

The research in the beach

Instrument

- Sieves(5mm,1mm,0.5mm *use 0.1mm sieve if you can)
- A bucket which has rope
- Petri dishes
- Magnifying glasses
- Tweezers
- 10% hydrochloric acid (Adjust by the amount of them)

method

The operation in the beach

1. Choice the spot of research

Select the spot on high tide line by draw a line joining a sign and shoreline vertically.

2. Collect sand

Collect sand (50cm long and 50cm wide and 2cm depth). Decide 50cm long and wide by using a frame and 2cm depth by drawing a line from the edge of shovel to measure 2cm. Sift sand you collect with 5mm sieve to remove substance more 5mm and put them into water on a bucket.

3. Recovery floating substance

Collect floating substance in the water together water on a bucket and take them bring back by putting them into plastic bottles.

It's better to remove seaweeds and dead leaves as you can because they cause the blockage in sieves.

* Collect them three times per spot (It's OK to collect one time if it's possible.)

Operation in the laboratory

4. Separate floating substance into each sizes

Put them you collect into sieve and separate them into each sizes by running water.

5. Remove seaweeds and dead leaves

Remove them by looking yourself with tweezers.

It's better to use a magnifying glass.

6. Treatment with hydrochloric acid

Take 1~5mm substance and 0.5~1mm substance on each spots out and soak them in 10% hydrochloric acid(to remove something like shells). Wash micro plastics which is remained and dry them. Separate them into kinds of plastics (hard plastics, textile plastics and polystyrene plastics).

7. Count micro plastics which are separated into each sizes and kinds.

* Take the average results of three research and use them as data(if you can research three times).

* It's OK to resume the number by using a standard curve if it's hard to count too many polystyrene micro plastics from 1mm to 5mm.

* Separate and count micro plastics like this operation when you use 0.1mm sieve.

Work sheet MP from beach

School name

Your name

address to catch (find GPS, use Google)

Photo of Location

Sampling date(s)	
Wind	
Counting date(s)	

Number of MP

	1mm~5mm			total	0.5mm~1mm			Total	0.1mm~0.5mm *0.1mm if you use			total	total	Other you notice
Styrofoam														
Hard plastic														
fibrous plastic														