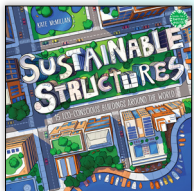
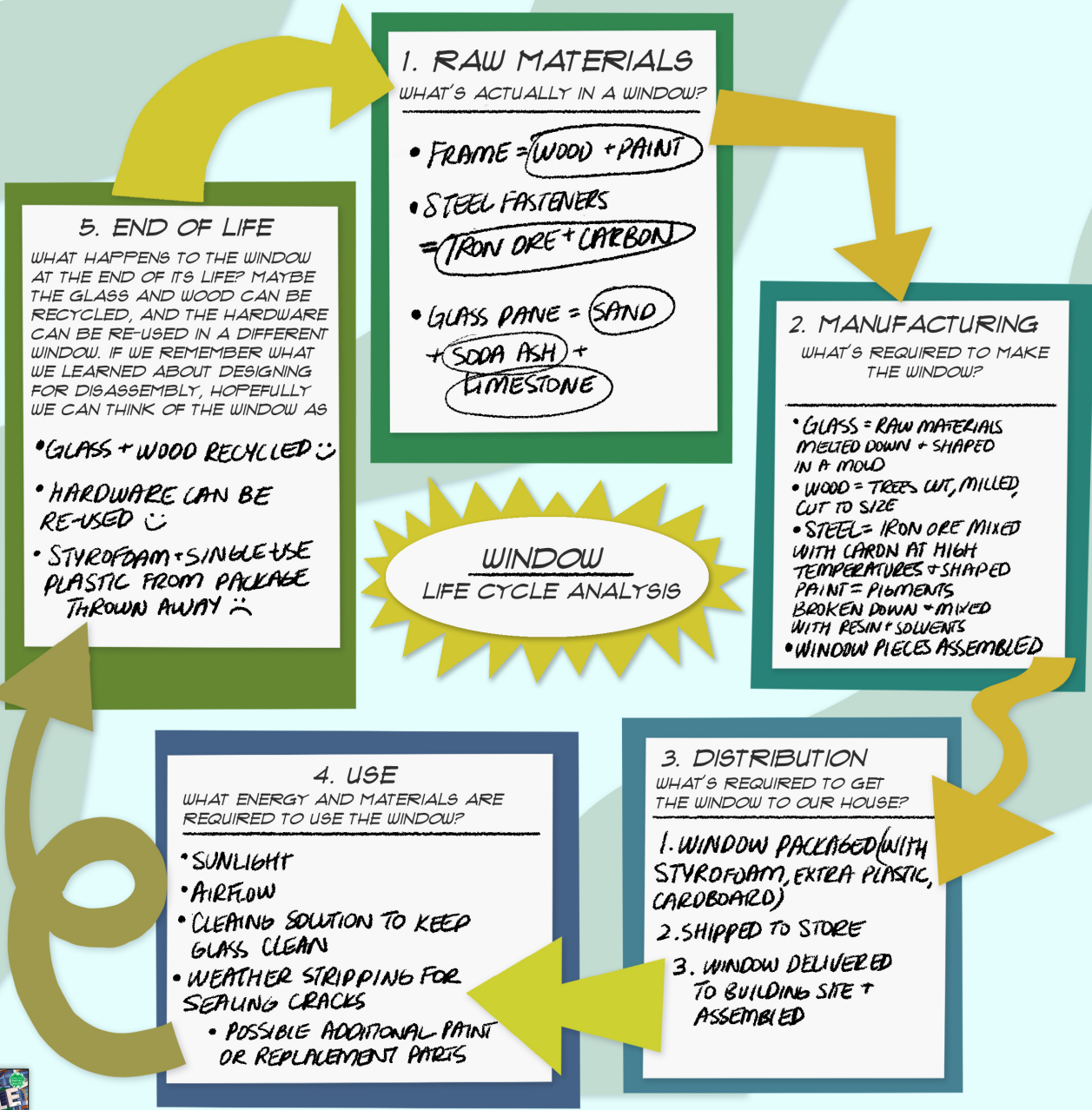


# LIFE CYCLE ANALYSIS



## LIFE CYCLE ANALYSIS

AS WE'VE LEARNED, THE BUILDINGS AROUND US DON'T JUST MAGICALLY APPEAR AS FULLY FORMED SPACES - IT TAKES RESOURCES TO HARVEST THE MATERIALS, TRANSPORT THEM, CONSTRUCT THEM INTO SOMETHING, AND MAINTAIN THEM. IN ORDER TO BETTER UNDERSTAND THE ENVIRONMENTAL IMPACT OF THESE BUILDINGS, ARCHITECTS WILL OFTEN CONDUCT SOMETHING CALLED A LIFE CYCLE ANALYSIS. THIS IS WHEN WE BREAK DOWN EVERY STAGE IN THE LIFE OF AN OBJECT. LET'S TAKE A LOOK AT HOW WE WOULD ANALYZE SOMETHING AS SIMPLE AS A NEW WOOD-FRAMED WINDOW FOR A HOUSE.

