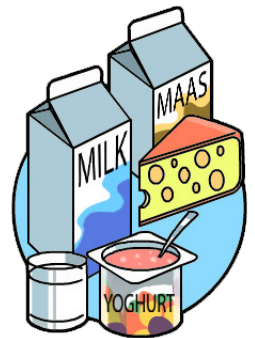
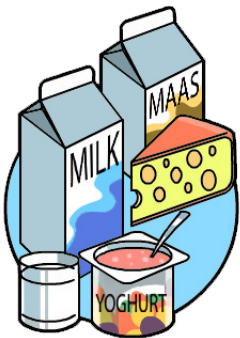


Recycling Art Challenge

*Dairy for a healthy me
and a healthy planet!*



*Teacher's Guide
Criteria and Challenge
Guidelines Booklet*



Grade 7

General Guidelines:








Topic introduction

Use nutritional information about dairy products during teaching time to inform learners about the importance of dairy - visit www.dairykids.co.za.

Dairy in our daily diet -

1. All dairy contains nine important nutrients we should consume daily.
2. Three servings of dairy will give you most of the bone-building mineral calcium you need daily.
3. Dairy products are all very nutritious.
4. Some products like yoghurt and cheese have less lactose than milk but are just as tasty! These fermented products are suited for people with lactose intolerance.




Art challenge introduction


-  Collect empty dairy product packaging such as empty milk sachets, plastic containers, cups, bottles or bags, bottle lids, etc. and upcycle them into art.
-  Learners must wash all the collected packaging with soap and water and allow it to air dry completely.
-  Learners are to create artwork from recycled dairy packaging material.
-  Learners must be innovative and creative. Learners participate individually.
-  Educators must select and group the participating learners according to their grades.
-  Educators must guide the selected groups to create artistic pieces from recycled dairy packaging materials.
-  Learners are expected to do the work alone.



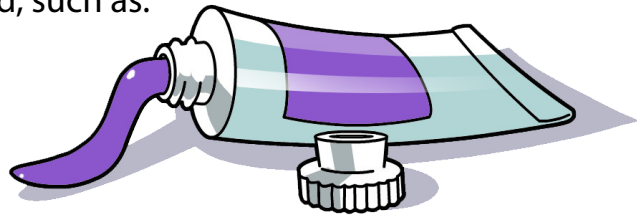
Grade 7 Art Challenge


Category: Interior Decoration

-  Learners participate individually.
-  Learners must create an interior decoration.
-  Learners must use recycled dairy packaging such as dairy or milk sachets, plastic containers, cups, bottles or bags, bottle lids, etc.

 Items for decoration can also be used, such as:

- Pom poms
- Paint
- Pipe cleaners
- Wool
- Jewel stickers
- Straws
- Beads
- Buttons
- Tissue paper
- Scraps of fabric



 Learners must use strong craft or wood glue to create the art piece.

 Educators are to use the rubric included to mark submissions.



<https://bit.ly/44ocrtV>

Lesson Plan 1

Activity: Create a classroom collection point for recyclable dairy product containers.

In this activity, teachers will create a central point for collecting recyclable dairy product containers in their classroom.

What you will need:

1. A large, old box or any large container suitable for collecting and storing recyclable dairy product containers.
2. Large sheets of A3 paper.
3. Coloured markers, pencils or crayons.



How to teach the lesson:

Obtain a large box or container. Divide the learners into groups and each group is to create 'poster labels'. Put the label information on the board so learners can copy it onto their poster labels.

Instructions:

1. The educator must place the learners into groups of 3 or 4. Ensure each group has a piece of A3 paper and coloured markers, pencils or crayons.
2. Learners must create a label for the large box or container. The label should read, 'Clean, dry containers go here'.
3. Learners can also create and place posters around the school to promote and encourage the collection. The signs can read, 'We need your help to recycle!' The learners can write the information and decorate by drawing pictures of yoghurt containers, milk bottles, cheese wrappers etc. Learners can even stick dairy product packaging onto the posters to create a 3D poster.
4. Learners must be guided to stick up the posters in appropriate locations around the school.
5. Educators must ensure that the collection begins as soon as possible.



Lesson Plan 2

Activity: E-waste and e-waste recycling

In this activity, educators will inform learners about e-waste and e-waste recycling and its importance.

