

Tinker Station Quick Reference

A flexible guide for organizing materials and supporting innovation

A tinker station does not need to include every material listed below. This reference is meant to support thoughtful organization and flexible use over time. Many items can be collected gradually or substituted with materials already available.

Bins may be adapted based on space, age level, and setting.

Build It



blocks, cardboard, craft sticks, boxes, tubes, cups

Connect It



string, zip ties, brads, binder clips, rubber bands

Stick It Together



masking tape, painter's tape, glue sticks, Velcro dots

Make It Move



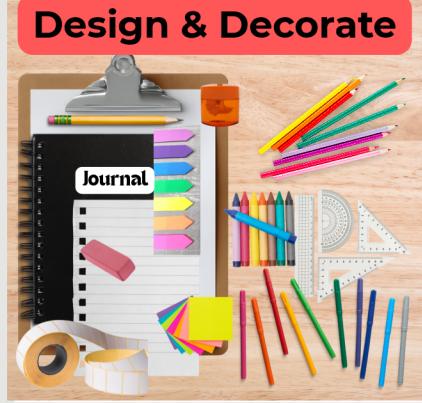
wheels, axles, bottle caps, marbles, straws, pulleys

Take It Apart



old toys, safe electronics, gears, hinges, springs

Design & Decorate



paper, index cards, markers, labels, sticky notes





Tools

scissors, rulers, hole punch, screwdrivers

Test & Measure

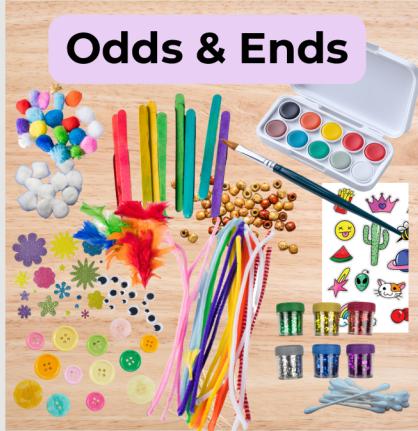


measuring cups, scales, tweezers, timers

Unfinished Projects



incomplete work, temporary storage



Odds & Ends

buttons, stickers, cotton balls, glitter, q-tips, paint



Challenge Cards & Games

dice, game pieces, timers, challenge cards



Clean Up

garbage bags, gloves, brooms, cleaning supplies



Special Occasion

hot glue gun, box cutter, hair dryer, sewing kit, tablets

Use these suggestions to create the Tinker Station that fits your needs. Tinker stations are meant to grow and change. Materials shift as students' ideas evolve.

On the next few pages...

I have provided more detailed lists of each bin. I've highlighted the must-have items, along with ones that you may need to purchase frequently.

Remember, there is no "right" way to create a Tinker Station.



Tinker Station Reference

Highlighted items = recommended starting materials

* = consumable items (replace as needed)

BUILD IT



blocks, cardboard, craft sticks, boxes, tubes, cups

Purpose

This bin supports building, balance, and structure. Learners explore how materials stack, support weight, and hold form while testing ideas through hands-on construction.

How It's Used

Often serves as the starting point for projects and works in combination with several support bins.

STEM Connection

structure and stability, spatial reasoning, basic engineering design

Suggested Items:

wooden blocks

craft sticks

building bricks (Legos)

playdough *

cardboard pieces *

tubes *

cups *

wood planks

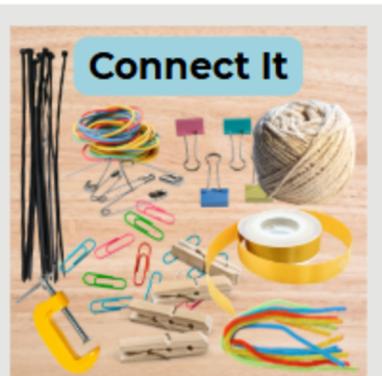
index cards *

Magnets

boxes

cardstock paper

CONNECT IT



string, zip ties, brads, binder clips, rubber bands

Purpose

This bin focuses on how parts join together to create systems. Learners experiment with flexibility, tension, and strength while deciding how pieces should connect.

How It's Used

Supports problem-solving when builds become more complex or unstable.

