Since you have been learning all about design + construction and are the experts, the Mayor has asked all of you to create a solution to the question,

“What ideas do you have that could be built to make Cambridge more fair and interesting for children?”

Families + Student Support:

The goal of this project is for your child to respond to the design challenge above.

- Use the following steps of the design process to guide the project.
- Draw + build your ideas using materials found around the house.  PG. 6
- You may print out this packet or simply follow along using your own paper.
- Most importantly, express your creativity + have fun!

Design Process

The design process helps us to think about the who, what + why we are designing for before building a solution.

- Ask
- Brainstorm
- Choose
- Draw
- Build
- Share
To understand how to build something what would make Cambridge more fair and interesting for children, it helps to talk through your ideas.

Use the 5Ws to help guide you:

- **WHO** MIGHT IT HELP?
  Would all children get to use it? What about their parents?

- **WHERE** DO WE NEED IT?
  Is it in one neighborhood or does it move around?

- **WHAT** COULD IT BE USED FOR?
  What types of things could people do?

- **WHEN** COULD IT BE USED?
  Is it used in the summer? What about during the day?

- **WHY** DOES IT MAKE THE CITY FAIRER AND MORE INTERESTING FOR CHILDREN?
BRAINSTORM

Write or draw as many ideas as you can think of below or use your own paper.

IDEAS FROM PAST STUDENTS

- free homes for all
- indoor playground for all
- machines to clean garbage in the city/harbor
- no-money restaurant
- mobile toy van

CHOOSE

Talk with your family about your project and choose the idea you think would make Cambridge more fair and interesting.

Which one did you choose? Write your project idea below.

__________________________

__________________________

__________________________

__________________________
DRAW

Draw your idea below or use your own paper. This drawing is your building plan.

Title your project:
BUILD
Use your drawing to help guide you in building your model with materials found around your home. See page 6 for ideas of building materials.

WHAT IS A MODEL?
A model is a three dimensional (3-D) representation of an idea.

Models can be quick + rough; architects call these “sketch models.”
Models can also be more finished to show final ideas; architects call these “scale models.”

MODEL-MAKING
When building a model, encourage your child to be as creative as possible with what they choose to build with. Any material can represent anything else: a toilet paper tube can be a tree trunk, a playground tube, or even a person. Anything can be used to make a simple model.

To create a temporary model, your child can stack recycled boxes on the kitchen floor, or even use empty food containers and other household items. See the next page for ideas.

SHARE
Take pictures of your model, description, + drawings to share with your teacher.
BUILDING MATERIALS

MODEL-MAKING SUGGESTIONS

- **TO MAKE IT COLORFUL:**
  Construction paper or other paper is better to cover boxes rather than paint; Paint + cardboard don’t mix well. Flip boxes inside-out to have an empty space to color or paper the outside.

- **TO KEEP IT ORGANIZED:**
  Make a base for the model with cardboard, a box lid, an old cutting board or piece of wood. It helps make clean-up and moving the model around easier.

- **TO CONNECT IT:**
  Packing + masking tape tend to work better than scotch tape. White glue works well but takes more time to dry; count 15 seconds while holding item in place.

- **TO MAKE IT STAND:**
  Paper can be made into walls by folding the bottom edge of the paper into a ‘foot’ that is glued to a horizontal surface.

  Allow your child to experiment with ways to accomplish what they want to build. Keep trying + testing.

MATERIAL IDEAS: USE WHAT YOU CAN FIND AROUND YOUR HOME

- **RECYCLED BOXES**
  - cereal boxes
  - pasta + crackers boxes
  - clean juice cartons
  - shoe boxes
  - shipping boxes
  - jewelry boxes

- **RECYCLED ITEMS**
  - corks
  - toilet paper tubes
  - paper towel tubes
  - coffee stirrers
  - paper cups
  - yogurt cups
  - grass from a sushi box
  - brown paper bags
  - takeout trays
  - packaging materials

- **TAPE/GLUE**
  - clear packing tape
  - white glue
  - glue sticks
  - hot glue (adults only)

- **ART SUPPLIES**
  - markers / crayons
  - colored pencils
  - construction paper
  - pipe cleaners
  - model magic / clay
  - tissue paper
  - craft sticks
  - yarn / string
  - fabric

- **NATURE FINDS**
  - sticks
  - pebbles + rocks
  - leaves
  - acorns