

Ocean Action Pod Core activity

What's that debris? Degraded debris discovery

Students get to grips with real life ocean plastic. They talk about how plastic gets in the ocean, what happens to it once it is there and why it is a problem. They then categorise all the objects by where they were used.



Key points of learning, in order:

- All sorts of plastic from our lives can end up in the ocean
- Plastic is very durable, which is why it is useful to us. But this means that it lasts for a very long time in the ocean.
- Plastic in the ocean slowly breaks apart through the action of the sun, the waves and sea creatures.
- Plastic items may break into smaller pieces but the plastic itself does not disappear – the ocean is full of very tiny pieces of plastic that have resulted from bigger items breaking up.
- Plastic in the ocean can get toxic because of the chemicals that stick to it
- Sometimes sea creatures eat plastic and it can make them sick
- Some places in the world have beaches covered in plastic (like Hawai'i) but it is also a big problem here in Sydney.
- All of us use plastic in our lives so all of us are responsible for making sure that it doesn't end up in the ocean.

Equipment:

- Storm drain board
- "Only Rain, Down the drain" sign
- Wind and rain boards
- Bucket of assorted marine debris
- Hula hoops x6
- Image cards: Home, Garden/Park, School, Car, Café/Restaurant, Shop, Beach, Building Site, Boats/Fisherman
- Tongs

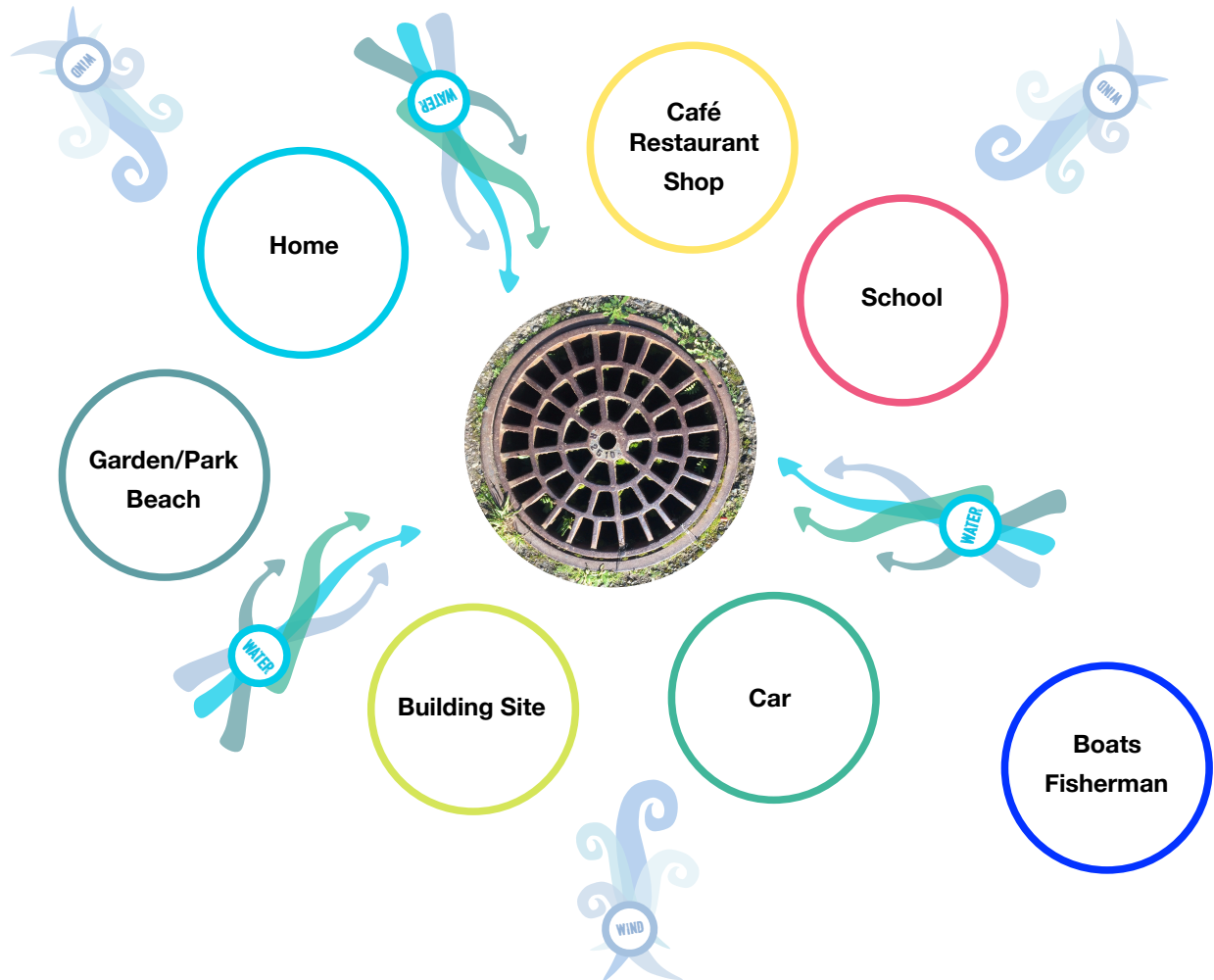
Introductory discussion:

