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| **Activity: The Lifeline of your Lunchbox** |
| **Objective** |
| Students’ will investigate the time that it takes for common lunch items to decompose if they are not put in the proper waste bins. Through this activity, they will discuss how proper waste disposal in the Region of Peel benefits Ontario and Canada as a whole. |
| **Preparation** |
| Materials:   * Decomposition Timeline – Appendix A * Images of timeline materials – Appendix B * Technology to play video: Juice boxes - <http://www.pbslearningmedia.org/resource/lpsc10.sci.life.jcbx/juice-boxes/> * Paper (one sheet per group)   Discuss with students’ what ‘decomposition’ means.   * Follow-up by asking how long they think it takes for lunch packaging waste to decompose in a landfill (Days, years, etc.)   Show students the video   * Tell students they will be watching a video about an item that takes over 300 years to decompose in a landfill * Play “Juice Boxes” video (2:20) * Ask students if they were surprised by how long it takes for a juice box to decompose in a landfill |
| **Activity** |
| 1. Lunchbox Timeline:  * Place students into groups of 3-4 students and hand out pictures of lunch items to each group. * Ask them to organize the items from least amount of time to decompose to longest amount of time to decompose. * On the sheet of paper, have groups write down a table with 2 columns – Estimate and Actual. Have students record each of their items in the rows. * While they are completing their timelines, they must record guesses for how long it takes each item to decompose in line with the visual placement of their flyer items using the knowledge from the juice box video as their benchmark point. * Give students 10 minutes to complete their mini timeline and record their estimates.  1. Present Lunchbox Timeline:  * Have each group present their timeline and estimates for each item. * After each group has presented, reveal the actual timeline from Appendix A. * Discuss observations – How close were the students to the actual timeline? Why does it take so long for some lunch items to decompose?  1. Ask students:  * Thinking back to the beginning of the lesson, how does the amount of time it takes for lunch waste to decompose in a landfill compare to the amount of time it takes to eat your lunch?  1. Debrief Questions:  * Which item had the most surprising timeline? * Which items were biotic? Which items were abiotic? Did this have an impact on the decomposition timeline? * How can we reduce the timeline of these materials? (Use recycling bin in the school, reduce consumption of items, use reusable containers, and buy bulk items, educate friends and family about littering and proper recycling in the Region of Peel) * How does proper waste sorting in the Region of Peel affect Ontario? Canada? * What action can we take as a class to ensure no recyclable materials end up in a landfill? * Further reading: <https://www.cbc.ca/kidscbc2/the-feed/how-long-does-your-trash-last> |

**Appendix A - Table 1. Decomposition Timeline for Lunch Items**  
\*Note: these times depend on landfill conditions.

|  |  |  |  |
| --- | --- | --- | --- |
| **Item** | **Time** | **Item** | **Time** |
| Banana Peel | ~5 – 20 years | Plastic ‘Lunchmate’ Tray | 500+ years |
| Paper | ~10 – 40 years | Plastic Yogurt Cup | 500+ years |
| Cotton T-shirt | ~ 10 – 40 years | Plastic Juice Bottle | 500+ years |
| Popsicle Stick | 30 – 90 years | Glass Bottle | 1,000,000 years |
| Aluminum and/or Steel Fruit Cup Can | 80-100 years | Styrofoam Cup | Unknown/Forever |

