AUTODESK

Thank you from Autodesk

From all of us at Autodesk, thank you for teaching and inspiring the next generation of designers and makers. Going beyond the software, our goal is to provide you with all of the resources and partners to help you engage with your students. From learning and certifications to professional development to classroom project ideas, we have what you need.

Let's stay connected

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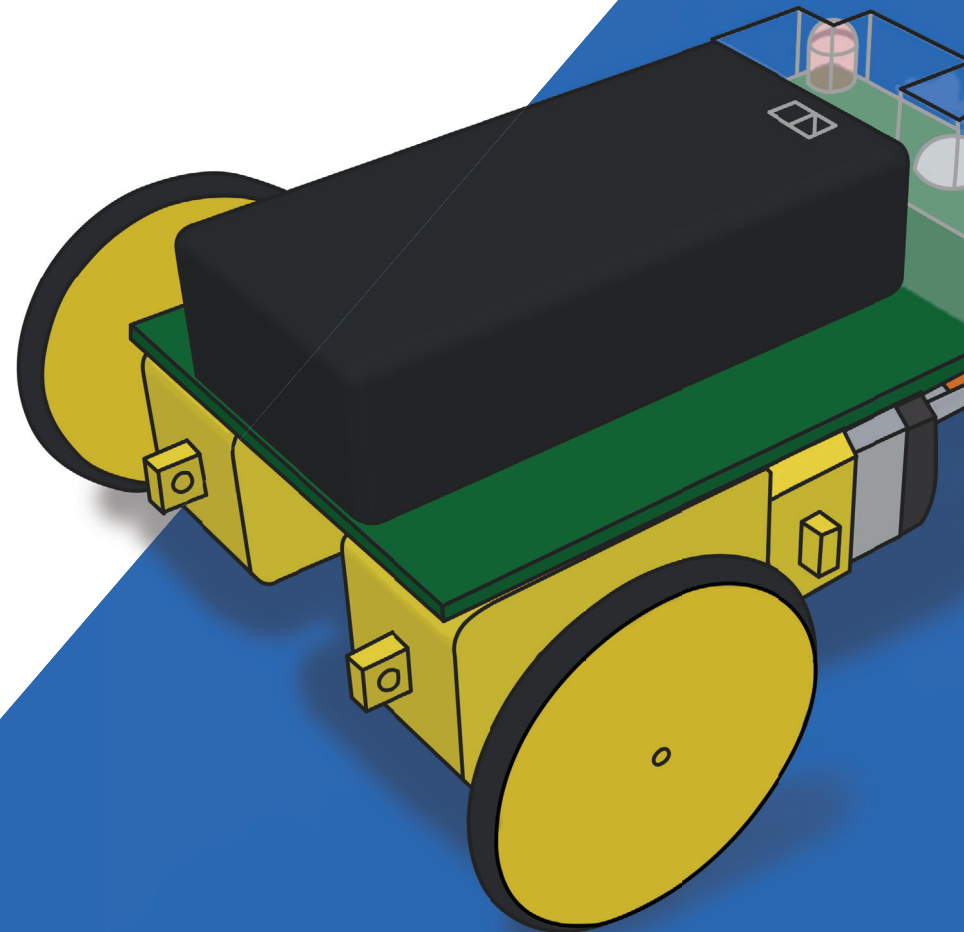
AutodeskEducation

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AUTODESK
Tinkercad

Getting Started Guide

AUTODESK
Tinkercad

Autodesk Tinkercad is a free (for everyone) web-based tool for learning 3D design electronics and coding, trusted by 50 million teachers and students around the world. Learning design with Tinkercad helps to build essential STEM skills like problem-solving, critical thinking, and creativity.

Tinkercad's friendly and easy to learn tools provide rapid and repeatable successes, making it fun and rewarding for learners of all ages to bring their ideas to life! Help to your students develop a sense of curiosity and a passion for STEM-related fields and inspire your students on their path to future careers as designers.

We have lesson plans and support for teachers to feel confident teaching design. Be the facilitator and watch your students become the experts!

Sign up is easy using popular services like Google. Alternately, add students without requiring personal information using only nicknames and a shared link. Design in Tinkercad begins with simple shapes and components. Level up quickly with our library of starter projects and tutorials and check out the community gallery for endless ideas to remix.