The main point to get across here is that plastic found in the ocean mostly starts life on land. It all has a past life. And it all once had an owner who used it for something. How does plastic get into the ocean then? Down the storm drain!

Place the storm drain board on the ground in the centre of the circle. Place the wind and rain boards around the drain. Explain how plastic gets into the ocean from the places where we live by the actions of wind and rain.

Running the activity:

1. Sit in a circle
2. Hand out tongs. (*Due to toxicity of this material, tongs are used to avoid skin contact*)
3. Place six hula-hoops in the circle, surrounding the storm drain, with the image cards inside each, as shown.



4. A bucket travels around the circle and each child chooses one piece of debris using their tongs. The Pod has a large collection of debris items. Some are heavily degraded while others are simply a diverse representation of some of the usual and more unusual debris objects that you might find washed up on the beach. Some have barnacles and algae on them. Others have bite marks from fish. Some are simply weird shapes.

5. Ask the children to take a look at their object and think about each of these questions in turn:

- a. What is it?
- b. Where was it used?
- c. Who do you think used it?
- d. How do you think it got in the ocean?

6. Now ask:

“Put up your hand if you think you have something that was used (at home; at school; at a building site, etc.). Go through each category in turn and with each one, invite children to answer questions a, b, c, d above, then place their object in the correct hula-hoop. Feel free to play around with how you structure this part of the activity

Clearly many objects can go in more than one hoop and children may point this out. That is ok – the key point is that every object originated somewhere, even if that place could have been one of a few options.

Focus on special items:

7. Highly degraded large items – pass them around the circle. As the children pass them around (using tongs), talk about:
 - a. Can you see how the surface is all powdery? That’s what happens to plastic when it spends a long time in the ocean. The sun actually degrades the surface, breaking up some of the chemical bonds and making the plastic all brittle. If there is a storm and the brittle plastic knocks into something else (like another piece of plastic!) then it will crack and fall into smaller bits.
8. Items with bite marks - pass them around the circle. As the children pass them around (using tongs), talk about:
 - a. Can you see the little bite marks? What sort of animal do you think bit it? Do you think animals eat plastic? Do you think it’s good for animals to eat plastic?
9. Are there any items in the hula hoops that would NOT fit down the drain? Can the class think of another story for how one of those items ended up in the ocean?
(e.g. Illegally dumped, dropped off a boat, washed into a river by a big flood)

Take home message

10. Only Rain, Down the Drain

Place the sign with “Only Rain, Down the drain” on top of the stormwater drain. Literally get the class to chant this. When it rains, how can we stop plastic from going into the storm drain and the river? (A: never litter!). Ask the children for their ideas.

Key Curriculum areas covered:

SCIENCE

Material World

ST3-12MW - Identifies the observable properties of solids, liquids and gases, and that changes made to materials are reversible or irreversible

ST3-13MW - Describes how the properties of materials determine their use for specific purposes.

Living World

ST3-11LW - Describes some physical conditions of the environment and how these affect the growth and survival of living things