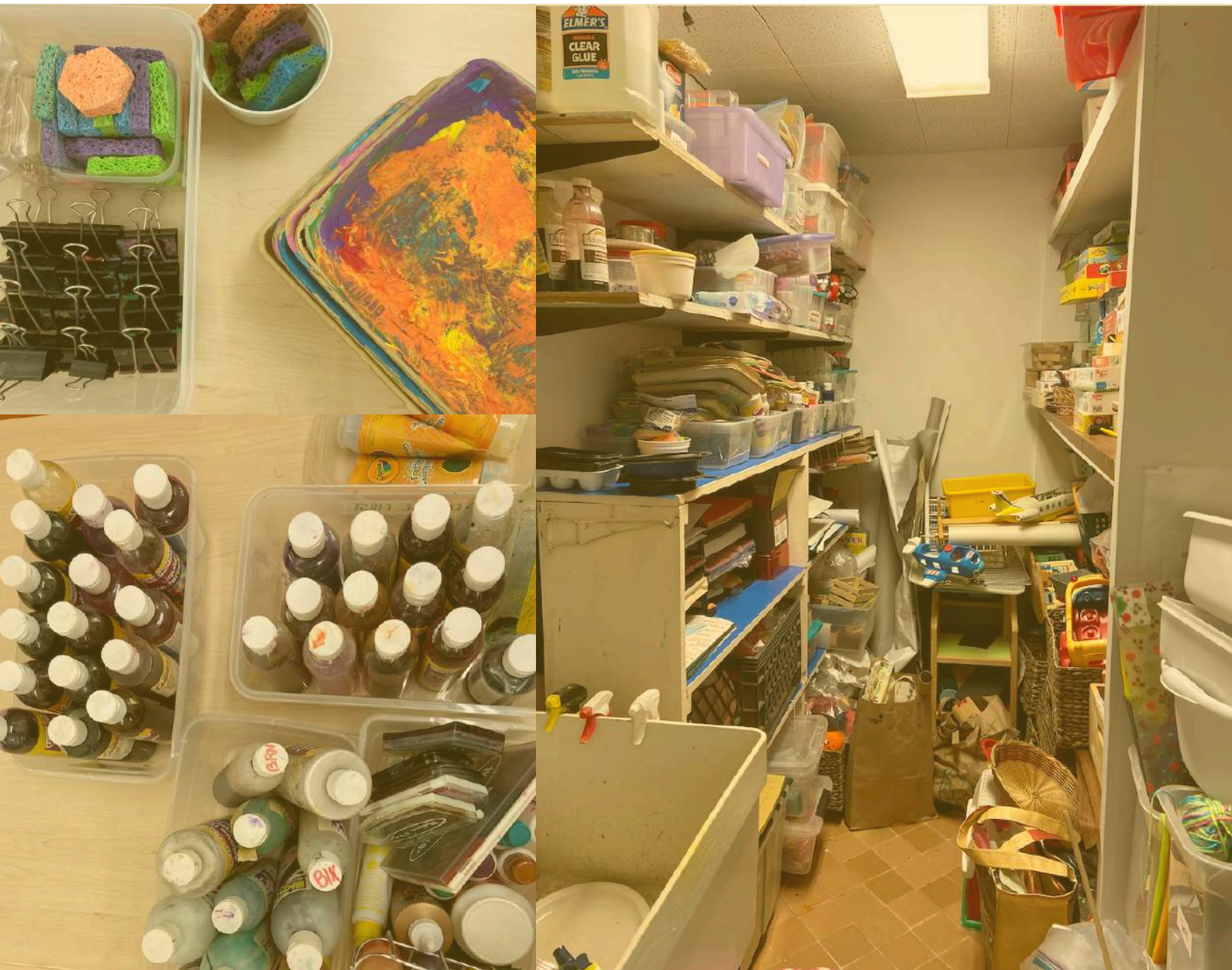
These activities would always be followed by a short video or a story that I'd read aloud to educate the students about the issues mentioned above.



Process

2) Organize the storage area for art supplies.

SFS's preschool has a storage room where it stores all its art supplies. I took up the job of organizing and making it more accessible. With that, I sorted and grouped the materials based on their type, and also, came up with a list of inventory of those materials.



