

Build It

Build the tallest tower you can
using only 10 pieces of paper. No
tape.

Brain note: a limit makes the brain search
harder for a new idea.

Build It

Build a tower from cups and
cardboard that holds a book on
top.

Brain note: a clear goal, like holding weight,
gives the brain something to test.

Build It

Build a tower that stands alone for
10 seconds and survives a gentle
blow.

Brain note: watching something fall teaches
the brain more than watching it stand.

Build It

Build a bridge between two chairs.

It must hold a full water bottle.

Brain note: testing a guess creates a surprise signal, and surprise drives learning.

Build It

Build a paper bridge with the
longest span you can. No supports
underneath.

Brain note: long spans push the brain to think
in shapes and forces, not parts.

Build It

Build a bridge a toy car can cross
without wobbling. No tape.

Brain note: removing a tool makes the brain
reuse what it already knows.

Build It

Build a foil boat that floats with 10
coins on board.

Brain note: predicting before you test makes
the result stick better in memory.

Build It

Build a boat that carries a small toy
and floats for two minutes.

Brain note: hands-on building links what you
see to what you feel.

Build It

Build a boat with a sail. Move it
across a bowl using only your
breath.

Brain note: air is invisible, so the brain must
model it instead of watching it.

Build It

Build a chair for a toy from cardboard only. It must hold the toy sitting.

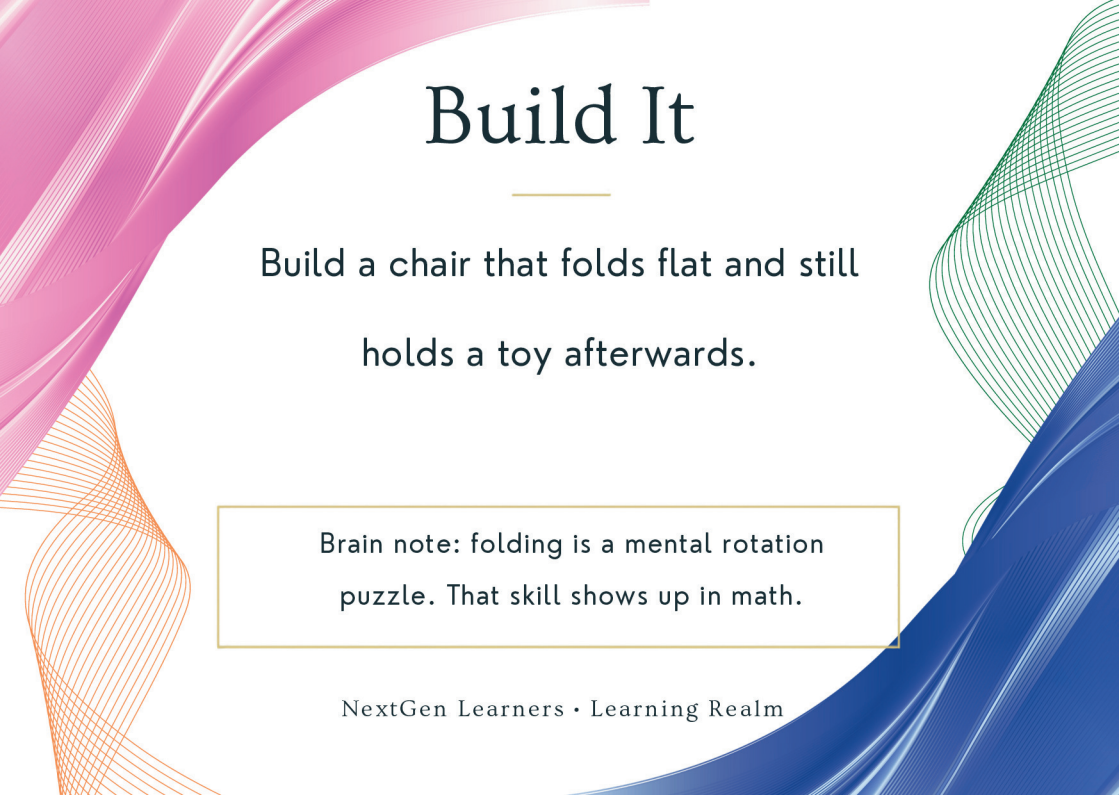
Brain note: designing for someone else, even a toy, is practice at holding a goal.

