

Design & *TECHNOLOGIES:*

Years 1-2



- Section 1:**
Green And Clever Designs
- Section 2:**
How Things Move
- Section 3:**
Where Do Things Come From?
- Section 4:**
Materials And Design

By Karyn Jones

Curriculum Focus

Identify how people design and produce familiar products, services and environments and consider sustainability to meet personal and local community needs.

Green Products And Features (Page 11)

Discuss the terms 'sustainability' and 'green' with the children.

Talk about how certain appliances use less electricity than others. The children may have seen the star stickers on their white goods at home. This could be given as a fun homework task.

Talk about how solar panels work to generate power. Explain how this saves us from using electricity from the grid. Tell them we want to avoid using electricity from the grid because it often comes from burning coal which is bad for the environment.

Discuss features at home that help us to save electricity or help us to protect the environment. Eg: double-glazed windows keep the house cooler in summer and hotter in winter so that we don't need to use the aircon or heating as much. LED lights use less electricity than other bulbs. Plants help to clean the air.

Discuss how important water is and why we don't want to waste it. Discuss ways that we can save water at home. Eg: water tanks, water restrictors on shower-heads, shallow baths, not watering plants when not necessary, etc.

Children to fill in the worksheet.

ADDITIONAL RESOURCES

Charlie and Lola: Look after your planet.

► <https://www.youtube.com/watch?v=zCfazf2gVu0>

Youtube videos on sustainability that the children could watch:

► <https://www.youtube.com/watch?v=gTamnlXbgqc>

► <https://www.youtube.com/watch?v=fKWQuU0sHPw>. Discuss this clip with the children.

DIFFERENTIATION

Teacher may need to write the names of things they have been discussing on the board.

Younger children could do the worksheet in small groups with an adult or as a class on the carpet.

EXTENSION

Discuss what green/sustainable practises take place at school.

Green Products (Page 12)

Define the terms 'green' (things that aren't bad for the environment) and 'environment' (our natural surroundings) in a way that the children will understand.

Teacher to show examples of paper and plastic cup and plastic bag and cotton bag. Ask the children whether they know which cup/bag is better for the environment. Why? Tell them how long a plastic bag takes to break down (1,000 years in landfill).

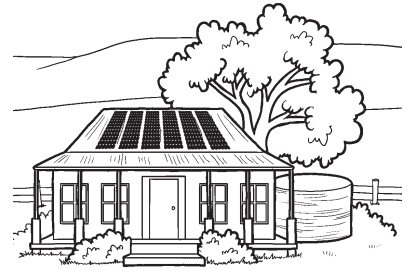
What do they think about a water hose versus a water tank? Why would one be less wasteful than the other? Talk about showers and playing with water outside. How can we make sure that we are not wasting water? (Keep showers short or use water restrictors on shower heads, play with a water table or paddling pool instead of a running hose.)

Talk about how petrol is bad for the environment and why electric cars are a great alternative. Maybe they have seen an electric car or a recharging point for electric cars at a service station.


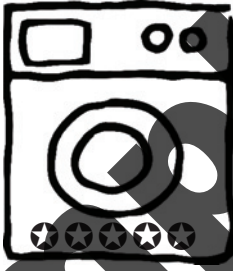

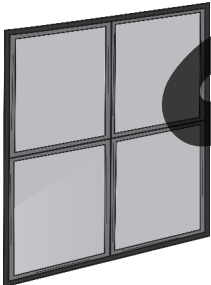



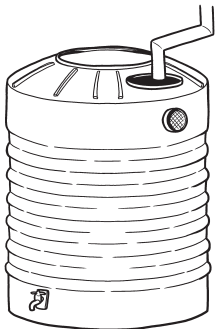
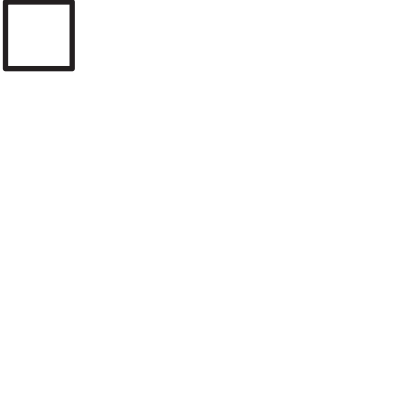
What other things do they know that are bad for the environment? Why are they bad? Do they know anything that is good for the environment or 'green'? Why do they think it is green?

Activity Green Products And Features

- ☐ Sustainable means environmentally friendly or 'green'. Being 'green' can mean that we use less water; electricity and power. Some household products and features are designed to be 'green'.



1. Fill in the missing letters and words to label the 'green' household products and features.
2. Tick if you have any 'green' products and features inside your house.
3. Draw to add another 'green' product or feature in the final box.
4. Explain to a friend why each product or feature is 'green'.