What you will need:

1. The information provided.
2. The worksheet provided.
3. The YouTube video links provided.

How to teach the lesson:

The educator begins the lesson by asking the learners questions about e-waste and e-waste recycling. Answers can be written on the board.

The educator must then use the information provided to inform the learners about e-waste and e-waste recycling. Educators must stress how vital recycling e-waste is to our environment.

Instructions:

1. The educator must gather the learners to sit at their desks.
2. The educator guides a discussion with the learners by posing the following questions:
 - a. What is e-waste?
 - b. What is e-waste recycling?
 - c. Do you know why it is important to recycle all your e-waste?
 - d. What can you do to recycle your e-waste?
3. The educator is to provide examples to support the discussion.

E-waste and E-waste recycling

E-waste, or electronic waste, refers to discarded electronic devices such as computers, smartphones, tablets, televisions, and other electronic equipment. E-waste is any electronic device that is no longer wanted or functional. It includes both working and non-working devices. E-waste contains materials like metals, plastic and chemicals, which can harm the environment if not properly managed.

Environmental impact

Improper disposal of e-waste can have severe environmental consequences. Toxic substances like lead, mercury, cadmium, and flame retardants present in e-waste can leach into soil and water, polluting the ecosystem and posing health risks to humans and wildlife.

Recycling e-waste

Recycling e-waste is crucial to reduce its environmental impact. Recycling involves collecting, sorting, and processing e-waste to recover valuable materials for reuse. Recycling conserves natural resources and prevents the release of hazardous substances into the environment.

E-waste recycling process:

The e-waste recycling process typically involves the following steps:

a. **Collection**

E-waste is collected from various sources like drop-off centres, recycling events, or specialised e-waste recycling programs.

b. **Sorting**

The collected e-waste is sorted into different categories based on the type of materials and components present.

c. **Dismantling**

The devices are dismantled to separate different parts and components.

d. **Recovery and recycling**

Valuable materials like metals (such as gold, silver, and copper) and plastics are recovered through shredding, grinding, and chemical treatment.

e. **Proper disposal of hazardous components**

Hazardous substances like batteries and circuit boards are safely disposed of or treated to minimise environmental harm.

Recycling e-waste has several advantages:

a. **Resource conservation**

Recycling e-waste helps recover valuable metals, plastics, and other materials, reducing the need for extracting new resources.

b. **Energy savings**

Recycling e-waste requires less energy than extracting and processing raw materials from scratch.

c. **Waste reduction**

Recycling reduces the amount of e-waste in landfills, thus conserving landfill space.

d. **Preventing pollution**

Proper recycling prevents hazardous materials from contaminating soil, water, and air.

Responsible disposal options

When disposing of e-waste, explore the following responsible options:

a. **E-waste recycling programs**

Many communities have designated e-waste recycling programs or collection centres. Find out about local options and drop-off points.

b. **Manufacturer or retailer take-back programs**

Some manufacturers and retailers offer take-back programs where you can return old electronic devices for proper recycling.

c. **Donations and refurbishment**

If your devices are still functional, consider donating or selling them to someone who can use them.