Build It

Build a chair with four legs and no tape. It must not tip over.

Brain note: balance problems train the brain's sense of space and weight.

Build It



Build a chair that folds flat and still
holds a toy afterwards.

Brain note: folding is a mental rotation
puzzle. That skill shows up in math.

Build It

Build a maze in a shoebox. A marble must roll from start to finish.

Brain note: planning a path ahead uses the same brain areas as planning a route.

Build It

Draw a maze with one right path
and three dead ends. Time a
friend.

Brain note: the brain marks wrong turns so it
does not take them twice.

Build It

Build a maze a friend can solve
blindfolded using only your words.

Brain note: giving directions forces the brain
to turn a picture into words.

Build It

Build a catapult from spoons and rubber bands. Land a pom-pom in a cup.

Brain note: aiming trains the brain to compare what happened with what it wanted.

Build It

Build a catapult that sends a paper
ball far, not high.

Brain note: changing one thing at a time is
how the brain isolates a cause.

Build It

Build a catapult you can aim. Hit
the same spot three times in a row.

Brain note: repeating a success on purpose is
harder, and it teaches more.

Build It

Build a shelter for a toy that keeps
it dry under a sprinkle of water.

Brain note: building against water gives fast,
honest feedback.

Build It

Build a shelter that stands up to a fan on low. No tape on the outside.

Brain note: fast feedback is what turns a guess into a skill.

Build It

Build a shelter big enough for your
own head and shoulders.

Brain note: building at your own size makes
the problem real to your body.

Build It

Build a paper bag that carries 5
things across the room.

Brain note: a load turns an idea into a test
with a clear pass or fail.

Build It

Build a bag with a handle that
holds for 30 seconds without
tearing.

Brain note: a time limit shifts the brain from
perfecting to trying.

Build It

Build a bag that folds small enough
to fit in your pocket.

Brain note: making something small and
foldable forces the brain to simplify.

Build It

Build a ramp that sends a toy car
the whole length of the table.

Brain note: motion problems ask the brain to
think in time, not just in shapes.

Build It

Build a ramp with a turn in it. The marble must stay on the track.

Brain note: a curve is harder than a straight line, so the brain works deeper.

Build It

Build a ramp that stops a ball
exactly on a target you choose
first.

Brain note: naming the target first gives the
brain something to steer by.

Build It

Build a nest that holds three grapes
and does not let them roll out.

Brain note: round things roll, so the brain can
see gravity at work.

Build It

Build a nest that hangs from a hook
and stays level when you let go.

Brain note: hanging things add balance,
which the brain has a system for.

Build It

Build a newspaper hat that stays on
while you walk across the room.

Brain note: wearable builds bring your own
body into the problem.

Build It

Build a hat that shades your eyes
and keeps its shape all day.

Brain note: building for comfort teaches the
brain to design for a real user.

Build It

Build a hat that balances an apple
on top for 10 seconds.

Brain note: balance tasks join eyes, ears and
muscles into one loop.

Build It

Build an instrument that makes
three different notes.

Brain note: sound gives instant feedback the
brain can hear and adjust to.

Build It

Build an instrument you can play
with one hand. Make a rhythm on
it.

Brain note: rhythm uses timing circuits shared
with movement and speech.

Build It

Build one shaker that sounds loud
and one that sounds soft.

Brain note: comparing two things is how the
brain builds categories.

Build It

Build a machine that moves a
marble from the table to the floor
slowly.

Brain note: slow is harder than fast. Extra
limits push you past the first idea.

Build It

Build a machine that moves a
marble around a corner without
touching it.

Brain note: turning a corner means picturing
forces you cannot see.

Build It

Build a machine that drops a
marble into a cup from across the
table.

Brain note: a distant goal makes the brain
break the task into steps.

Build It

Also try: Cut-And-Make Crafts,
Divergent Thinking Games, and
What If Reasoning Cards.

Brain note: Find every set at
NextGenLearners.com.