

Middle School - STEAM Theme 2 Environmental

Theme 2 is from October 12th – November 20th. STEAM is conducted twice a week.

Activity 1 (October 13th): How Big Is Your Footprint?

- Carbon Footprint Worksheet (provided)
- Footprint Art Worksheet (provided)

Activity 2 (October 15th): Biosphere

- Mason jars with seals and lids (provided)
- Clean sand/gravel (provided)
- Activated charcoal (provided)
- Plants **(not provided)**
- Water **(not provided)**
- Soil (provided)
- Moss (provided)

Activity 3 (October 20th): Camouflage & Environment

- White writing/drawing paper **(not provided)**
- Scissors **(not provided)**
- Markers or colored pencils **(not provided)**
- Pencil **(not provided)**

Activity 4 (October 22nd): Recyclart

- Recycled materials **(not provided)**
- Tape **(not provided)**
- Glue **(not provided)**
- Stapler **(not provided)**
- Markers or crayons **(not provided)**
- Other embellishments (optional) **(not provided)**

Activity 5 (October 27th): Debate

- A pencil (not provided)
- The worksheet "Debate Organizer" (provided)
- Article from Time for Kids - "Should Tropical Fish Sales Be Banned?" (provided)

Activity 6 (October 29th): Art Gallery-Our World Our Home

- Round lids (large margarine lids work best) **(not provided)**
- Permanent markers **(not provided)**
- Glue **(not provided)**
- Food coloring (blue) (provided)
- Cups for glue **(not provided)**
- Popsicle sticks (provided)

Activity 7 (November 3rd): Save the World

- Save the World Fact Sheet (provided)
- Super hero template (provided)
- Markers, crayons, colored pencils **(not provided)**

Activity 8 (November 5th): Reuse

- Old T-Shirts **(not provided)**
- Scissors **(not provided)**

Activity 9 (November 10th): Food Chain Stacking Cups

- 5 Cups (provided)
- Animal worksheet (provided)
- Glue or tape (**not provided**)
- Crayons, markers or colored pencils (**not provided**)

Activity 10 (November 12th): BEES PLEASE!

- Red and green Pom Poms (provided)

Activity 11 (November 17th): Pollution Prevention Plan

- 18in x 24in Posters (provided)
- Paper (**not provided**)
- Markers (**not provided**)

Activitiy 12 November 19th): Pollution Plan Presentation

- Posters from Activity 11

Escuela Secundaria - Tema STEAM 2 Ambiental

El tema 2 es del 12 de octubre al 20 de noviembre. STEAM se realizado dos veces por semana.

Actividad 1 (13 de octubre): ¿Qué tan grande es tu huella?

- Hoja de trabajo de huella de carbono (proporcionado)
- Hoja de trabajo de arte de huella (proporcionado)

Actividad 2 (15 de octubre): Biosfera

- Tarro de albañil con sellos y tapas (proporcionado)
- Arena limpia/graca (proporcionado)
- Carbón activado (proporcionado)
- Plantas (no incluido)
- Agua (no incluido)
- Suelo (proporcionado)
- Musgo (proporcionado)

Actividad 3 (20 de octubre): Camuflaje y Ambiente

- Papel blanco de escritura/dibujo (no incluido)
- Tijeras (no incluido)
- Marcadores o lápices de colores (no proporcionados)
- Lápiz (no incluido)

Actividad 4 (22 de octubre): Recyclart

- Materiales reciclados (no suministrado)
- Cinta (no incluido)
- Pegamento (no suministrado)
- Engrapadora (no incluido)
- Marcadores o crayolas (no proporcionados)
- Otros adornos (opcional) (no incluido)

Actividad 5 (27 de octubre): Debate

- Un lápiz (no incluido)
- La hoja de trabajo "Organizador de Debate" (proporcionados)
- Artículo de Time for Kids - "¿Debería prohibirse la venta de pescado tropical?" (proporcionado)

Actividad 6 (29 de octubre): Galería de Arte-Nuestro Mundo Nuestro Hogar

- Tapas redondas (las tapas de margarina grandes funcionan mejor) (no se proporcionan)
- Marcadores permanentes (no suministrado)
- Pegamento (no suministrado)
- Colorante de alimentos (azul) (proporcionados)
- Tazas de pegamento (no incluido)
- Palitos de helados (proporcionados)

Actividad 7 (3 de noviembre): Salvar al mundo

- Guardar la hoja informativa mundial (proporcionados)
- Plantilla de superhéroe (proporcionados)
- Marcadores, crayola, lápices de colores (no proporcionados)

Actividad 8 (5 de noviembre): Reutilizar

- Camisetas viejas (no incluido)
- Tijeras (no incluido)

Actividad 9 (10 de noviembre): Tazas apilamiento de la cadena alimentaria

- 5 tazas (proporcionados)
- Hoja de trabajo de animales (proporcionados)
- Pegamento o cinta (no suministrado)
- Crayola, marcadores o lápices de colores (no proporcionados)

Actividad 10 (12 de noviembre): ABEJAS POR FAVOR!