Process

3) The Assessment.

I was influenced by an initiative from the UN that consists of 17 Sustainable Development Goals aiming to achieve a better and more sustainable future for all, addressing the global challenges that face societies, including poverty, inequality, climate change, environmental degradation, prosperity, peace, and justice. I viewed this project through the lens of Goal 12 that ensures sustainable consumption and production patterns. With that, I focused on how the preschool at SFS deals with the waste and procurement of their materials.



SUSTAINABLE DEVELOPMENT GOALS



Procurement

The SFS buys all its general art supplies in bulk at the beginning of the semester. These are purchased locally from Discount School Supply, a supplier of stationery.

For just-in-time supplies or when they are running out, their first stop is to go to SCRAP, a local, non-profit creative reuse center. Otherwise, they go to local art suppliers or grocery stores.



Scraps



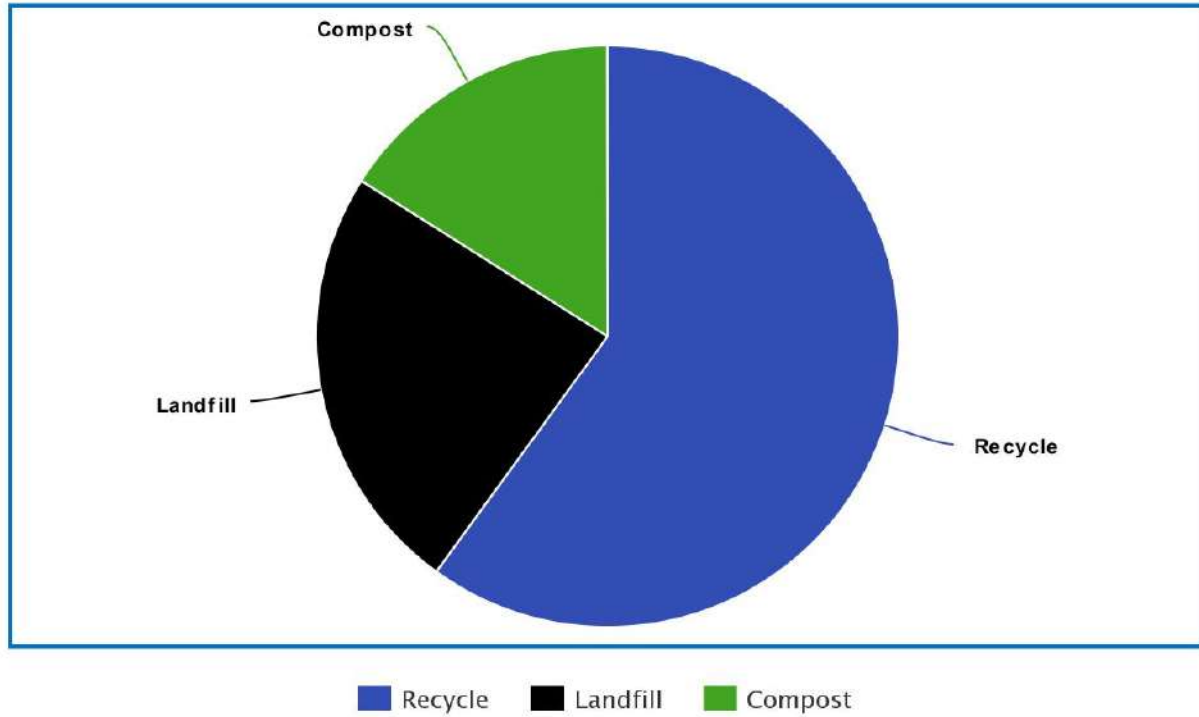
Discount School Supply

Art Materials

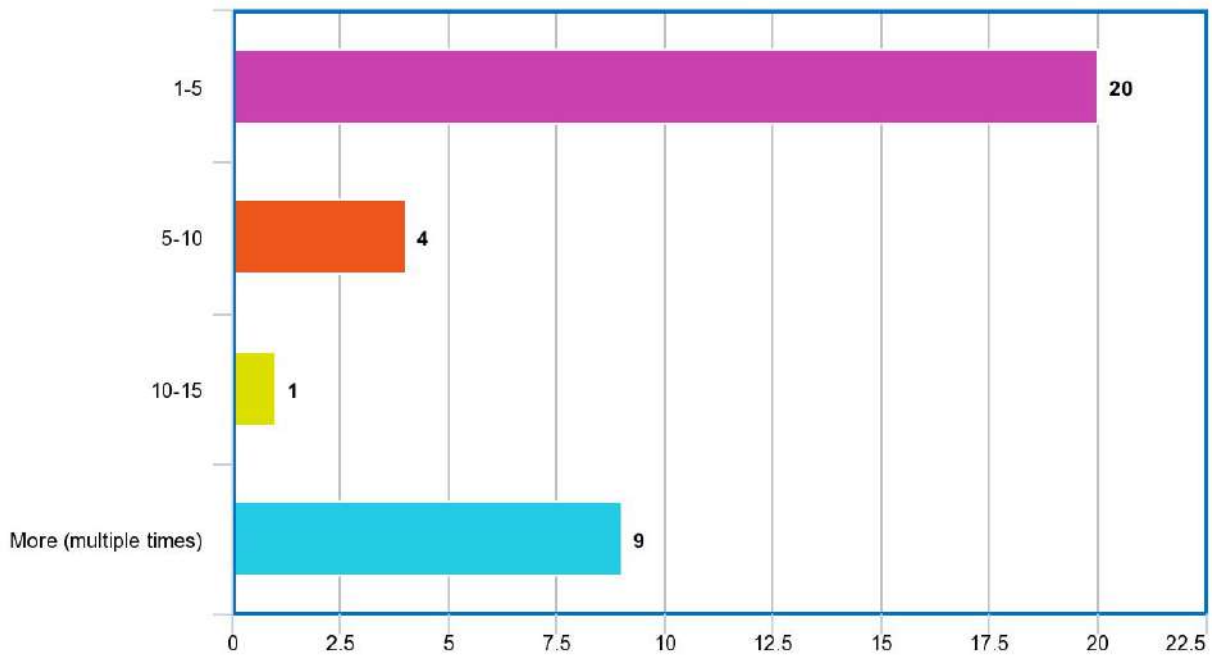
| Name | Quantity <small>Individual Item</small> | Cost | Source | Lifespan <small>Times it can be used</small> | Disposal | | |
|--|---|----------|---------------------------------|---|----------|---------|----------|
| Crayola Washable Paint | 11 small tubes <small>2 oz</small> 10 long tubes <small>8 oz</small> | \$ 3-4 | Discount School Supply | 4 times | Recycle | Compost | Landfill |
| Do-A-Dot Art! Markers | 8 <small>2.5 oz</small> | \$ 2.5 | | 8 times | Recycle | Compost | Landfill |
| BioColor® Paint | 13 tubes <small>16 oz</small> | \$ 4.7 | | 4 times | Recycle | Compost | Landfill |
| Colorations® Liquid Watercolors | 25 tubes <small>8 oz</small> (10 unopened 15 opened) | \$3.3 | | 4 times | Recycle | Compost | Landfill |