d. **Data security**

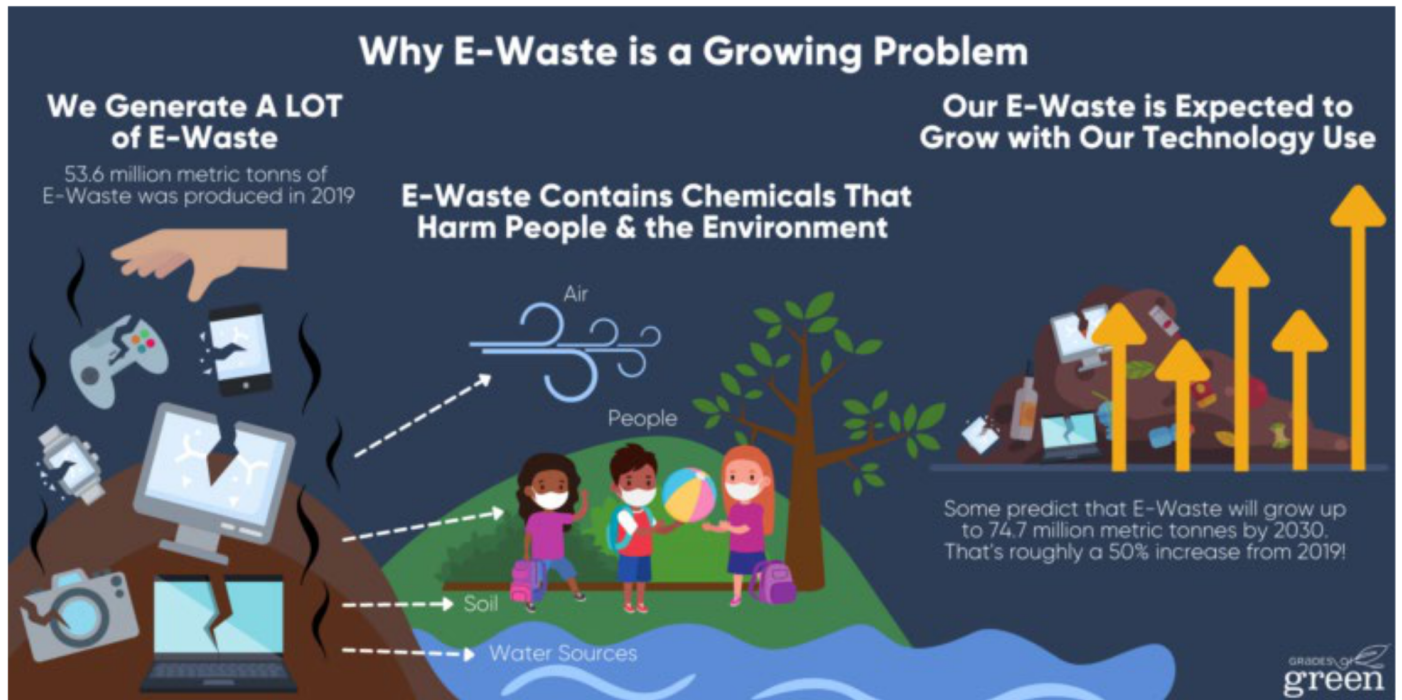
Before recycling, ensure you have securely erased personal data from your devices.



Awareness and education

Spread awareness about e-waste recycling among your peers, family, and community. Educate others about the proper disposal methods and the potential environmental and health impacts of improper e-waste handling.

Remember, by recycling e-waste, you're contributing to a cleaner environment, resource conservation, and the responsible management of electronic devices.



<https://bit.ly/3CRZpcu>

Teacher Resources:

bit.ly/3PvHpw3

<https://bit.ly/3Xtyeya>



Lesson Plan 3

Activity: Brainstorm ideas for interior items made using dairy product containers.

What you will need:

1. Examples of interior items constructed using dairy product containers.
 - ✓ Educator can make their example at home or school to bring in for a practical, 'hands-on' example.
2. A variety of clean and dry dairy product containers.
3. A selection of art decorations such as pom poms, stickers, pipe cleaners, shredded paper, ribbon, wool, string etc
 - ✓ This is optional. Educators must encourage learners to see what they have at home before spending money unnecessarily.
 - ✓ The emphasis is on recycling, so purchasing supplies is counterproductive to the theme.
 - ✓ Educator must provide alternatives to store purchased art supplies – using a two-hole punch to punch coloured paper can create confetti.
 - ✓ Educators to encourage learners to look to nature for materials too.

How to teach the lesson:

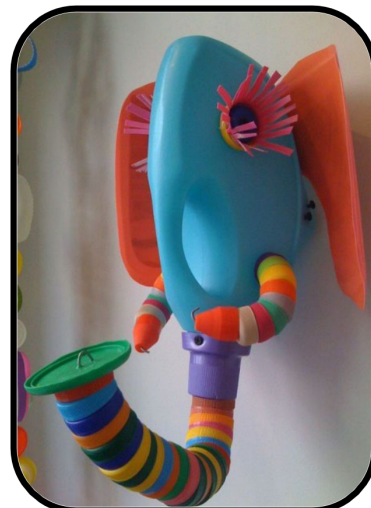
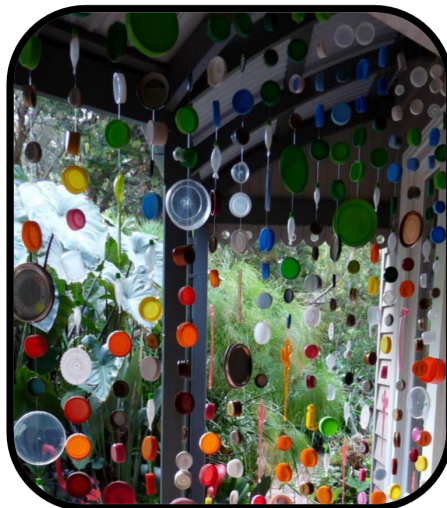
1. Educators must use pictures of items made from recyclables to show the learners and inspire some ideas.
2. An excellent example is an interior item created by the educator.
 - a. This is an excellent idea.
 - b. The learners will respond very well to touching and holding a real-life example.
 - c. Educators must use this opportunity to show how important it is to properly glue, staple, or sew the items and ensure their fashion items are substantial and of sturdy construction.
3. Educators can hold up dairy product containers and ask questions to spark the learners' imagination:
 - a. Hold up a bottle top, for example, and ask the learners what that can be used for.
 - b. Educators may write the answers on the board to create a mind map. Learners may also do the same.
 - c. Educators can ask the learners to come up and choose a dairy product container and then inform the class what that item can be used for.

4. Educators must instruct learners to draw their fashion items on paper.
5. Learners must label their drawings and use that information to create a list of items they need to construct their fashion items.

Examples of interior decorations:



<https://bit.ly/3NRmuCu>
<https://bit.ly/3ppPI22>
<https://bit.ly/3NRttLS>
bit.ly/3PzlnJ2
<https://bit.ly/44k3l1A>
<https://bit.ly/3r9xPEY>



Lesson Plan 4

Activity: Create an interior decoration using recycled dairy product containers.

In this activity, educators will introduce the art project whereby learners create an interior item using recycled dairy product containers. This activity aims to facilitate the learner's creation of an art piece that can be submitted to the art challenge.

What you will need:

1. Clean, empty dairy product containers.
2. Scissors.
3. Glue – craft or wood.
4. Stapler and staples (optional).
5. Needle and thread (optional).
6. Glue gun (optional).
7. Coloured paper.
8. Paint and paint brushes.
9. Decorative or craft items.



How to teach the lesson:

Educators must oversee the learners while constructing a fashion item. Educators must ensure that the learners have their design plan and that they follow it.

TOP TIP – Each class could choose to do the same fashion item to make things easier for all involved.

1. Once all the components are prepared, learners must glue, staple, or sew them together.
2. Learners must put old newspapers (or the equivalent) to protect the desks from damage when using glue or paint.
3. Learners can bring pegs or clips to help the parts adhere to each other appropriately.
4. Learners can also stick coloured paper or tissue to their landscape instead of paint.
5. Learners can stick on decorative items such as stickers, pom poms, buttons, string, ribbon, wool, stickers, sequins, etc.
6. Educators must create and provide each learner with a label that includes their name, surname, and grade. This label must be secured to each learner's fashion item.

