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| **Recycling activities** | | | | | |
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| Making a recycling centre at home | | | | | |
| **Subject(s):** Design & Technology, Science.  **Approx time:** 35 - 55 minutes |  | | **Key words / Topics:**   * National Earth Day * Recycling * Plastic * Metal * Aluminium * Can * Paper * Cardboard | |
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| **Suggested Learning Outcomes** |  | |  | |
| * To know about National Earth Day on 22 April * To know what recycling is * To know a range of materials that can be recycled i.e., paper, plastics, and cans * To be able to identify and sort materials into appropriate recycle boxes | | | | |
| **Introduction** |  | |  | |
| This is one of a set of resources designed to allow learners to use seasonal themes to support the delivery of key topics within design & technology, maths, and science. This resource is based on National Earth Day and is a recycling project.  This activity introduces the concept of recycling and its effects on the global environment. | | | | |
| **Purpose of this activity**  In this activity learners will use the theme of National Earth Day to make a home recycling centre.  This activity could be used as a main lesson activity, to teach learners about recycling, contributing to learning in science. It could also be used to introduce the different types of material, to discuss the differences between their characteristics and to develop skills making graphic products in design & technology.  Additionally, this could be used to start a discussion on the effect of waste materials on the global environment and how they can be reused to generate new materials and energy. | | | | |
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| **Activity** |  | | **Teacher notes** | |
| **Introduction (5 minutes)**  Teacher to introduce the activity, to make recycling boxes for National Earth Day that can be used at home. Teacher to explain what recycling is and what materials can be recycled at home i.e. paper, metal (e.g. aluminium cans)and plastic.  **Demonstration (10-15 minutes)**  Teacher to demonstrate the steps shown in the presentation, adding colour to the recycling labels and how to fold the boxes.   * Step 1 – Find a suitable cardboard box or plastic container. * Step 2 – Fold in 3 sides of the box, keeping the front side out to attach the recycling label. * Step 3 – Learners add colour to the recycling labels. * Step 4 – Glue the recycling labels to the boxes. * Step 5 – Fill up the boxes with the appropriate rubbish. * Step 6 – When a box is full get an adult to take it to a local recycling centre.   **Performing the Activity (15-25 minutes)**  Learners to carry out the activity and to complete each step for themselves. The teacher presentation could be left on the whiteboard as a supporting guide as they do this.  **Plenary (5-10 minutes)**  Learners could show their coloured recycling labels to the rest of the class and discuss what rubbish they are going to collect. |  | | Recycling involves reprocessing materials – this normally involves breaking down or melting the material in some way to generate ‘new’ material. It should be noted that this is different from reuse, where the material remains in its current state.  **Recycling boxes activity**  Print the activity sheet onto paper and distribute to the learners.  Step 1 – Learners will need to find suitably sized boxes to collect paper, plastics and cans. If they are limited to one box, just focus on one of the recycled materials. Discuss with the learners the best location for the boxes, either inside or outside of the home.  Step 5 – Teachers may advise the learners to clean out any cans that have contained sweet drinks of food. This will prevent the attraction of insects and foul smells. The bottom of a box could also be lined with a bin-liner to prevent the base getting wet. | |
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| **Differentiation** |  | |  | | |
| **Basic** |  | | **Extension** | |
| * An exemplar could be used to illustrate what the recycling box looks like with an appropriate label. |  | | * Learners to use a computer to add designs to the template. * Learners could add detailed lists of what can be put into each box. * Watch **Recycle Now:** Recycling around your home: https://www.recyclenow.com/recycling-knowledge/recycling-around-your-home | |
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| **Resources** |  | | icon-pdficon-docicon-ppt**Required files** | |
| * Cardboard/Plastic boxes * Sticky tape * Glue sticks * Scissors * Coloured pencils |  | | Recycling activities presentation  icon-doc Recycling labels handout | |
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| **Additional websites** |  | |  | |
| * **YouTube** – Earth Day for kids: https://www.youtube.com/watch?v=yl3zgcL0Tv8 * The earth day website: earthday.org * **BBC Bitesize** – What should I do with my rubbish? https://www.bbc.co.uk/bitesize/clips/z9p9j6f * **Recycle Now:** Recycling around your home: https://www.recyclenow.com/recycling-knowledge/recycling-around-your-home | | | | |
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| **Related activities (to build a full lesson)** |  | |  |
| **Starters** (Options)   * Watch the earth day for kids clip on you tube: https://www.youtube.com/watch?v=yl3zgcL0Tv8 * Discuss National Earth Day, what recycling is and why it helps the environment. * Watch **BBC Bitesize** – What should I do with my rubbish? https://www.bbc.co.uk/bitesize/clips/z9p9j6f | | **Extension** (Options)   * Learners to use a computer to add designs to the recycling labels. * Learners could add detailed lists of what can be put into each box, * Watch **Recycle Now:** Recycling around your home: https://www.recyclenow.com/recycling-knowledge/recycling-around-your-home   **Plenary**   * Peer review of the completed recycling boxes and recycling labels. Discuss what materials the learners are going to collect. | |
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| **The Engineering Context** film |
| * Society produces a lot of waste and rubbish. Environmental engineers look after waste disposal and recycling. For example, paper rubbish may be collected then sent to be washed, pulped, and reused to make new paper. |

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| **Curriculum links** | |
| **England: National Curriculum**  Design & Technology Key Stage 1  Make   * select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]   Science  KS1 Everyday materials   * identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. | **Northern Ireland Curriculum**  KS1&2 – The World Around Us  Place   * Why materials are chosen for their use. |
| **Scotland: Curriculum for Excellence**  Craft, Design, Engineering and Graphics  Design and construct models/products   * TCH1-09a I can design and construct models and explain my solutions.   Representing ideas, concepts and products through a variety of graphic media   * TCH 2-11a I can use a range of graphic techniques, manually and digitally, to communicate ideas, concepts, or products, experimenting with the use of shape, colour and texture to enhance my work.   Application of Engineering   * TCH1-12a I explore and discover engineering disciplines and can create solutions.   Science  Properties and uses of substances.   * SCN 1-15a Classifies materials into natural and human-made (synthetic). | **Wales: National Curriculum**  Science  KS2 – The sustainable Earth.   * a comparison of the features and properties of some natural and made materials. * how some materials are formed or produced.   Design and Technology Key Stage 2  Making   * 3. measure, mark out, cut, shape, join, weigh, and mix a range of materials and ingredients, using appropriate tools/utensils, equipment, and techniques.   Range   * tasks in which they explore and investigate simple products in order to acquire technological knowledge and understanding that can be applied in their designing and making. * tasks in which they develop and practise particular skills and techniques that can be applied in their designing and making. | |
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| **Assessment opportunities** | | |
| * Informal formative assessment of the making activity, summative review of the completed recycling boxes. | | |
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