| Colorations® Glitter Paint | 2 <small>16 oz</small> | \$4 | | 4 times | Recycle | Compost | Landfill |
| DecoArt Acrylic Paint | 7 <small>2 oz</small> | \$2.2 | | 4 times | Recycle | Compost | Landfill |
| Boise POLARIS Paper (set of 500) | 1 <small>300 oz</small> | \$ 40 | Office Depot | 1-2 times | Recycle | Compost | Landfill |
| Set of tabloid sheets of paper (green, orange) | About 40 <small>70 oz</small> | \$25-30 | Discount School Supply or SCRAP | 1-2 times | Recycle | Compost | Landfill |
| Set of letter sheets of paper (green, orange, purple, pink, yellow, black) | About 70 <small>60 oz</small> | \$10-15 | | 1-2 times | Recycle | Compost | Landfill |
| Set of Index cards (red, yellow, brown, green, white) | About 100 <small>40 oz</small> | \$5-10 | | 1-2 times | Recycle | Compost | Landfill |
| Kid Made Modern Craft Sticks (100 sticks) (4 x 2 x 6) | 100 <small>50 oz</small> | \$1.8 | Discount School Supply | 4 times | Recycle | Compost | Landfill |
| Charles Leonard Erase Boards | 16 <small>13 oz</small> | \$8 | | 20 times | Recycle | Compost | Landfill |
| Avery Non-Glare Sheet Protectors | 100 (8.5 x 11) <small>30 oz</small> | \$20 | | 1-2 times | Recycle | Compost | Landfill |
| Elastic String Twine Cord | 8 <small>1x5</small> <small>9 oz</small> | \$3 | Unknown | 1-2 times | Recycle | Compost | Landfill |
| Bundle of yarn (small) | About 30 (8x 3.5x 3.5) <small>5 oz</small> | \$3 | | 1-2 times | Recycle | Compost | Landfill |
| Decorative bundle | 8 <small>1x5</small> <small>9 oz</small> | \$5 | | 1-2 times | Recycle | Compost | Landfill |
| White Utility Paper Roll | 1 <small>640 oz</small> | \$89 | Discount School Supply | 4 times | Recycle | Compost | Landfill |
| Brushes (different size) | 40 <small>About 6 oz</small> | \$50-100 | | Multiple times | Recycle | Compost | Landfill |
| Elmer's Glue Stick | 11 <small>1 oz</small> | \$2.5 | | 7 times | Recycle | Compost | Landfill |