Teacher's Resources

Unique Ideas | Make Beautiful (Portulaca) Square Planter Pot For Your Garden

bit.ly/3PzlnJ2



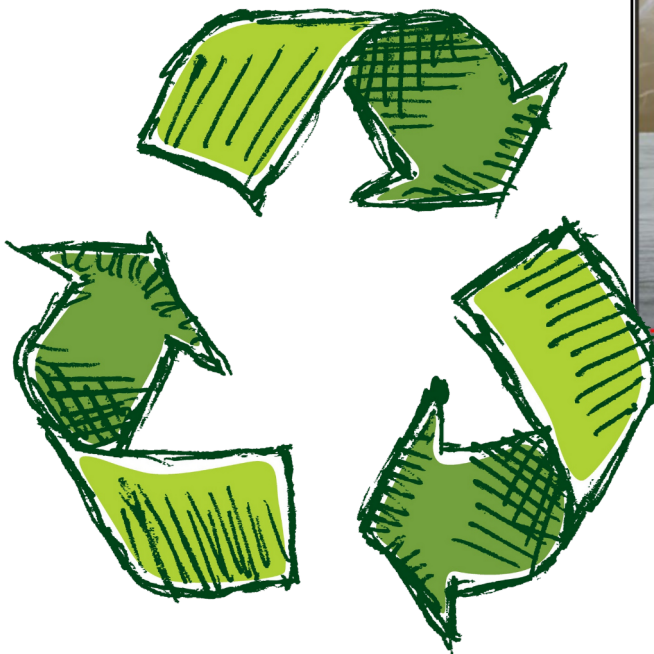
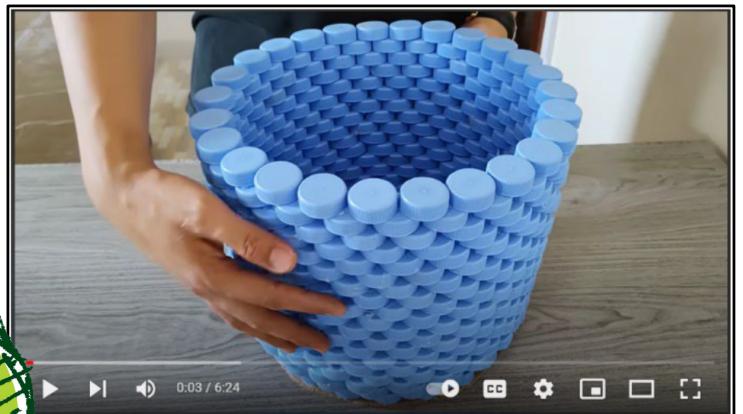
Recycled Newspaper DIY | Easy to make Home Decor | DIY Creator | nami

bit.ly/3ppPI22



LAUNDRY BASKET FROM PLASTIC BOTTLE CAP | Very Easy DIY Plastic Recycle Ideas | Arts & Crafts

<https://bit.ly/3NMEOwx>



Lesson Plan 5

Activity: Healthy Eating

Educators will inform learners about the dairy matrix.

What you will need:

1. The included information.
2. The included dairy product worksheet and memo.
3. The YouTube links provided.

How to teach the lesson:

The educator must begin by asking the learners questions about the dairy matrix. Educators can make notes on the board of the examples provided by the children. Once the discussion is complete, the educator must recap the benefits of the dairy matrix.

Instructions:

1. The educator must gather the learners to sit at their desks.
2. The educator guides a discussion with the learners by posing the following questions:
 - ✓ What is a dairy matrix?
 - ✓ How does the dairy matrix benefit our bodies?
 - ✓ What are bioactive compounds?
3. The educator must read through and teach the information provided.
4. The educator must then inform learners how.

The dairy matrix refers to dairy products' unique composition and structure, specifically milk and its derived products like cheese, yoghurt, and butter. The dairy matrix plays a significant role in how the body digests, absorbs and utilises dairy's nutrients and bioactive components.

Bioactive components are substances found in food that specifically affect the body. These components can have positive impacts on our health and well-being. They are often naturally occurring compounds in food that go beyond essential nutrition.

Here's some information about the dairy matrix:

Nutrient composition

The dairy matrix is rich in essential nutrients such as proteins, carbohydrates (lactose), fats, vitamins (A, B1, B2, B6, & B12), minerals (calcium, phosphorus, potassium, etc.), and bioactive compounds (peptides, enzymes, etc.).

Protein quality

Dairy products are an excellent source of high-quality proteins, containing the body's essential amino acids.

Fat content and composition

The fat content in dairy products varies depending on the processing method and product type. The dairy matrix's unique combination of fatty acids contributes to its taste, texture, and nutritional properties.

Calcium and bone health

Dairy products are known for their high calcium content, vital in maintaining strong bones and teeth. The body quickly absorbs the calcium in the dairy matrix.

Digestibility and bioavailability

The presence of proteins, fats and other components in the matrix affects the release and absorption of nutrients during digestion. For example, the fat content in dairy can enhance the absorption of fat-soluble vitamins like vitamin D.

Fermented dairy products

Fermented dairy products like yoghurt and some cheeses undergo additional processing steps involving the action of beneficial bacteria.

Health benefits

The dairy matrix contains various bioactive compounds associated with potential health benefits. Additionally, specific components in dairy have been linked to potential health benefits such as anti-inflammatory and anticancer effects.