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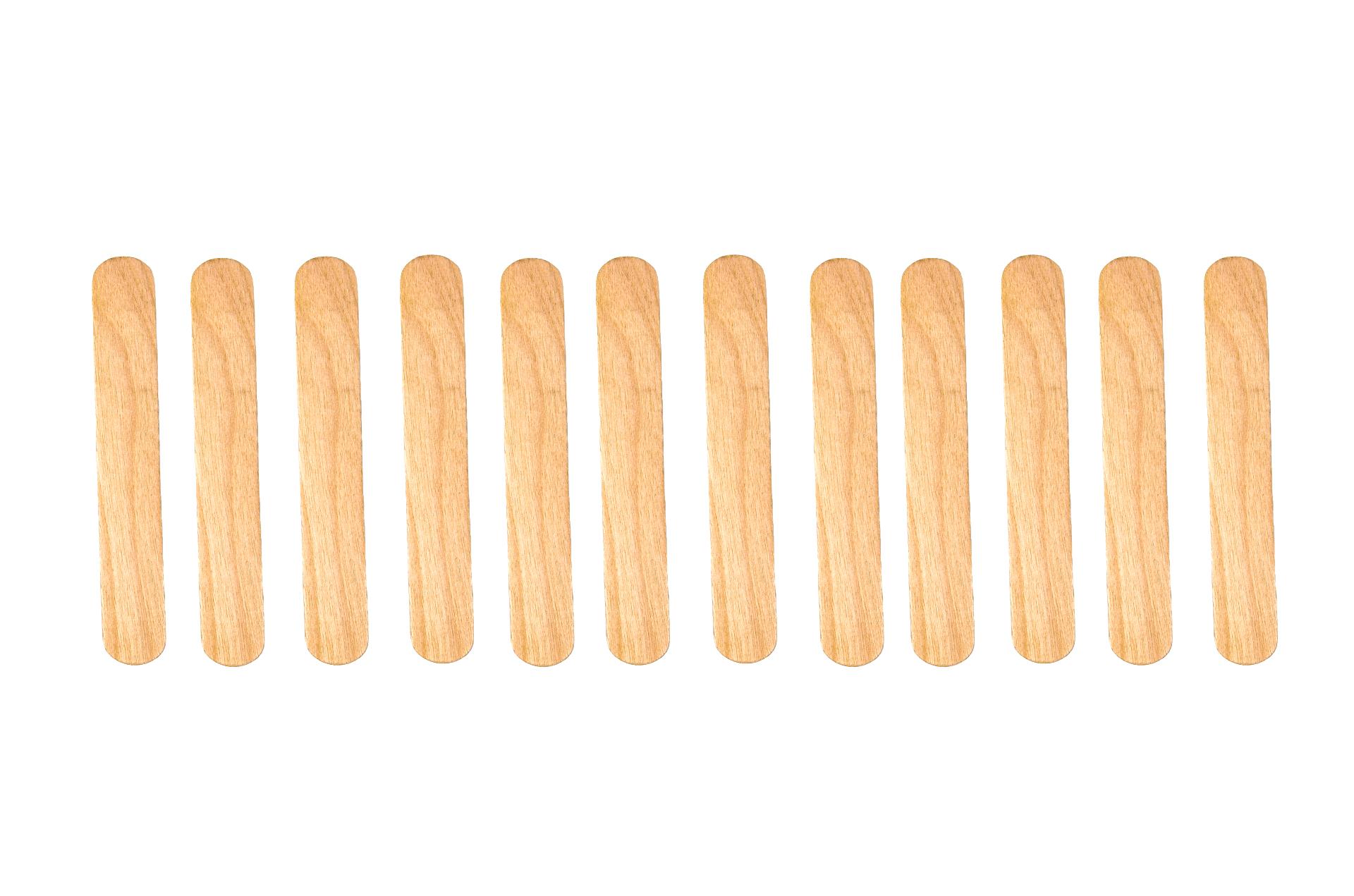
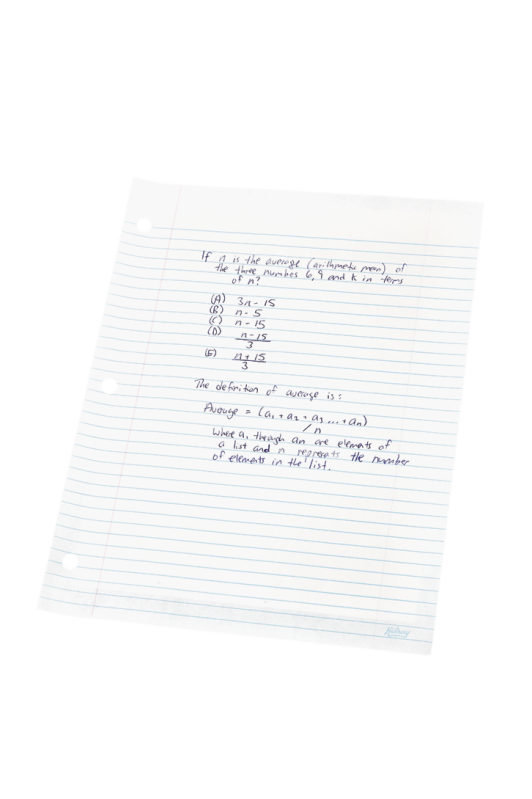
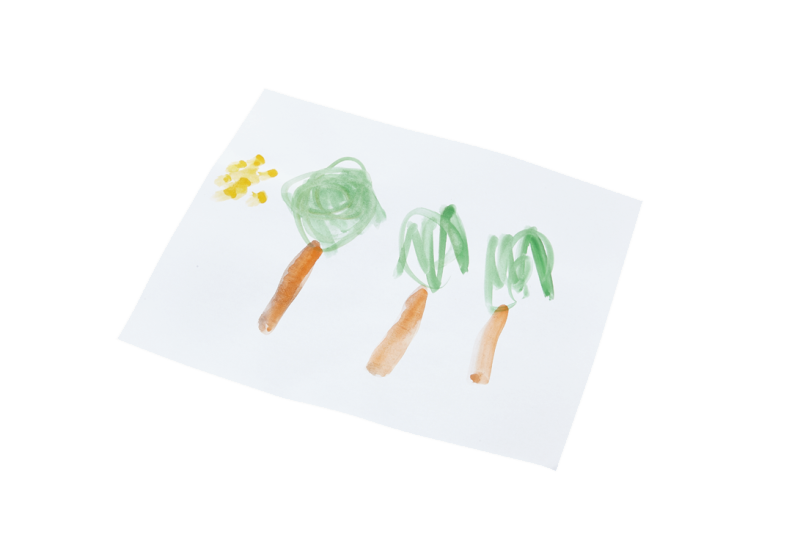
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**Appendix B – Images of timeline materials**

\*see next page



popsicle stick

paper

Styrofoam™ cup

LunchMates™ plastic tray

plastic bottle

banana peel





glass bottle

aluminum can

steel can

cotton t-shirt