| | Name | Quantity <small>Individual Item</small> | Cost | Source | Lifespan <small>Times it can be used</small> | Disposal | | |
|---------------|--------------------------------------|--|-------------|------------------------|---|----------|---------|----------|
| Art Materials | Crayola Markers | 23 <small>1 oz</small> | \$60 cents | Discount School Supply | 8 times | Recycle | Compost | Landfill |
| | Wiggle Googly Eyes | About 1000 <small>1.5 oz</small> | \$0.5 cents | Unknown | 1-2 times | Recycle | Compost | Landfill |
| | Glitter Container | 15 <small>4 oz</small> | \$3 | | 4 times | Recycle | Compost | Landfill |
| | Buttons | 600-700 <small>1 oz</small> | \$3 | | 1-2 times | Recycle | Compost | Landfill |
| | Paint stamps/ stencils (different) | About 40 <small>4 oz</small> | \$1.5 | | Multiple times | Recycle | Compost | Landfill |
| | Mini glue guns | 9 <small>15 oz</small> | \$3 | | Multiple times | Recycle | Compost | Landfill |
| | Multicolor Small Pompoms | About 500 <small>0.2 oz</small> | \$0.5 cents | | 1-2 times | Recycle | Compost | Landfill |
| Food | Kroger Assorted Food Color | 2 bottles <small>5.6 oz</small> | \$5 | Some Grocery Store | Multiple times | Recycle | Compost | Landfill |
| | Kingsford Corn Starch box | 1 <small>14 oz</small> | \$55 | | Multiple times | Recycle | Compost | Landfill |
| | Barilla® Classic Blue Box Pasta | 1 <small>16 oz</small> | \$2 | | Multiple times | Recycle | Compost | Landfill |
| | Crisco Pure Vegetable Oil | 1 <small>48 oz</small> | \$3.5 | | Multiple times | Recycle | Compost | Landfill |
| Containers | Plastic containers (different sizes) | 20 <small>Different sizes</small> | Unknown | Unknown | Multiple times | Recycle | Compost | Landfill |
| | Paper plates | 50 <small>8 oz</small> | \$5 cents | | 1-2 times | Recycle | Compost | Landfill |
| | Paper glasses | 50 <small>8 oz</small> | \$5 cents | | 1-2 times | Recycle | Compost | Landfill |

This figure shows what materials out of all the materials in the preschool are recyclable,compostable, or landfill.



This figure shows how many times (lifespan) a particular material can be used from the list above.



Most of the materials can only be used up to 5 times.

Waste

The preschool at SFS has three trash bins (recycle, compost, landfill) that get emptied twice a day. All this disposed trash is taken to the main dumpster in the school from where it is collected and taken care of by Recology (a company that collects and processes municipal solid waste).

