



THE UNIVERSITY OF BRITISH COLUMBIA

Faculty of Education



Master of
Educational
Technology
Program

Cardboard Virtual Inclusive Makerspace

Tiny houses/habitats and animal change challenge

Designed by: Paula Huddy-Zubkowski

Overview of the challenge

This challenge exposes makers to the idea of possibilities. Cardboard is an everyday material that is often discarded; but what about being able to re-image the use of cardboard to create arcades and other objects to solve real-world problems. This inclusive maker challenge is inspired by Caine’s Arcade.

Materials and Resources Required



a) Caine’s Arcade Video



c) Hyperdoc Link



d) Design Planning Sheet



e) TinkerCad Design Process



f) Article PBS- Meet an animal prosthetic engineer



g) Vancouver Aquarium Video- Marine Mammal Rescue



h) Live Webcams



i) National Geographic Library of Resources



j) Change MAKERS website



Inclusive Maker Challenge Instructions

Spend the next few minutes examining the links provided in the materials section. After viewing the content, complete the tasks below.

1. Watch this video to be inspired to create with cardboard.



Caine used his imagination to create a world with cardboard. Share in his legacy by designing and building creative cardboard inventions. Now it's your turn! Look below to choose your challenge.

2. Choose one of the two options below to complete while following the [design process](#)



Option 1



Discover design with creating a teeny version of a habitat, community, a house, scene from a book, Indigenous lands past/present or place of your choice.
What will you design?



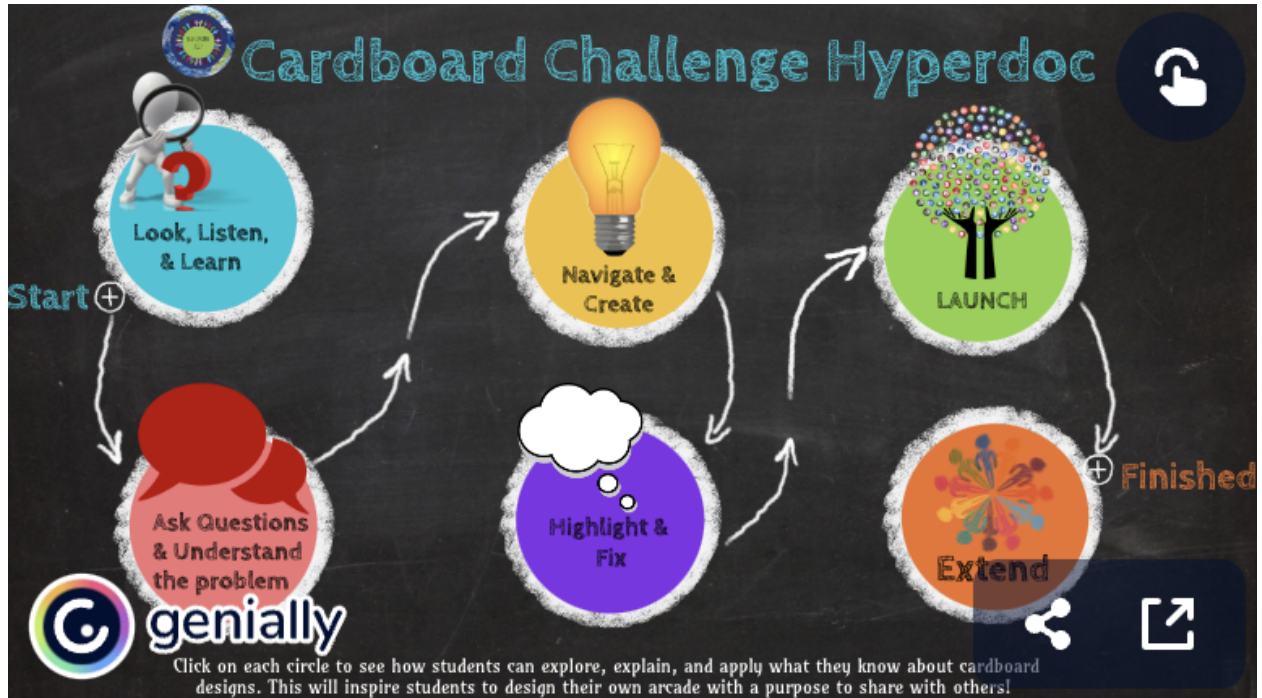
Option 2



Using reusable cardboard, build and design an arcade game to be a ChangeMAKER. What will your game inspire? (Save the Bees? Conservation? Accessible and Clean Water? etc.)

Be prepared to move your ideations to execution through the design of a prototype and then into the testing phase of your prototype.

3. Use the lesson plan templates (printable [design planning sheet](#) and [Tinkercad Design Thinking Process](#)- Digital Process) to 'make' from the option you chose above.



Use this hyperdoc as a teaching tool for your students to access. This can guide your class through the design process. [LINK](#)

Challenge Objectives

The objective of this challenge is to utilize ordinary cardboard to create extraordinary items to solve real world problems.

Critical Questions for Consideration

- a) What are you planning on making and why?
- b) What problem(s) are you solving?
- c) Why is this a problem?
- d) What audience are you making this for?
- e) How might this item benefit this audience?
- f) What barriers do you foresee having?
- g) What is your plan of execution?
- h) How might you showcase this item to a global audience?
- i) What are your next steps?

Background/ Additional Information



K-9



Grade 3



Grade 4



Grade 9

Animal Prosthetics- Stories to share with your students



Dolphin Tale Video Trailer



True Story Behind Dolphin Tale



Inclusivity Focus

When introducing this topic you will be starting off in a safe space of using cardboard to create an arcade. This will then move to examining how students might use cardboard to design prosthetics for animals (and can be expanded to people) with the core theme being accessibility. You will want to review themes such as ableism, dis-ability/ability, accessibility, and inclusion. These are sensitive topics and you will want to investigate these themes from a sensitive, responsive, and inclusive lens. Please check your own inherent biases in order to create a safe and welcoming learning environment for all of your students to freely express their ideas and sound opinions pertaining to this topic.

No Tech, Low-Tech, High-Tech Options

In this challenge you will begin with cardboard but you can have students utilize other low tech and high technology (i.e., Tinkercad and 3-D printing to extend this task). The possibilities for this maker challenge are endless.

Extensions

Please see the list below for extension examples and share your own ideas by tweeting your ideas to #UBCMETmakerchallenge.

- Explore [Saving the Earth- Animals with Prosthetics](#) to find out what you can do to help design and create usable prosthetics to help animals live a safe and happy life.



- Compare and contrast animal prosthetics to human prosthetics. What might you design and why? You might look to investigate world issues (i.e., loss of limbs due to diabetes, loss of limbs and need for replacement due to the terrorist attack in the Boston Marathon, etc.)