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**CODE/MOE/UOIT Makerspaces Project**

**Lesson Plan: Grade 1 Science: Recycling Craft Making**

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| **Big Ideas :**   1. Materials and the way they are assembled determine the function of the structure. 2. Humans make choices about the use of objects and materials that have an effect on the environment.   **Curriculum Overall Expectations:**   * Examine how the choice of materials used in objects and structures has an impact on society and the environment. (Big Ideas D and E) | |
| **Lesson Goals :**  “We are learning to … “  Reuse and recycle objects to minimize waste in the class room, at home, and in the community. | **Success Criteria** :  “We will have success when…”   * We identify ways of reusing materials and everyday objects * We can determine what objects can be reused or recycled * We can sort and organize recyclables based on their composition (paper, plastic, metal, glass) * We can use the problem-solving continuum to create an object made out of recycled materials * We can express our opinion regarding recycling |
| **Lesson Overview :**  **Throughout this lesson, the student will :**   * Organize, sort and classify recycled objects based on their composition (paper, plastic, metal, glass) * Determine what objects can be recycled or reused * Identify the ways of reusing and recycling materials and objects * Make an object following the technological problem-solving continuum * Use appropriate vocabulary | |
| **Materials and technology to be used :**   * Metals cans * Yoghurt containers * Juice boxes * Newspapers * Printer paper * Other materials found in the class recycling bin * Empty cereal boxes * Pencils * Rulers * Scissors * Glue * Empty plastic bottles * iPads * Digital cameras * Laptops * Augmented Reality glasses or headsets * Green Screen and apps (Aurasma). | |
| **Adaptations /Modifications:**   * Show examples of objects created out of recyclables * Instructions can be given with the help of visuals such as drawings * Students can choose how they would like to present/communicate their results * Some students may need more time | |
| **MINDS ON: Getting Started** | |
| During this phase, the teacher will :   * Show students various videos regarding the importance of reusing and recycling * Show examples of materials that have been made using recyclables * Have a group discussion * Read stories on recycling * Review unit vocabulary * Do a think-pair-share. * Ask open-ended questions: What can be recycled or reused? What do you recycle or reuse at home? | During this phase, the students will :   * Watch videos chosen by the teacher * Do a think-pair-share * Fill out the KWL chart * Ask questions to help them clarify the task * Answer teacher questions |
| **Describe how you will introduce the learning activity to your students. What key questions will you ask? How will you gather diagnostic or formative data about the students’ current levels of understanding? How will students be grouped? How will materials be distributed?**   * How can you recycle? * Explain the steps and security measures for this project * Make sure students understand all of the steps for this project   *Challenge: After having seen the video, you decide to recycle! You want to show that you can use recyclables to make a craft. Your job is to make an object (a pencil-case for example) or a game that is build using recyclables.*  Students will work in pairs. | |
| **ACTION: Working on it** | |
| The teacher will :   * Provide students with a variety of materials * Hand out an instruction sheet * Ask probing questions * Observe students while they work and give them formative feedback * Organize student-teacher conferences to give students descriptive feedback | The student will :   * Make a sketch of their prototype * Choose their materials wisely * Follow the instruction sheet * Make their object or game * Participate in the student-teacher conference, receiving feedback |
| **Describe the task(s) in which your students will be engaged. What misconceptions or difficulties do you think they might experience? How will they demonstrate their understanding of the concept? How will you gather your assessment data (e.g., checklist, anecdotal records)? What extension activities will you provide?**   * “Evaluation by triangulation” * Conversations * Observation sheet * Peer evaluation * Assessed on what was made   **Extension Activity :**  Use a different form of technology to communicate results | |
| **Consolidation: Reflecting and Connecting** | |
| The teacher will :   * Ask students the following questions : * What did you find difficult? * What could you have changed to improve your project? * Would other materials have been a better choice? Other attachment methods? * Review key concepts and vocabulary | The student will :   * Present their object or game * Use the technology of their choice to communicate their results * Self-evaluate their project based on the success criteria |
| **How will you select the individual students or groups of students who are to share their work with the class (i.e., to demonstrate a variety of strategies, to show different types of representations, to illustrate a key concept)? What key questions will you ask during the debriefing?**  All students have to share their discoveries and what they learned. | |