<input type="checkbox"/>  s _ _ _ _ p _ _ _ _ l	<input type="checkbox"/>  5 st _ _ _ washing m _ _ _ _ _	<input checked="" type="checkbox"/>  p _ _ _ _
<input type="checkbox"/>  double glazed w _ _ _ _ _	<input type="checkbox"/>  water res _ _ _ ictor shower h _ _ _ _	<input type="checkbox"/>  s _ _ _ _ _ _ g _ _
<input type="checkbox"/>  L _ _ D light _ _ _ _ b	<input type="checkbox"/>  water _ _ a _ _ k	<input type="checkbox"/> 

Activity Ban The Bag

☐ In New Zealand, many people want to ban plastic bags so that they don't end up in landfill; in our waterways or harming animals and birds. If plastic bags didn't exist what would we use instead? How would we get our groceries home?

☐ Design a solution to the problem. Draw a picture of your solution below and explain how it's better than using plastic bags.

Sample



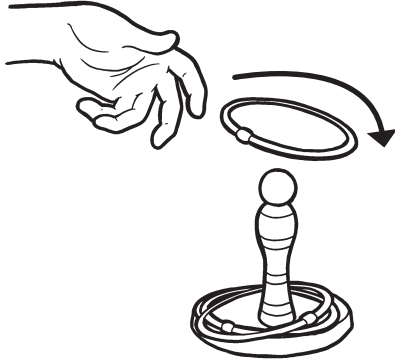
1. Is your solution 'green' and /or sustainable?

2. Is it a better solution than plastic bags? Why/why not?

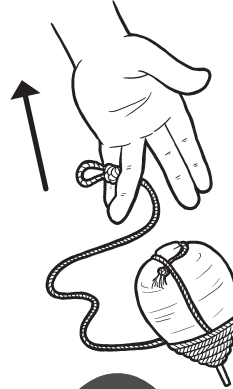
Activity Push And Pull Toys 1

☐ Underneath each traditional Asian toy, write whether it uses a push or pull force (or both).