- Pompones rojo y verde (proporcionado)

Actividad 11 (17 de noviembre): Plan de Prevención de la Contaminación

- Carteles de 18 pulgadas x 24 pulgadas (proporcionado)
- Papel (no suministrado)
- Marcadores (no suministrado)

Actividad 12 (19 de noviembre): Presentación del Plan de Contaminación

- Carteles de la Actividad 11



Our Carbon Footprint

Using the picture cards, layout the lifestyle you want in the future.

Add up the number of 'carbon tokens' (tonnes of carbon) your dream house and lifestyle choices use.

The number indicated next to each item is PER item (e.g. If you have two Toyota Hilux vehicles, you need to take 20 tokens).

For some steps you can choose multiple cards (e.g. you may want a garden with a small lawn, a veggie garden and trees).

Example:

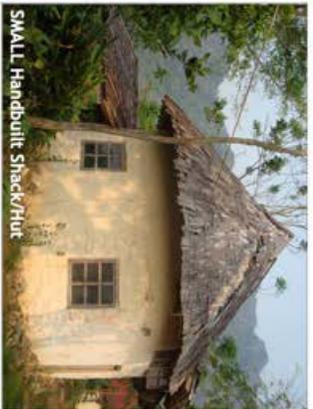
Selection	Tokens	How many?	Tonnes of carbon (tokens x how many)
4WD	10	2 cars	10 x 2 = 20

Selection	Tokens	How many?	Tonnes of carbon (tokens x how many)
Size of your house/block (choose one)			
Choose what sort of house you will have:			
HUGE - Mansion or large house with several bedrooms/bathrooms on a large block	4		
LARGE - Brick home or similar with 4 bedrooms+ and 2 bathrooms+ on a large block	3		
MEDIUM - Terrace or house with 2-4 bedrooms, up to 2 bathrooms	2		
SMALL - cottage or modest house with 2-3 bedrooms, 1 bathroom, on a small block	2		
Energy (Red Cards) (choose one)			
Choose what sort of energy you will use to power your house:			
Mains Electricity	4		
Natural Gas	2		
Solar Power	1		
Wind Power	1		

Selection	Tokens	How many?	Tonnes of carbon (tokens x how many)
Heating/Cooling (Orange Cards) (choose as many as you want)			
Choose what heating/cooling you will have:			
Electric heating/cooling (e.g. split systems/ducted)	3		
Gas heating	2		
Wood heating	1		
Passive heating (just windows for air flow and sunlight)	0		
Personal Transport (Grey Cards) (choose as many as you want)			
Choose what transport you will use?			
4WD (e.g. Toyota Hilux)	10		
Small Manual Car (e.g. Toyota Corolla)	4		
Hybrid Car (e.g. Toyota Prius)	3		
Bus or Public Transport	2		
Cycling or Walking	0		
Eating (Dark Brown Cards) (choose one)			
Choose what sort of food you will eat:			
Red Meat (Beef or Lamb) at least once per day	6		
Balanced Meals (Red/White Meat and Fish)	2		
Organic, Vegetarian, Local	0		
Grocery shopping (Light Brown Cards) (choose as many as you want)			
Where will you get your food from?			
Major Supermarket (Coles/Woolies)	3		
Local Supermarket stocking local foods (IGA)	2		
Local Farmers Market	0		
Grow your own fruit & veg	0		
Stuff (Dark Pink Cards) (choose either mostly new or mostly secondhand, then add things with loads of packaging if you want)			
What sort of 'stuff' you will own?			
Mostly NEW clothes and furniture	4		
Mostly secondhand clothes and furniture	0		
Things with loads of packaging	1		
Waste (Yellow Cards) (choose one)			
How do you dispose of waste?			
Mostly Landfill	4		
Recycling (more than half)	3		
Recycling & compost (more than half)	2		
Recycling & compost (small amount because not much comes in packaging)	1		



Selection	Tokens	How many?	Tonnes of carbon (tokens x how many)
Garden (Green Cards) (choose as many as you want)			
What sort of garden will you have?			
Big lawned areas	4		
Small lawn	2		
Rose Garden	1		
Vegetable Garden	0		
Trees	-1 (take one token away)		
Native garden (with local native plants)	-2 (take two tokens away)		
Drinking water (Light Blue Cards) (choose one)			
Where does your drinkable water come from?			
Mains water (tap)	2		
Rainwater tanks	0		
Bottled Water	5		
Activities (Purple Cards) (choose as many as you want)			
What activities will you undertake?			
Skydiving	5		
Travel	5		
Quad bikes (or other extreme sports)	5		
Movies & Restaurants	3		
Bushwalking	0		
Gardening	0		
Travel (Dark Blue Cards) (choose as many as you want)			
What sort of travel will you do?			
International travel	4		
Bus or train travel around Australia	2		
Public transport locally	1		
Stay at home	0		
Selection			
	Tokens	How many?	Tonnes of carbon (tokens x how many)
Home Entertainment (Light Pink Cards) (choose as many as you want)			
What sort of home entertainment will you have?			
Wide screen plasma tv	2		
Surround sound	1		
Game console (e.g. Xbox)	2		
mp3 Player (iPod)	1		
Computer	2		
IPad	1		
TOTAL:			



SMALL Handbuilt Shack/Hut



SMALL Modest Stone Cottage



SMALL Modest Stone Cottage



MEDIUM Two-storey Terrace



MEDIUM Two-storey Terrace



LARGE Brick House

Debate an Environmental Issue

From <http://www.timeforkids.com/news/debate/219786>

Should the sale of tropical fish be banned?

