

What happened to the rubber ducks?



The story of the rubber ducks

In 1992, a shipping container of 28,000 plastic bath toys fell overboard on its way from Hong Kong to the United States. Carried by ocean currents, over 20 years later, they are still being washed ashore, on Hawaii, Alaska, South America, Australia and the Pacific Northwest. They are found frozen in Arctic ice, and washed up in Scotland and Newfoundland in the Atlantic. Scientists have learned a lot about ocean currents and plastic accumulation in gyres from studying them.

2,000 toys still circulate in the North Pacific and Subpolar Gyres, taking about three years to complete a circuit between Japan, south east Alaska, the Kodiak and the Aleutian Islands.

6th Jan 1992	The Ever Laurel sails from Hong Kong.
Jan 1992	At 45°N and 178°E in the Pacific Ocean 28,000 plastic bath toys spilled from the ship.
1992	10,000 toys move north and some enter the Subpolar and North Pacific gyres. 18,000 toys move south washing up in Indonesia, Australia and South America
Nov 1992	Ducks begin landing on the shores of Alaska
Early 1995	Ducks circle in the gyre for three years to Japan then back along the north west Pacific coast and east, landing again in North America. Some ducks landed in Hawaii, more in Alaska.
1995-2000	Some toys escape the gyre and move north, through the Bering Strait. Some become frozen in the Arctic ice and some ducks travel east across the pole.
1996	Ducks are found on the Washington State and Canadian west coasts.
2000	Ducks thaw and reach the North Atlantic, then move south. Ducks found between Maine and Massachusetts.
2001	Ducks are found at 42°N 50°W, where the Titanic sank.
2003	One green frog is found in the Hebrides in north-west Scotland.
2007	A single duck is found in Cornwall.

STUDENT SHEET 1d

1. On the map, mark the sites where the animals have landed or been sighted.



2. Draw arrows to show the path of their journeys, including the circulation pattern.
3. Have the ducks remained in the North Pacific convergence zone ('Great Pacific Garbage Patch')?

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4. Where did the ducks first wash ashore?

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5. Why do you think this was the case?

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6. Describe the route the ducks took to arrive on the coasts around the Atlantic.

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7. What does this route tell us about the connectivity of the oceans?

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8. What do these journeys suggest about the origin of a piece of plastic found in any ocean and the distance it could have travelled?