****

**CODE/MOE/UOIT Makerspaces Project—**

**Not a Box – Cardboard Innovation**

**School Board: Limestone District School Board**

**Grade(s): Kindergarten**

**Subject(s): Problem Solving & Innovation/Self-Regulation & Well-Being**

|  |  |
| --- | --- |
| **BIG IDEAS:**  **Students will be inspired by the book “Not a Box”. They will first imagine what their box could be and share it in a group circle. Next they will be provided with a box and tools in order to change their box into something else.**  **Curriculum Expectations:**  **OVERALL:**  4. demonstrate an ability to use problem solving skills in a variety of contexts, including social contexts  13. use the processes and skills of an inquiry stance (i.e., questioning, planning, predicting, observing, and communicating)  24. use technological problem-solving skills, on their own and with others, in the process of creating and designing (i.e., questioning, planning, constructing, analysing, redesigning, and communicating)  25. demonstrate a sense of identity and a positive self-image  **SPECIFIC:**  4.1 use a variety of strategies to solve problems, including problems arising in social situations (e.g., trial and error, checking and guessing, cross checking – looking ahead and back to find material to add or remove  13.3 select and use materials to carry out their own explorations  13.4 communicate results and findings from individual and group investigations  24.1 identify practices that ensure their personal safety and the safety of others, and demonstrate an understanding of the importance of these practices  24.2 state problems and pose questions as part of the process of creating and designing  24.4 select and use tools, equipment, and materials to construct things  25.1 recognize personal interests, strengths, and accomplishments  25.3 express their thoughts (e.g., about a science discovery, about something they have made) and share experiences (e.g., experiences at home, cultural experiences) | |
| **Learning Goals:**  “We are learning to…”  **-use our imaginations to help us come up with creative ideas.**  **-be innovative and solve problems.** | **Success Criteria:**  “We will be successful when…”  **-we have turned our box into something else.**  **-other people know what our box has turned into.** |
| **Lesson Overview:**  **Students will be read “Not a Box”. They will then brainstorm and share ideas with their peers. They will then be offered a variety of tools and materials and will be asked to turn their box into something else.** | |
| **Materials and Technology:**  **-Copy of “Not a Box” by Antoinette Portis (Animated version :** [**https://www.youtube.com/watch?v=Nif94VQ4Xsc**](https://www.youtube.com/watch?v=Nif94VQ4Xsc)**)**  **-A variety of boxes (different sizes and shapes). At least one per child.**  **-Scissors, tape, a variety of fasteners, Make Do (if available), paints, markers, paper,**  **-iPad for documentation and opportunities for students to create “Shadow Puppet” stories about their creation.** | |
| **Student Accommodations/Modifications:**  **-students will be supported to use tools safely (e.g., cutting )**  **-as outlined in IEPs** | **Lesson will be differentiated by:**   * **Content, specifically: review content of story again to ensure understanding.** * **Process, specifically: Assistance may be needed with fine motor aspects of the task.** * **Product, specifically:** * **Environment, specifically: alternate/quiet space could be provided.** |
| **MINDS ON: Getting Started** | |
| During this phase, the teacher may:  • activate students’ prior knowledge;  • engage students by posing thought-provoking questions;  • gather diagnostic and/or formative assessment data through observation and questioning;  • discuss and clarify the task(s). | During this phase, students may:  • participate in discussions;  • propose strategies;  • question the teacher and their classmates;  • make connections to and reflect on prior learning. |
| **Describe how you will introduce the learning activity to your students.**  Before reading, we will ask students to share a time when they imagined something or had to use their imagination  We will begin by reading “Not a Box”. You may choose to show the animated version located here: <https://www.youtube.com/watch?v=Nif94VQ4Xsc> .  We will debrief by asking the students to recall some of the things that the rabbit imagined.  **What key questions will you ask?**  What did the box become in the story?  What did you learn about what the rabbit likes?  Why do you think that I chose this story?  **How will you gather diagnostic or formative data about the students’ current levels of understanding?**  -think, pair, share to discuss the various elements of the story.  -checking for understanding with questioning throughout the read-aloud.  **How will students be grouped? How will materials be distributed?**  **-**students will work individually. They will share materials in small groups and be supported by the educators who will move throughout the working space. | |
| **ACTION: Working on it** | |
| During this phase, the teacher may:  • ask probing questions;  • clarify misconceptions, as needed, by redirecting students through questioning;  • answer students’ questions (but avoid providing a solution to the problem);  • observe and assess;  • encourage students to represent their thinking concretely and/or pictorially;  • encourage students to clarify ideas and to pose questions to other students. | During this phase, students may:  • represent their thinking (using numbers, pictures, words, manipulatives, actions, etc.);  • participate actively in whole group, small group, or independent settings;  • explain their thinking to the teacher and their classmates;  • explore and develop strategies and concepts. |
| **Describe the task(s) in which your students will be engaged.**  A box will be placed in the middle of a class sharing circle. The teacher would pick up the box and say “It’s not a box, it is a \_\_\_\_\_\_\_\_\_\_” and try to show how they may use the box to make that idea come to life. Each student would then be invited to come into the circle and say “It’s not a box, it is a \_\_\_\_\_\_”. All answers are honoured and celebrated. You may want to do this activity (with the box or with other objects) several times over the course of a few days before getting to the making activity.  After everyone has been given an opportunity to share, explain how when we were going around the circle we all had to use our imagination to create an image of what the box might look like.  Bring out all of the boxes. Explain that each student is going to be able to choose one of the boxes. Their goal is to turn it into something else. They will know that they are successful if someone else knows what it is without having to be told. Explain the materials provided and any special safety considerations (especially the use of scissors).  After building, students will take a picture or their work and create a page in a class “Shadow Puppet” with a voice recording explaining what they built.  **What misconceptions or difficulties do you think they might experience?**  -cutting, changing the shapes of their boxes.  -use of materials  -organization. Keeping track of all pieces.  -following their plan.  **How will they demonstrate their understanding of the concept?**  The created projects will be peer reviewed with the goal of students being able to recognize what it is without being told. We will do this at least once before the building stage is done.  Students will share a description of their project in a class “Shadow Puppet” video.  **How will you gather your assessment data (e.g., checklist, anecdotal records)?**  The teacher team will be taking anecdotal records (text and video) throughout the building stage. They will observe the peer review to ensure that other students can identify what it is without being told. They will be able to review the “Shadow Puppet” video that was created.  **What extension activities will you provide?**  -The sharing circle aspect of this activity can extend to be a regular oral language activity in the classroom.  -Photos of the various projects could be collected and organized together (picCollage) as a reminder of the project.  -discussion of uniqueness with a tie in to how different all the creations ended up being. | |
| **CONSOLIDATION: Reflecting and Connecting** | |
| During this phase, the teacher may:  • bring students back together to share and analyse strategies;  • encourage students to explain a variety of learning strategies;  • ask students to defend their procedures and justify their answers;  • clarify misunderstandings;  • relate strategies and solutions to similar types of problems in order to help students generalize concepts;  • summarize the discussion and emphasize key points or concepts. | During this phase, students may:  • share their findings;  • use a variety of concrete, pictorial, and numerical representations to demonstrate their understandings;  • justify and explain their thinking;  • reflect on their learning. |
| **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)?**  All students will be able to share their creation.  They will share their work in a sharing circle similar to the one that was done at the beginning of the activity.  There will also be a class “Shadow Puppet” video to share the learning.  **What key questions will you ask during the debriefing?**  What did you need to do to make your idea into a real thing?  What would you change if you could?  What is your favourite part of what you made?  What is something that someone else did that you thought was very creative? | |