FEBRUARY 27, 2015

By Brenda Iasevoli



JOHN DICKSON—GETTY IMAGES

Off the coast of Hawaii's Big Island swim masses of colorful fish. Some of these fish will be scooped into nets, shipped off, and sold. They will end up in aquariums around the world. Should the exotic fish be sold in pet stores? Or is the industry putting populations of the fish at risk?

Scientists who have studied the Big Island fishery say it is well managed. Rules put in place more than 15 years ago have helped to protect the fish. Along 35% of the coastline, for example, fish collecting is banned. Two years ago, the state cut the number of fish species that could be taken for the aquarium trade from hundreds to just 40.

These rules, scientists say, are working. A recent report shows that yellow tang, which makes up 84% of the aquarium catch, is growing in population. Their numbers have increased by 65% in protected areas. Over the entire West Hawaii coast, the yellow-tang population has increased from 1.3 million in 2000 to 3.6 million in 2013. "Even though yellow tang is the number-one targeted fish, there are still millions out there," Bill Walsh told TFK. He is a marine biologist who wrote the recent report on the aquarium industry in West Hawaii. "This is a healthy population of fish. They are replenishing themselves."

Conservationist Robert Wintner, also known as Snorkel Bob, objects to Walsh's findings. Wintner, who owns snorkel shops across Hawaii, started the Snorkel Bob Foundation to protect the island's coral reefs. He says he simply doesn't see yellow tang outside of the protected areas. "There should be millions of them," he says. "Where are they?"

Wintner says people believe the numbers in reports. But not many people have actually dived into the coral reefs to see for themselves how many fish can be found there. According to Wintner, the coral reefs along the coast should be teeming with yellow tang, but they are "virtually empty." Empty reefs are not good for tourism, Wintner points out, which generates \$800 million yearly. By contrast, the aquarium-fish trade generates just \$2 million yearly.

Environmentalists say another problem with the aquarium-fish industry is the way fish are handled. They must go without food for days and are shipped in too little water. "It's like living in a Dixie cup," Wintner says, "just to save some money on shipping."

Debate Organizer

Debate Question: Should the sale of tropical fish be banned?

My answer **before** reading the article and why: _____

People for tropical fish sales say:	People opposed to tropical fish sales say:
My classmate _____ says:	After hearing all sides, I say:

Save The World

Waste Disposal Issues

1) **Too Much Waste**

One of the major [waste disposal problems](#) is attributed to the generation of too much waste. America alone is responsible for the producing of about 220 million tons of waste annually. One cause is that the present era is driven by a throw-away consumerism with companies and producers striving to maximize profits by producing one-time use products without prioritizing on reuse, recycling or the use of [environmentally friendly](#) materials.

2) **Toxic Waste**

The majority of the state and local authority legislations are generally lax on regulating the ever-expanding manufacturing industries. On a daily basis, these industries produce toxic products that end up getting thrown away after use. Most of the products contain hazardous and health-threatening chemicals. here are even products known to contain toxic chemicals, such as Biphenyl-A (BPA) – often present in plastic toys, but they are still poorly regulated.

3) **Landfills**

Most landfills lack proper on-site waste management thereby contributing to additional [threats to the environment](#). In the long-term, landfills leak and pollute ground water and other neighboring environmental habitats making waste management very difficult. They also give off potentially unsafe gases.

Source: <https://www.conserve-energy-future.com/various-waste-disposal-problems-and-solutions.php>



© www.fox.com



Toy #1 Instructions

1. Cut a shirt just below the sleeves so you have a square of fabric. Set the top part with the sleeves to the side.
2. Cut the bottom half that you just cut off (the square piece) in half across the stomach so that you have two rings of fabric.
3. Cut each of the rings of fabric on the sides so you now have two long strips of fabric.
4. Cut off 5 or 6 strips of fabric about 1 inch wide from the sleeve section from before
5. Lay them out, one on top of the other, in an X shape
6. Roll up what is left of the sleeve section of the shirt and place it in the middle
7. Fold the strips of fabric over the balled up fabric tightly and use one of the extra strips from the sleeve section to tie the fabric together.
8. Cut each strip hanging off the tennis ball into 3 smaller strips, going all the way up.
9. Braid the strands together, tying off the ends with strips from the sleeve section





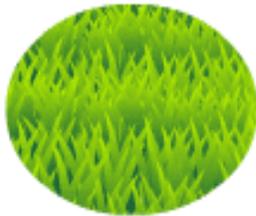
Grasshopper



Frog



Snake



Grass



Hawk