



Litter Degradation Rates: Additional Information for Teachers and Group Leaders

This sheet provides additional information to accompany the A3 Litter Degradation Rates poster, including activity suggestions.

| Years to decompose | Material / type of litter | | Hazards |
|--------------------|--------------------------------|--|---|
| 1 year | Wool gloves / natural fibres | Natural fibres – 1 year to decompose in sea. Man-made fabrics (e.g. nylon) take longer, 30-40 yrs | Animals become trapped or entangled. Fabrics can also be eaten by animals. |
| 12 years | Cigarette ends | Synthetic materials which take c. 12 yrs to break down | Cigarette ends leach toxic chemicals into our environment, harming wildlife and entering our waterways |
| 20-30 years | Plastic bags | Decomposition estimates vary depending on materials and conditions in which they are discarded. Studies suggest 1-1000+ years. Many plastic bags cannot be recycled. Those that can often do not have mainstream recycling routes available to the consumer. Use reusable cloth bags. | When plastic bags break up in the sea it exists as smaller and smaller pieces and can enter the food chain. In water plastic bags look similar to jelly fish and are mistaken for food by marine animals such as turtles. Can lead to choking and death. |
| 30-40 years | Fishing nets | Modern nets are made from synthetic polymers, e.g. nylon – extremely strong and durable, taking decades to break down. | Fish, birds, seals, turtles, sharks etc. can become entangled in netting, damaging limbs, restricting movement and drowning. Ghost nets – nets left in sea – long lasting threat, as they continue “fishing” trapping a variety of creatures over many years and distances. Damage sea floor. Small pieces of netting are used by birds to build nests, entangling the feet of chicks. Netting can become tangled in propellers and other fishing gear. |
| 50 years | Steel cans | Rusts | See Aluminium cans for hazards |
| 200 years | Aluminium cans | | Attracted by leftovers, animals forage inside cans and become trapped. Redd Up volunteer found a frog inside a can – it had grown too large for the existing hole and had to be cut free. Large animals get part of their bodies, such as heads, trapped or cut their tongues on sharp edges. Avoid attracting animals – clean cans and recycle. |
| 400 years | Plastic can holders | Extremely durable. Takes hundreds of years to break down. | Very dangerous – wildlife gets entangled in holders, causing deep sores, wounds and choking. Always cut loops before putting in bin. |
| 450 years | Plastic bottles and containers | Plastic has only been widely available for c. 50 yrs so we can only estimate how long it takes to break down. | Animals become stuck in plastic containers or these can be eaten and clog up their digestive systems. Plastic is not biodegradable, instead it breaks down into smaller and smaller particles, spreading the problem. |
| 600 years | Monofilament fishing line | Durable – once entangled it is nearly impossible for wildlife to escape without help. | Most common hazard is entanglement. RSPB undertake c. 8000 swan rescues a year, mostly due to damage caused by fishing line and associated tackle. Line caught around legs, wings, necks, beaks. Serious injury. Monofilament is so fine - marine animals don't see it until too late. |
| 1million years | Glass | Does not decompose – glass formed millions of years ago from lava flows is still glass today. | Glass smashes into sharp fragments that can injure animals and humans. Animals become trapped inside glass objects. |

Classroom / Group Timeline Activity



Materials Required:

- Year markers for a timeline
- Examples of rubbish, cleaned

Arrange numbers of years, representing degradation rates on the floor into a timeline and place a pile of clean items of rubbish alongside. Each member of the group takes a piece of rubbish and places it where they think it belongs along the timeline. This can be a timed exercise or game using a sports hall.

Once all of the pieces of rubbish have been positioned move along the timeline as a group stopping at each degradation rate to discuss the items placed there. Are they positioned in the right place? What materials are they made from? How could these items be harmful to us or wildlife? Discuss what they have learned about litter. What things can we all do to protect our wildlife from litter-related injuries? Suggestions could include:

- Making sure we always bin our rubbish properly
- Reducing the amount of plastic we use – use refillable juice bottles and reusable bags
- Getting involved in your local Voar Redd Up

1 year

12 years

20-30 years

30-40 years

50 years

200 years

400 years

450 years

600 years

1million years