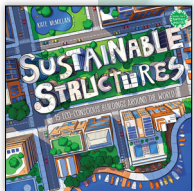
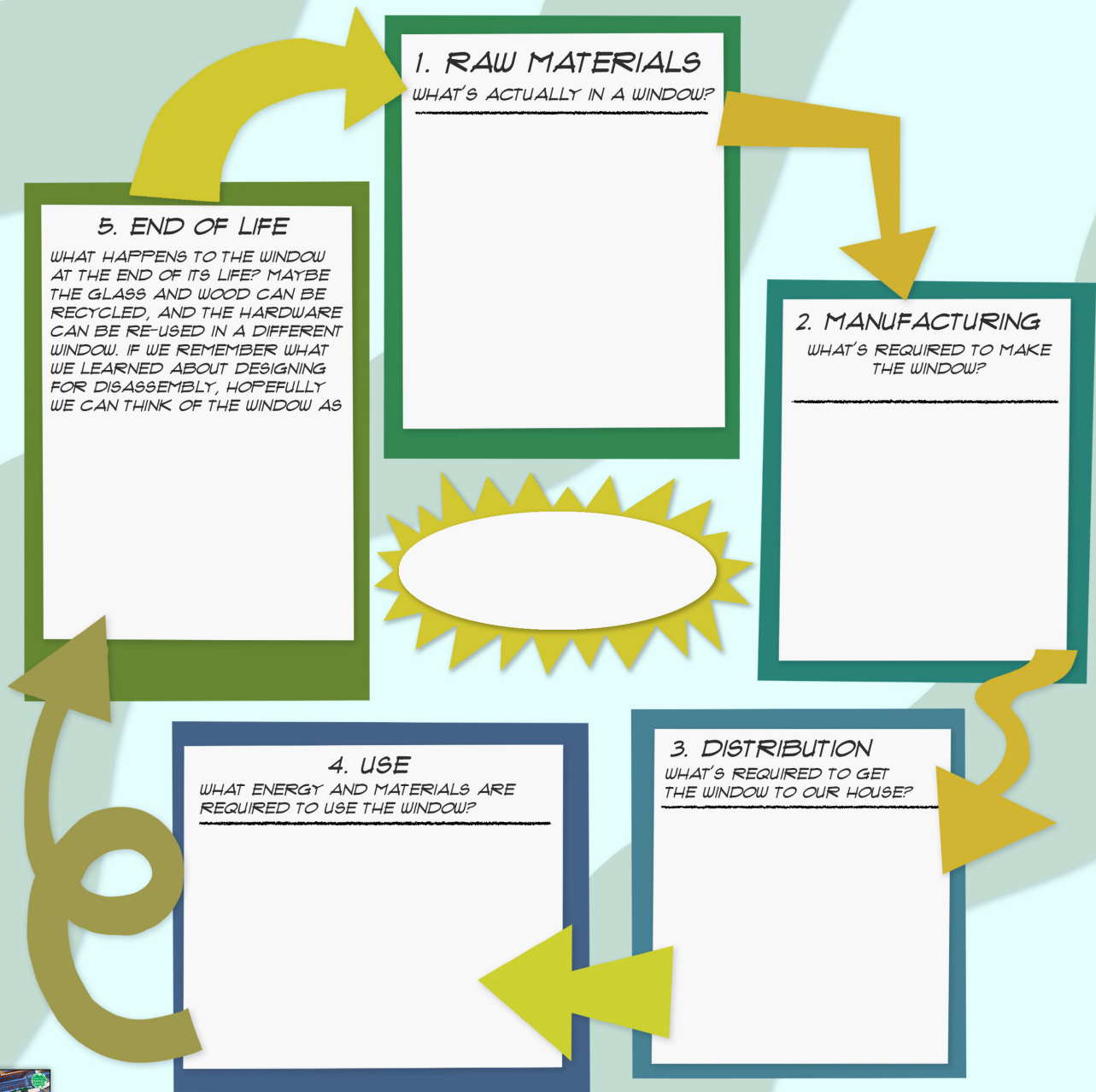


# LIFE CYCLE ANALYSIS



## LIFE CYCLE ANALYSIS

NOW IT'S YOUR TURN! CHOOSE AN OBJECT AROUND YOU - MAYBE IT'S YOUR SHIRT, PENCIL, BOOK - AND TRY TO BREAK DOWN THE LIFE OF THAT OBJECT. THE MORE DETAILED, THE BETTER! BY CONDUCTING A LIFE CYCLE ANALYSIS, WE COME TO BETTER UNDERSTAND ALL THE ENERGY AND RESOURCES THAT GO INTO SOMETHING SEEMINGLY SO SIMPLE!