It's important to note that individual responses to the dairy matrix may vary based on lactose intolerance, allergies and dietary preferences. If you have any specific concerns or dietary needs, it's best to consult a healthcare professional or registered dietitian for personalised advice.

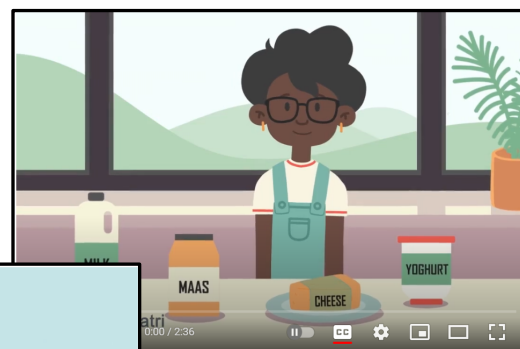
Teacher resources

Discover the dairy matrix by Rediscover Dairy

<https://bit.ly/3JzXVHO>

The Dairy Matrix

<https://bit.ly/46sp2hS>



Dairy Matrix Word Scramble

Unscramble the following words. Use the bold letter as a clue to help you start each word.

d	t	n	e	F	m	r	e	e	
---	---	---	---	----------	---	---	---	---	--

c	l	C	i	a	m	u	
---	---	----------	---	---	---	---	--

t	u	i	r	t	o	i	N	l	a	
---	---	---	---	---	---	---	----------	---	---	--

i	B	c	a	o	i	t	e	v	
---	----------	---	---	---	---	---	---	---	--

i	r	a	M	t	x	
---	---	---	----------	---	---	--

H	a	h	e	t	l	
----------	---	---	---	---	---	--

a	i	V	t	s	m	n	i	
---	---	----------	---	---	---	---	---	--

a	t	c	e	a	r	B	i	
---	---	---	---	---	---	----------	---	--

u	h	Y	g	o	t	r	
---	---	----------	---	---	---	---	--

e	e	n	B	i	f	s	t	
---	---	---	----------	---	---	---	---	--

Memo

d	t	n	e	F	m	r	e	e	Fermented
---	---	---	---	---	---	---	---	---	-----------

c	l	C	i	a	m	u	Calcium
---	---	---	---	---	---	---	---------

t	u	i	r	t	o	i	N	l	a	Nutritional
---	---	---	---	---	---	---	---	---	---	-------------

i	B	c	a	o	i	t	e	v	Bioactive
---	---	---	---	---	---	---	---	---	-----------

i	r	a	M	t	x	Matrix
---	---	---	---	---	---	--------

H	a	h	e	t	l	Health
---	---	---	---	---	---	--------

a	i	V	t	s	m	n	i	Vitamins
---	---	---	---	---	---	---	---	----------

a	t	c	e	a	r	B	i	Bacteria
---	---	---	---	---	---	---	---	----------

u	h	Y	g	o	t	r	Yoghurt
---	---	---	---	---	---	---	---------

e	e	n	B	i	f	s	t	Benefits
---	---	---	---	---	---	---	---	----------

Educator Resources:

Recycling Challenge Rubric

Name of the learner: _____

Grade: 7

Name of the School: _____

District/Circuit: _____

Province: _____

Category: Interior Decoration

	Excellent	Good	Average	Poor	Criteria not Met
Criteria:	5	4	3	2	1
1. Theme/Subject Matter/Category <ul style="list-style-type: none"> The theme is clear and well-presented. The project shows detail. The learner has followed all instructions. 					
2. Creativity <ul style="list-style-type: none"> The art produced is original and shows creativity. All the graphics and objects used adhere to the design brief. A good variety of materials have been included. 					
3. Use of Dairy Product Packaging <ul style="list-style-type: none"> There is evidence that dairy product has been used. Packaging is identifiable; not entirely hidden by paint. 					
4. Composition and Technical Level <ul style="list-style-type: none"> The construction of the interior item is sturdy and robust. The construction is well thought out. The item is appropriate to the interior of a house. The item serves a functional or decorative purpose. 					
5. Overall Presentation <ul style="list-style-type: none"> The art shows a high level of creativity and originality. The art is very indicative of artistic ability and competence. The overall quality and standard of work are successful in all areas. 					
Total score:					