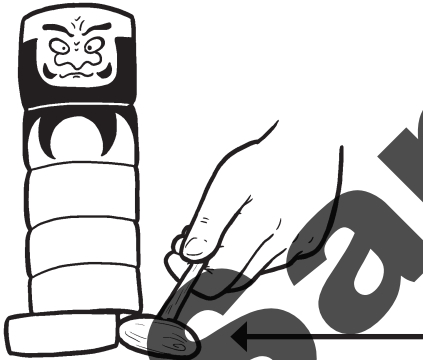
1 Ring Toss - Japan



2 BuGuri (spinning top) - India



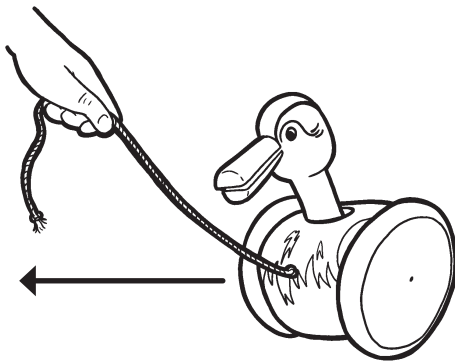
3 OtoshiDaruma - Japan



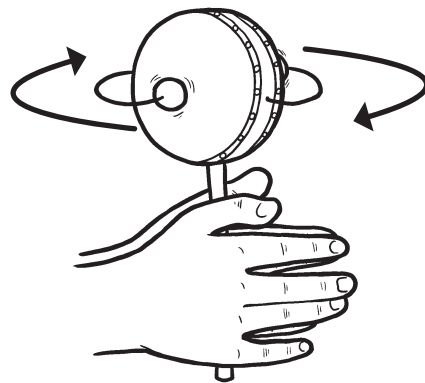
4 Puppet - Indonesia



5 Duck Toy - Japan




6 Rattle Drum - China

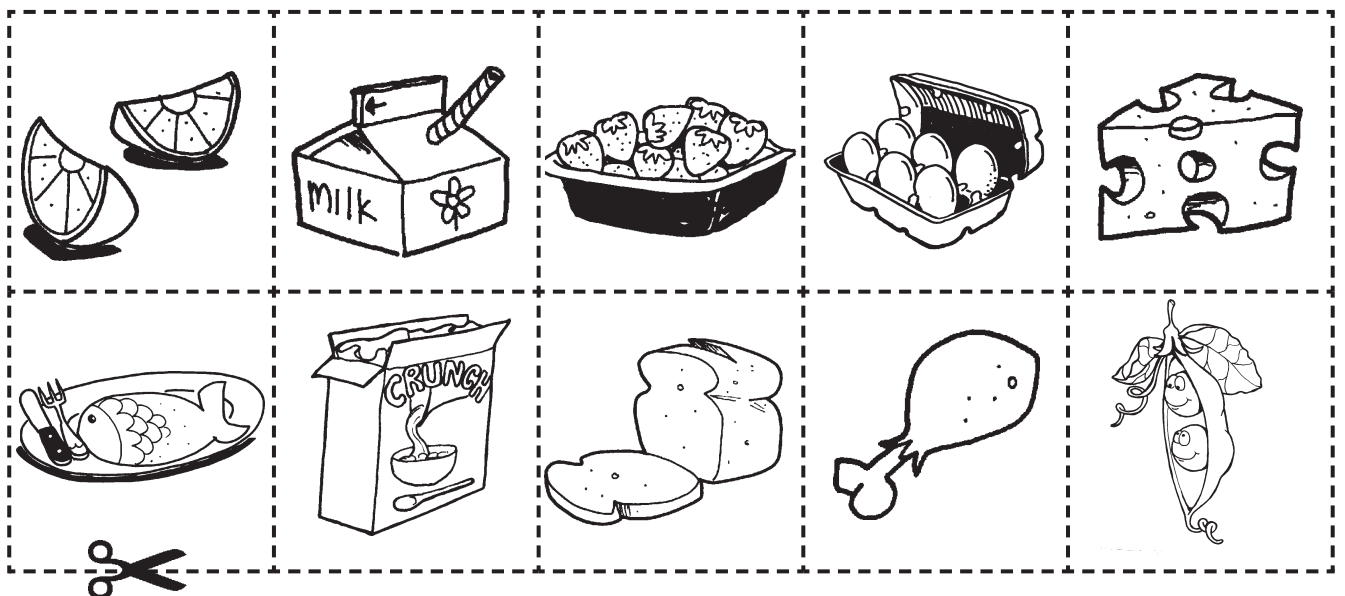


Activity Plant And Animal Products 2

☐ A lot of the food that we eat comes from plants and animals.

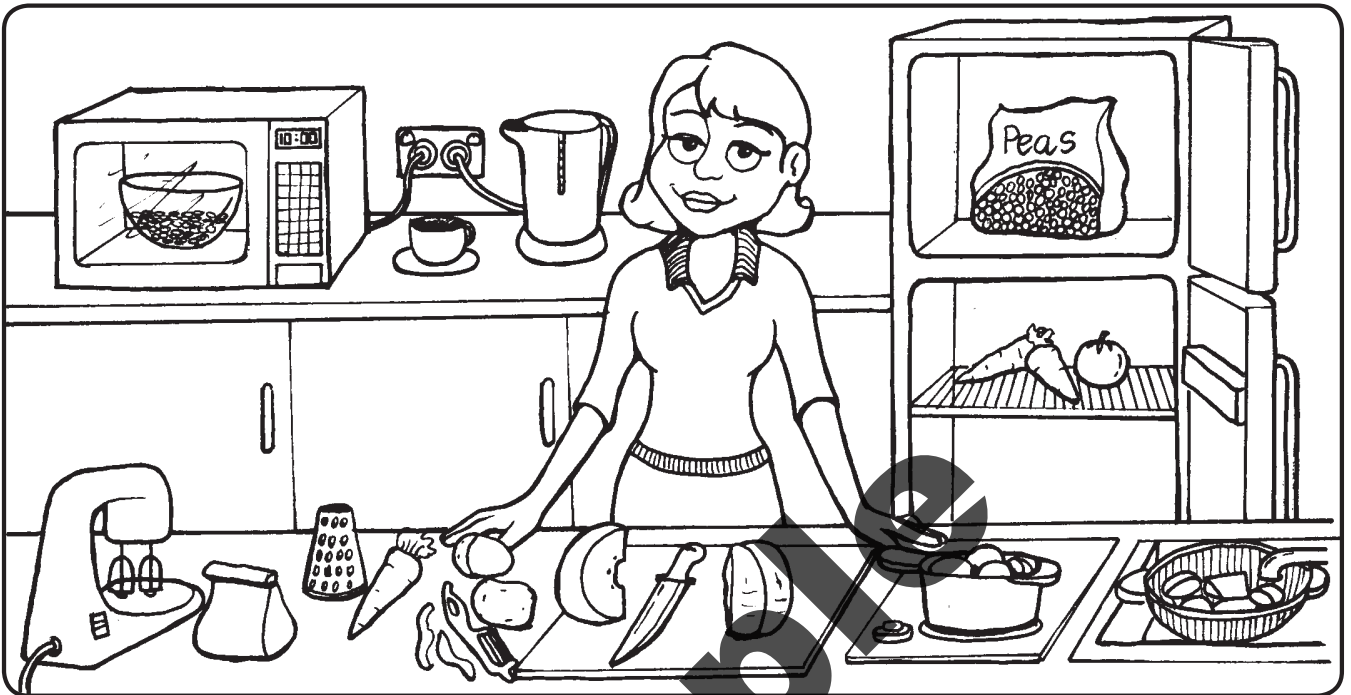
☐ Cut out the pictures below and glue them under the correct headings.

Food from plants	Food from animals
	



Activity Preparing Food 1

- ☐ Fridges and freezers are great designs. What did we do without them? Look at the picture and answer the questions.



1. What is in the fridge? _____
2. Why do you think we put food in the fridge?

3. What is in the freezer? _____
4. What temperature do you think it is inside a freezer? _____
5. Why do we put things in freezers? _____

6. What is under the tap in this picture? _____
7. Why is this under the tap? _____
8. Why is this important? _____

Activity Perfect Designs 2

- ☐ Step 1: Cut out the pictures at the bottom of the page.
- ☐ Step 2: Glue to create your perfectly designed playground. Draw to add to it. Remember to think about space; safety; materials; objects included.
- ☐ Step 3: Annotate your design with information about layout and materials.