1 What's new in Tinkercad?
Learn more about the newest functionalities in Tinkercad

2 Tinkercad 3D Design
From product models to printable parts, 3D design is the first step in making your ideas real

3 Tinkercad Circuits
From blinking your first LED to reimagining the thermometer, we'll show you the ropes, buttons, and breadboards of electronics

4 Tinkercad Codeblocks
Write programs that bring your designs to life. Block-based code makes it easy to create dynamic, parametric, and adaptive designs

5 Tinkercad Classrooms
Send and receive assignments, monitor student progress, and assign new activities all in Tinkercad Classrooms

6 Tinkercad to Fusion 360
Level up your Tinkercad designs with Fusion 360

7 Tinkercad Keyboard Shortcuts
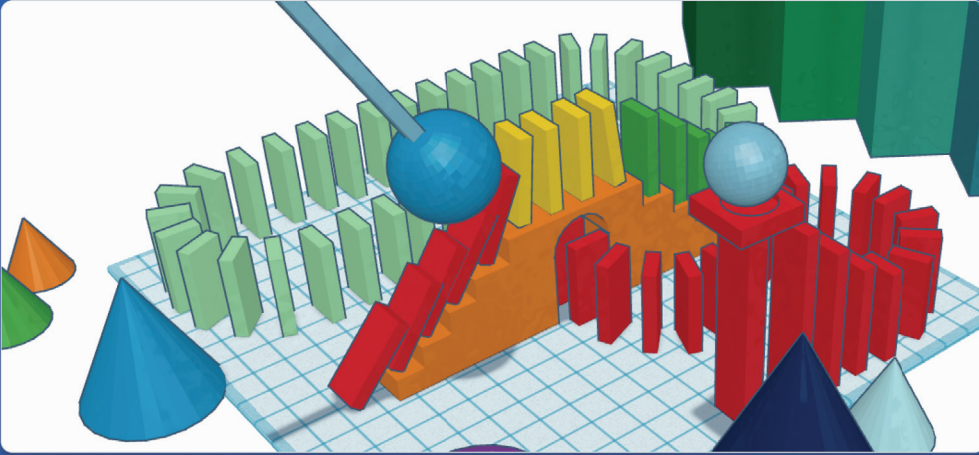Use these handy shortcuts below to speed up your Tinkercad 3D workflow

8 Tinkercad Resources
We've gathered a wealth of Tinkercad wisdom all in one place to help get you started
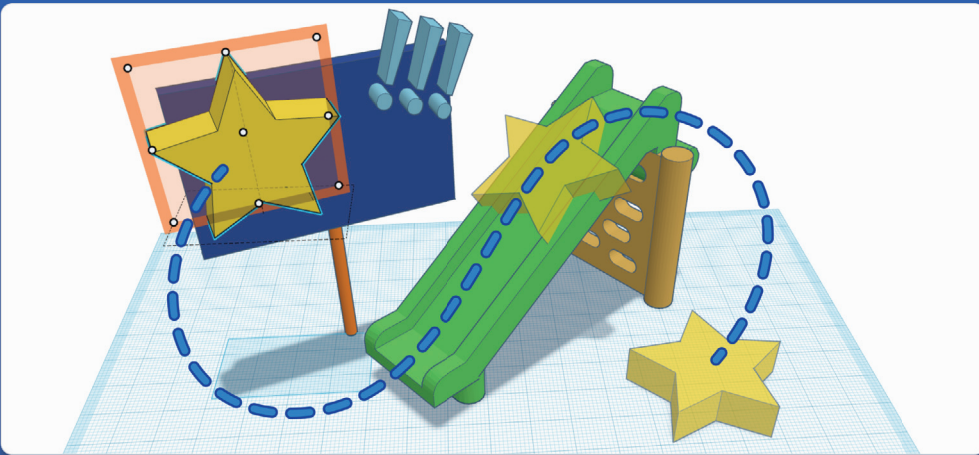
1 What is new in Tinkercad?