STEM Connection

systems thinking, cause-and-effect, problem-solving through connections

Suggested Items:

string *

rubber bands *

binder clips

brads *

ribbon *

clothes pins

safety pins

chenille wires

zip ties *

paper clips

Tinker Station Reference

Highlighted items = recommended starting materials

* = consumable items (replace as needed)

STICK IT TOGETHER (Support Bin)



masking tape, glue sticks,
painter's tape, Velcro dots

Purpose

This bin provides easy access to adhesives used across many projects. It allows learners to test temporary and permanent solutions without interrupting their work.

How It's Used

Functions as a shared support bin used alongside any other bin.

STEM Connection

testing materials, strength and adhesion, iterative problem-solving

masking tape, painter's tape,
glue sticks, Velcro dots

Suggested Items:

glue bottles *
masking tape *
plumber's tape *
painter's tape *

scotch tape *
glue sticks *
glue dots *
Velcro patches *

spray adhesive *
putty *
glue sponges *

MAKE IT MOVE



wheels, axles, bottle caps,
marbles, straws, pulleys

Purpose

This bin supports exploration of motion and cause-and-effect. Learners investigate how objects roll, spin, slide, or transfer force..

How It's Used

Frequently paired with Build It and Connect It to create moving systems..

STEM Connection

motion and forces, cause-and-effect, early physics concepts

wheels, axles, bottle caps,
marbles, straws, pulleys

Suggested Items:

straws *
wooden dowels
bottle caps *
dvds/cds

brads *
empty spools
round/circular objects
marbles

toy cars/tracks
lids
pulleys
cardboard *

Tinker Station Reference

Highlighted items = recommended starting materials

* = consumable items (replace as needed)

TAKE IT APART



old toys, safe electronics,
gears, hinges, springs

Purpose

This bin encourages curiosity through reverse engineering. Learners explore how objects are constructed and how parts interact inside a system.

How It's Used

Supports investigation, questioning, and deeper understanding of how things work.

STEM Connection

reverse engineering, systems awareness, curiosity-driven investigation

Suggested Items:

broken toys
safe electronic equipment
broken keypads

DESIGN & DECORATE



paper, index cards, labels
markers, sticky notes

Purpose

This bin supports planning, communication, and reflection. Learners use it to sketch ideas, label parts, record thinking, or add visual detail to their projects.

How It's Used

Often accessed throughout a project to support thinking and expression.

STEM Connection

planning and communication, visual representation of ideas, design thinking

Suggested Items:

pencils *
colored pencils *
markers *
crayons *

post it notepads/Flags *
eraser *
labels *
paper (different varieties) *

journal *
pencil sharpener
drawing tools
clipboard

Tinker Station Reference

Highlighted items = recommended starting materials

* = consumable items (replace as needed)

TOOLS (Support Bin)



scissors, rulers, hole punch, screwdrivers, and more.

Purpose

This bin provides tools that support precision and independence. Learners practice using real tools responsibly to refine their work.

How It's Used

Shared across all activities and accessed as needed.

STEM Connection

measurement and precision, tool use and safety, independence in problem-solving

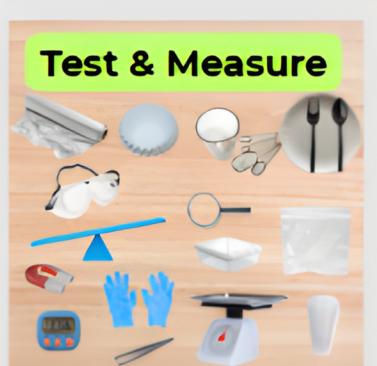
Suggested Items:

tape measure
tape dispenser
stapler
ruler

scissors
pliers
screw drivers
hole punch

level
scrapers
calculator

TEST & MEASURE (Support + Exploration Bin)



measuring cups, scales, tweezers, timers

Purpose

This bin brings experimentation into activity time. Learners measure, compare, and test ideas to inform redesign and improvement.

How It's Used

Supports inquiry and evidence-based decision making during builds.