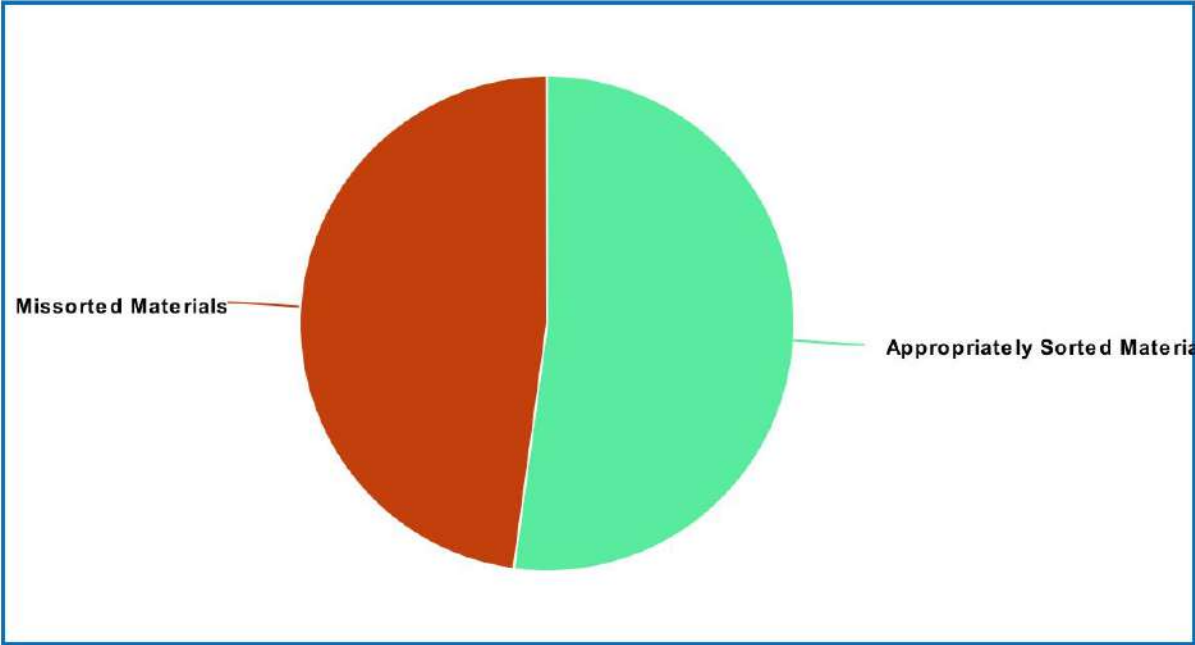


Materials found in the Trash Bins

| Compost | Recycle | Landfill |
|------------------------|----------------------------|-------------------------------|
| Paper Plates with Food | Paper Scaps | ✗ Paper Plates with Food |
| Paper Glasses | ✗ Thread | ✗ Paper Plates with Dry paint |
| Used Paper Tissues | ✗ Used Paper Tissues | ✗ Dry Paper Glasses |
| Scraps of Paper | Empty Cardboard Containers | ✗ Paper Scaps |
| Dry Paper Plates | Foam | ✗ Used Paper Tissues |
| ✗ Milk Container | Plastic Containers | Plastic Wrappers |
| ✗ Paint | Bottle Plastic | Food/Paint Spilled |
| ✗ Thin Plastic | | ✗ Food Container Dry |



