

# Investigating Plastics

**Getting to know plastic. This will begin to help children to distinguish between “objects” and “materials”.**

## **School Curriculum Links**

*The Nature of Science and The Material World*

## **Te Whariki Links**

*Strand 3 Contribution, Strand 4 Communication, Strand 5 Exploration*

*Links with essential learning area of Science: Children learn strategies for active investigation, thinking and reasoning.*



## **What you need:**

A large plastic tub, or plastic laundry basket

A selection of plastic items: Plastic milk cartons, different coloured plastic milk container lids, plastic toys.

## **Introduction**

**Explore:** Tell the children that you have brought in an exciting collection of objects. “Would you like to see my special collection?” Put the tub of plastic objects on the floor or table and leave for the children to explore.

**Question:** Listen to what the children say and do as they feel, use and explore the objects. Prompt with open ended questions. “Why do you think I collected these types of objects for my tub? How are they alike/different? What properties do they have? (This may need to be investigated) They are hard, strong, almost unbreakable. What material are the objects made from?”

**Experiment and Investigate:** Encourage children to observe the various forms of plastic found in the box Can they compare and describe a few things about two different samples? How can they sort them? (Things found, by size, by weight, colour, by shape, by purpose). Let the children come up with as many different ways to sort them. Investigate what happens to these items if water is poured on them or if they are dropped in a bowl of water. You can photograph their efforts and add a caption (I sorted the plastic by ..... ) to put in their learning journals. “Is there anything in this room made of the same material? How many uses can you think of for plastic?”

**Further Investigations:** Do you think plastic is natural or man-made? (It is man-made, usually made now from petroleum/oil). Can you think of any reasons why plastic is so popular? It is normally cheap, waterproof, lightweight but fairly strong and easy to mould into shapes. It can be dyed different colours. What would be the advantages and disadvantages of wearing plastic clothing? Can you think of any disadvantages of plastic? Open up a discussion. It is not usually biodegradable, it doesn’t naturally decompose, so creating a lot of waste, and damaging the environment. What happens if the plastic doesn’t biodegrade? Animals get trapped in it; plastic will float in our oceans, it blows around and litter our streets.

Get the children to work in groups to complete the chart attached. Good plastic/Bad plastic.

Rubbish that isn’t made of plastic is often biodegradable, which means that it gets eaten by tiny little things called microbes. But plastic is photodegradable, which means the sunlight breaks it down into smaller and smaller pieces as time goes on and animals can eat these. But the plastic never totally goes away. We can recycle plastic, how do we use recycled plastic? Investigate.

## **Extension:**

Design a poster to encourage people to use less plastic and recycle what they have. (See attached blank template)

Look at other materials on different days/weeks ie paper, fabric, glass, metal ,wood

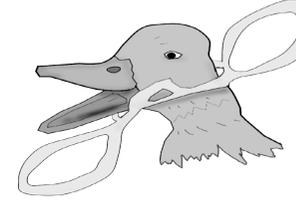
Look at natural materials: clay, stones/rocks, shells. sand.

We use plastic throughout our everyday lives. It has lots of great uses, but what happens to the plastic we throw away or don't use?  
Think of 5 good things we use plastic for and 5 bad things that may happen to plastic we throw out.

# Good Plastic



# Bad Plastic



Plastic	Examples of Uses	Pictures of Use
Polythene	Switches, bags, milk crates	
Polystyrene	Utensils, chilly bins, packaging	
Vinyl	Coats, bench tops, lino	
Acrylic	Goggles	
PVC	Drain pipes, rain coats	
Nylon	Parachutes, stockings	
Polyester	Clothes, sails	

**Do something drastic and use less plastic!**