STEM Connection

data observation, comparison and estimation, experimentation

Suggested Items:

safety goggles
gloves *
timer
scales

measuring cups
plates/cups/utensils *
containers
coffee filters *

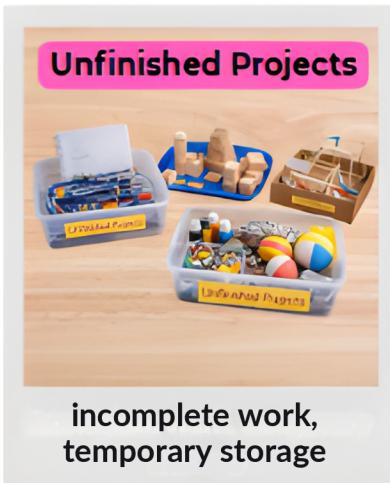
plastic bags *
magnifying glass
tweezers
magnets

Tinker Station Reference

Highlighted items = recommended starting materials

* = consumable items (replace as needed)

UNFINISHED PROJECTS (Infrastructure Bin)



incomplete work,
temporary storage

Purpose

This bin protects ideas that need more time. It communicates that learning does not need to be completed in one session.

How It's Used

Stores paused work so learners can return, revise, and improve later.

STEM Connection

long-term planning, reflection over time, perseverance in design

Suggested Items:

storage bins w/lids

baggies (different sizes) *

food trays

shoe boxes

shopping bags *

ODDS & ENDS (Enhancement Bin)



buttons, stickers, cotton
balls, glitter, q-tips, paint

Purpose

This bin supports creativity and flexible thinking. It offers open-ended materials that allow learners to personalize, extend, or rethink their projects.

How It's Used

Often used to enhance or adapt work started in other bins.

STEM Connection

creative problem-solving, flexible thinking, material exploration

Suggested Items:

craft sticks *

chenille wires *

glitter/glitter glue *

buttons *

stickers *

foam shapes/letters *

watercolor paint sets *

cotton balls/pom poms *

pony beads *

q-tips *

feathers *

googly eyes *

Tinker Station Reference

Highlighted items = recommended starting materials

* = consumable items (replace as needed)

CHALLENGE CARDS & GAMES (Constraint & Systems Bin)



dice, game pieces, timers, challenge cards

Purpose

This bin introduces rules, goals, and constraints. Learners apply materials intentionally while responding to challenges or designing their own games.

How It's Used

Supports strategic thinking, game design, and systems-based problem solving.

STEM Connection

constraint-based design, strategic thinking, game-based problem-solving

Suggested Items:

timers

game pieces

counters

coins

dice

play money

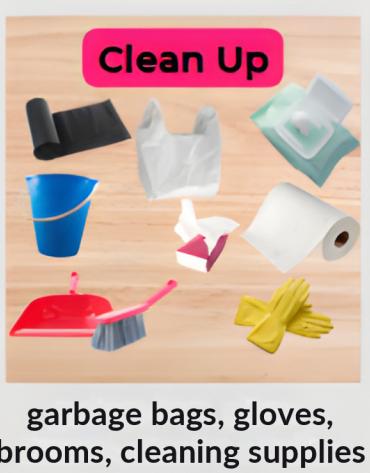
cards

poker chips

dominos

challenge cards

CLEAN UP (Infrastructure / Support Bin)



garbage bags, gloves, brooms, cleaning supplies

Purpose

This bin supports independence and responsibility during exploration. Access to simple cleaning tools allows learners to manage messes as they work.

How It's Used

Used throughout activity time, not only at the end.

STEM Connection

responsibility and systems care, preparation for experimentation, workspace management

Suggested Items:

garbage bags *

shopping bags *

paper towel *

baby wipes *

vinyl gloves

small broom/dustpan

pail

tissue/napkins *

rags

table cloths

Tinker Station Reference

Highlighted items = recommended starting materials

* = consumable items (replace as needed)

SPECIAL OCCASION / TEACHER-DIRECTED (Infrastructure/Support Bin)



Purpose

This bin stores rotating or higher-interest materials that may require guidance or special use. It provides a place for tools or items used occasionally.

How It's Used

Accessed intentionally based on projects, themes, or teacher direction.

STEM Connection

advanced materials exploration, guided inquiry, safety-aware experimentation

Suggested Items:

glue gun + (glue sticks*)

hair dryer

box cutter

Ipad/Tablet

sewing kit

flashlight

battery-charger

hammer

rock polisher

pottery wheel

sewing machine

3D printer