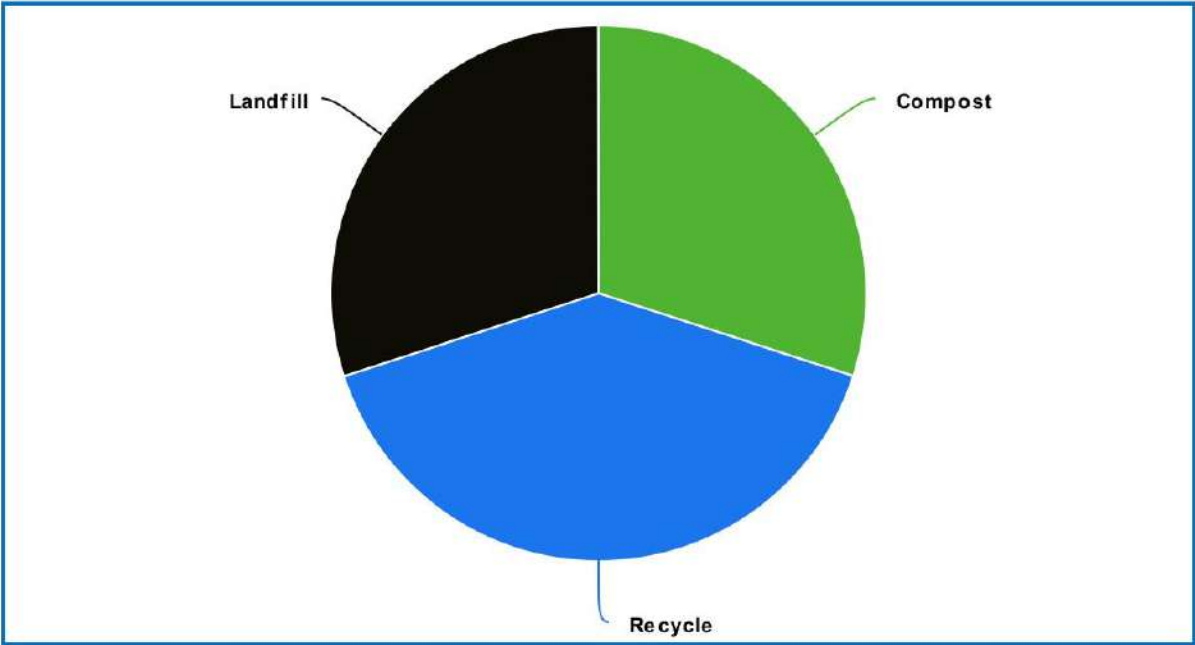
This figure shows the disposal of trash in the trash bin.



■ Appropriately Sorted Materials ■ Missorted Materials

48% of the trash is disposed incorrectly.

This figure shows where the trash found in landfill actually belonged



■ Compost ■ Recycle ■ Landfill

Much of the waste from the landfill bin could go into the recycling or compost bins.

Observations

Use of "disposable" items:

Paper Plates and Glasses: The SFS tends to use single-use disposable items. This is seen in the paper plates and paper cups provided to the kids during their breaks. Yes, they are paper plates and not plastic plates but this still leads to a lot of wastage. About 30 paper plates and 30 paper cups are used every day, this is about 660 each every month and in turn about 3960 every year. According to research conducted by Data Scope, it was found that a typical tree makes about 1000 paper plates/cups. That means indirectly about 4 trees are cut down for this.

Use of Plastic Containers: The SFS reuses plastic containers to hold art supplies like pens and scissors. Another share of the containers is stacked up in the storage room. The last group is put in the trash bins eventually.



Observations

Storage Evaluation:

Inaccessible and a lack of an inventory: The storage room in my first few weeks at the school seemed very inaccessible. The school also lacked an inventory. This led to continuous repurchasing of supplies that were already in there, which results in additional waste and cost. While organizing their inventory, many useful materials were thrown away due to their expiration.

Art Supplies that are not required: The preschool at SFS has a lot of art supplies that it does not require. This is largely because:

a) they don't know what is there in the storage room because of the lack of inventory. The SFS has not had an inventory for their supplies because of which they don't know what material is already there and end up buying more of it (as mentioned above).

b) Another reason is how they buy supplies in sets like a set of paints but they end up using some more than others. I saw yellow, red and orange being used a lot more than purple. To accommodate for the demand of yellow, red and orange paint more sets of paint must have been bought and with that they also bought purple paint and now there are 3 bottles of purple not being used.



Observations

Uneven Trash Compliance:

Even though the SFS is highly motivated towards making a sustainable atmosphere in school that helps children there do the same, the trash is often thrown in the wrong bins. Upon my analysis of the trash bins in the last month, a lot of things in the trash bin did not belong there. This is possibly due to unawareness. It was also noticed that they end up throwing a lot of things in landfills that could possibly go to compost or recycle. (In the tables)



Recommendations

1) Use of reusable plates like wood, ceramic or metal instead of paper or plastic.

These can be purchased from SCRAPS and if not that, then Amazon in bulk (links provided). The overall cost of these plates (\$15-50) would be almost the same as the paper plates purchased in the entire year. The following listed items are being shipped from sellers close to the school.

