



Designing novelty bins to encourage children to put the right recyclable waste in the correct bin.

Learning Objectives

All: Children will have a greater understanding of what can be recycled at home and at school

Most: Children will use their understanding of what can be recycled to design a set of bins, in pairs

Some: Children will be able to evaluate and amend their ideas, developing them further

N.C. PoS Design & Technology

- 1a - generate ideas by drawing on their own and other people's experiences
- 3a - talk about their ideas, saying what they like and dislike

Introduction (15 mins)

Give every child a cleaned waste item. Ask them to move to one side of the room if the item can be recycled and another side of the room if it can't.

Take this opportunity to get rid of any misconceptions e.g. certain items that can be recycled and those objects that can't. (3mins)

Then give the children whose items can't be recycled a recyclable object and bring the class together again. Ask them to join groups with children who they think would be in the same recycling bin e.g. all the fruit get together, all the paper together, plastic together etc. Get them to sit down in the groups and correct any misunderstandings. (5mins)

Whilst the children are still in their groups, ask them why do we take time to recycle? Remind the children they can use what they have learnt from Busta and Pong's assembly and encourage them to use the information from there to back up their opinions and ideas. (7mins)

Main Activity (30 mins)

Ask the children if they find it difficult remembering what bin to put things into when they've finished with them, or even remembering to recycle at all. Explain that we can help Busta and Pong with an exciting and catchy design for new bins, which could help schools with their recycling. (2mins)

Key Vocabulary

Environment
Recycle
Waste
Design
Evaluate
Plastic
Metal
Paper
Cardboard
Glass
Compost

Resources

- Computer & interactive white board.
 - Pictures and examples of bins.
 - Recyclable and non-recyclable items.
- Please check locally for what you can recycle in your area. Use the postcode locator on the Recycle Now website to check what you can recycle and where, www.recyclenow.com
- Paper and pencils for children's designs

Cross-Curricular Links

- PSHE 2g- what improves and harms their local, natural and built environments and about some of the ways people look after them

- English 3 a, b, c, d and e, Group discussion and interaction This lesson meets many of the speaking and listening targets in Literacy. By working in pairs children are able to develop their skills of communication as well as listening. They will have the opportunity to give reasons for their ideas and take turns in speaking.

- Science 2a
Ask questions and decide how they might find answers to them

Main Activity cont'd

Show the children the pictures of novelty bins on the IWB. Why are these good bins? Make sure to explore:

- they are bright so you can't miss them;
- they have a large hole to put your rubbish in;
- they are strong and sturdy.

Explain to the children that, in pairs, they need to design a set of bins for recycling. Ask the children to pair and share initial thoughts of bins and share ideas as a class. For example you could have a giant fruit as one bin, a giant can for another. Explain that these bins must help children remember where to put their waste so it must be clear on each bin where to put the different rubbish. (8mins)

Re-arrange the children and put them in mixed ability pairs.

Core: Ask them to go back to their tables and begin to draw up a set of bins to help children. The teacher and LSA if there is one, will go around asking the children what items they intend to go in the recycling bin. (10mins)

Reinforcement: Mixed ability pairs will be based on those who are more able to draw and those that find it more difficult. Consequently, children who are less confident drawers can contribute ideas freely without being inhibited by their pencil skills. If there is a pair who is struggling with ideas, the class teacher or LSA can support them.

Extension: Encourage groups who are achieving the learning objectives to think of the material the bins will be made out of. What does it need to make sure to have? It needs to be something recyclable, waterproof and sturdy. Which material is best? (This is a cross curricular link in Science NC 2a: ask questions, for example, 'How?', 'Why?', 'What will happen if ... ?' and decide how they might find answers to them)

To continue this project in a variety of cross curricular ways:

Science: the children could experiment with different materials and decide which is the best one to make the bins out of. This would be good to do during the unit materials and their properties.

Numeracy: in their pairs the children could conduct a survey to decide which bin from the selection they have designed is most popular. As a class you could then analyse these results. Why did this bin get picked? Why don't you think this bin did? How many more people voted for this bin than that bin?

Literacy: the children could create a poster encouraging the 3D characters to choose their design. They could present their poster and designs to the class explaining why they chose to do what they did. This would improve their speaking and listening skills. The main teaching could focus on using language for effect and persuasion.

ICT: The children can design their bins on the computer. They can create their graphs on the computer, and create questions for their peers to answer based on the graphs.

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Main Activity cont'd

Children can also design one bin to hold a range of recyclable goods. How can the bin separate different goods? Could there be different compartments in the bin which can easily be taken out, cleaned and put back in? Maybe the bin can be a triangle or square with a different picture on each side to show where to put each recyclable item.

Midway through the task stop the children and ask them to walk around the room looking at other people's designs. As a class discuss:

- What did you see that you liked?
- Why was it good?
- What else do we need to make sure a bin has?

Draw upon any problem you as the teacher have seen. For example, if the bin has writing on, what about those children who find reading difficult or who speak another language? Emphasise that not all children can read English and that some children find reading difficult. How can we make the bins easy for everyone to understand?

Ask the children to change aspects of their designs to make them better. (10mins)

Plenary (15 mins)

Bring the children back to the carpet with their ideas. Each pair must join another pair. Explain to the children that they will be evaluating their ideas, which means to talk about the good and not so good bits of it. They must share their ideas, and for both designs come up with 2 really good things and 1 thing which they need to improve on next time. Remind the children to think about how well their bins help children to recycle different waste products. Discuss suggestions as a class, making sure to talk about what items will be going in what bins. (10mins)

There is 5 minutes left to allow for any questions, or any section of the lesson that may have gone overtime.

Notes for future planning needs

The children will finalise their design and draw up a neat copy in the next lesson. It needs to be reiterated to the children that these will be sent off to Busta and Pong to help them with their mission, thereby making the assembly resource integral to the lesson. To allow the children to make these recycling bins as part of D & T, the children can create prototypes by junk modelling with old boxes of various sorts.