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15 Eco-Conscious Buildings Around the World  
By Kate McMillan  
HC: 9780823455669

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# REUSE BINGO



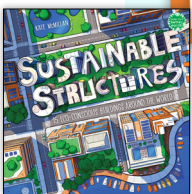
## RE-USE BINGO

SOME OF THE MOST INNOVATIVE BUILDINGS MAKE USE OF LOCAL MATERIALS RIGHT IN THE NEIGHBORHOOD TO CUT DOWN ON TRANSPORTATION AND ENERGY USE. WHY DON'T WE TRY TO DO THE SAME? THERE ARE CONSTRUCTION MATERIALS AROUND US...IF WE JUST LEARN TO LOOK. LET'S SEE WHAT YOU CAN FIND!

# B I N G O

MAGAZINE	EGG CARTON	ITEM OF CLOTHING WITH A STAIN/ TEAR	DEAD TREE BRANCH OR STICK	CANDY WRAPPER
OLD SHOE LACE	UNWANTED RECEIPTS	PAPER BAG	TAKEOUT CHOPSTICKS	EMPTY SHAMPOO BOTTLE
EMPTY MILK CARTON	CEREAL BOX		THUMB TACK	PINE CONE
CARD-BOARD BOX	RUBBER-BAND	EMPTY CAN	PAPER CLIP	DRIED OUT MARKER
TAKEOUT TUPPERWEAR	LOOSE PEBBLE FROM SIDEWALK	BROKEN FLOWER POT	MISSING SOCK	STRING

NOW THAT YOU'VE LOCATED A FEW CONSTRUCTION MATERIALS, LET'S BRAINSTORM HOW YOU MIGHT TURN THEM INTO SOMETHING ELSE. WHAT COULD THEY BE? MAYBE A TOY VEHICLE, A DOLL, A FUN COSTUME? OR EVEN A SMALL BUILDING?



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# SUSTAINABLE STRUCTURE CRAFTING PROJECT



Build your own sustainable structure with things from around your home! Create a building using some of the recycled materials and other supplies below. Which repurposable items can you find around the house? Do you have any other ideas for supplies you can reuse? Be sure to clean out your materials before you use them!

## Recycled Supply Ideas:

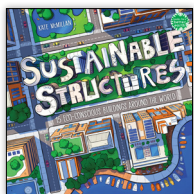
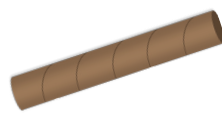
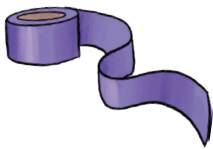
- Toilet paper rolls
- Chip canisters
- Empty spools
- Wrapping paper rolls
- Cereal boxes
- Cardboard boxes
- Egg cartons
- Scrap paper
- Popsicle sticks
- Empty plastic packaging
- Water bottles
- Tin cans
- Paper shopping bags
- Staws
- Bottle caps



## Which other recycled supplies can you gather around your home?

## Other Supplies You May Need:

- Tape
- Glue
- Scraps of ribbon/string
- Stapler and staples
- Rubber bands
- Scissors
- Markers
- Pencils
- Paint
- Pens



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# CONCEPT MATCHING

Match the concepts from *Sustainable Structures* on the left to their definitions on the right by drawing a line.



## Concepts

**Biomimicry**

**Energy Positive Buildings**

**Design for Disassembly**

**Sustainable Buildings**

**Thermal Mass**

**Adaptive Reuse**

## Definitions

Architects are encouraged to plan ahead of time how demolition will ensure that materials are easily recovered and reused.

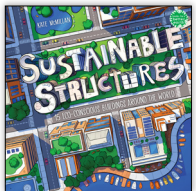
Humans emulate concepts from nature to solve human problems.

Structures designed to minimize negative effects on the environment and provide positive living conditions for the people inside.

When an old building or structure is reused for something new instead of being torn down.

A building's renewable energy is used to generate more energy than consumed.

A material's ability to store and release heat.



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