Link to where you can purchase it from:-

https://www.amazon.com/Pure-Palm-Disposable-All-Natural-Compostable/dp/B01LKFC6G/ref=sr_1_2_sspa?keywords=wood+plates&qid=1575879971&sr=8-2-spons&psc=1&spLa=ZW5jcnlwdGVkUXVhbGlmaWVyPUEyOFI3Q01CT1dFVENQJmVuY3J5cHRIZElkPUeWnDA4MeTc4MVU1QkwzR0NDV1JMSyZlbnNyeXB0ZWZRBZEikPUeWMTA3NzA2MldLN1U4VVdiQTFFViZ3aWRnZXROYW1IPXNwX2F0ZiZiY3Rpb249Y2xpY2tSZWRpcmVjdCZkb05vdExvZ0NsaWNrPXRydWU=

https://www.amazon.com/Sweeese-150-001-Porcelain-Dinner-Plates/dp/B07RYT72WB/ref=sr_1_6?keywords=ceramic+plates&qid=1575880006&sr=8-6

https://www.amazon.com/Nicessh-Stainless-Dinner-Holder-Container/dp/B01H35EAWI/ref=sr_1_7?dchild=1&keywords=metal+plates&qid=1575880031&sr=8-7

2) Keeping the storage room clean (and thus, accessible) and updating inventory (sample below). Having a sense of what you have in the storage unit would not only prevent you from buying extra supplies and them going to waste but also help you save on the cost. Moreover, this would tell you how much of a certain item gets used up in the entire year so that you can buy it in advance for the entire semester.

Classroom Inventory

Teacher _____ Room # _____ Date _____

| | Description | Serial # | Quantity |
|----|-------------|----------|----------|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |

Recommendations

3) Buying individual materials instead of buying materials in sets. This helps you reduce wastage and save cost by not spending extra money on purchasing materials you don't need as much.

4) A way to make sure art materials don't go to waste would be to donate whatever is not required to **SCRAPS**.



5) Putting attractive, friendly, and colorful poster(s) on trash bins would tell the teachers as well as the kids about what trash goes in which Trash bin.



Recommendations

6) Buying more environmentally friendly products. Some of the companies (and products they supply) are listed here. Their materials are about the same price and pretty accessible.

| | |
|---|---|
| Star Products' Ecosmart Dura-Tote Color Portfolios | https://www.star-products.com/ |
| Daler-Rowney's Earthbound Sketchbooks, Journals and Portfolios | https://www.daler-rowney.com/en/content/earthbound |
| Wyland Ecological Art Studio's ecological acrylic paints, brushes, and painting kits. | https://www.jerrysartarama.com/art-paints/acrylic-paints-and-mediums/wyland-ecological |
| Strathmore recently introduced its first line of artist recycled papers | https://www.strathmoreartist.com/green-landing.html |
| Fabriano's White Ecological Artist Paper (for drawing) is acid-free, | https://fabriano.com/en/39/white_ecological_artist_paper |

7) Lastly, I believe "sustainability" should be seen as one of the goals of the SFS. With that, they should keep striving to become more sustainable and educating the students there about the same.

Acknowledgments

I would like to express my deepest appreciation to the faculty and staff at **the San Francisco School** who constantly provided me the possibility to complete this report. A special gratitude I give to **Sharon Ng**, whose contribution in stimulating suggestions and encouragement, helped me gain an understanding of working with kids in a professional realm along with writing this sustainability report.

I would also like to thank **Maria Mortati** helped me at every step of the way and worked on this report with me.



Sources:-

<https://www.recology.com/>

<https://www.theworldcounts.com/stories/Paper-Waste-Facts>

<https://www.sfschool.org/>

<https://globalgoodspartners.org/collections/eco-gifts?>

[gclid=Cj0KCQiA_rfvBRCPARIsANIV66NOK8GI8RaB6jhsx4cgEcz3NuAsu_0OWeKS1HI-Fu9zoRzQkoMuua8aAuCdEALw_wcB](https://globalgoodspartners.org/collections/eco-gifts?gclid=Cj0KCQiA_rfvBRCPARIsANIV66NOK8GI8RaB6jhsx4cgEcz3NuAsu_0OWeKS1HI-Fu9zoRzQkoMuua8aAuCdEALw_wcB)

<https://sustainabledevelopment.un.org/sdgs>