Sim Lab

Put your designs in motion in our new physics workspace. Simulate the effects of gravity, collisions, and realistic materials.
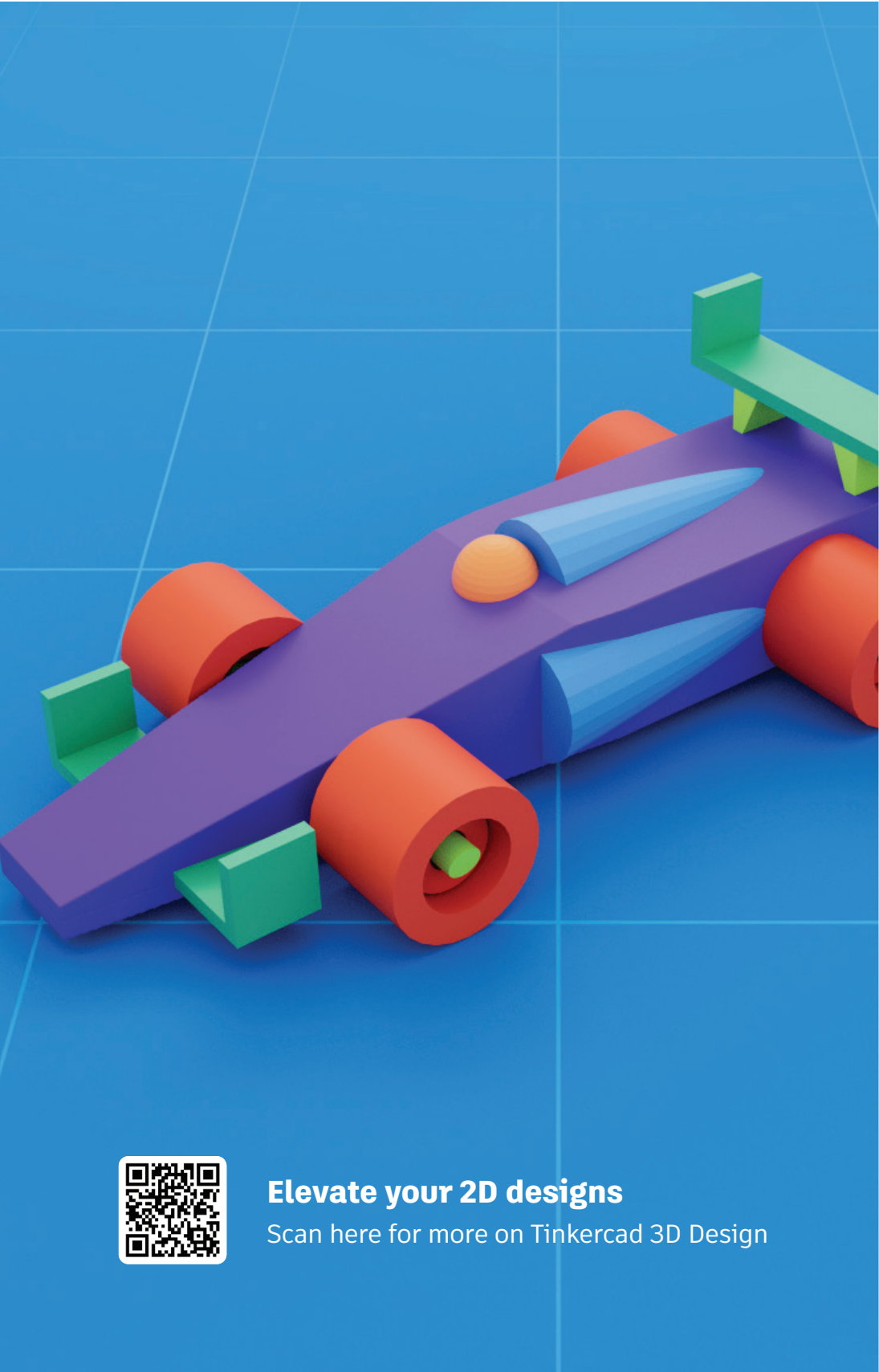
Cruising

Easily drag, stack, and assemble shapes dynamically in the 3D editor.

Codeblocks

Refreshed with powerful new blocks for improved object templating, conditionals statements, and programming colors.

2 Tinkercad 3D Design

If you can dream it, you can build it. From product models to printable parts, 3D Design is the first step in making big ideas real.

Combine and cut out with a vast shape library to make your ideas real. A simple interface allows you to focus on creating your vision and less on learning the tools.

Arrays and Patterns

Use Duplicate one after another to create repeating shape patterns and arrays. Mirror objects to create symmetry.

Simulate

Visualize your design in action by clicking into the new Sim Lab workspace, or enter the AR viewer on the free iPad app.

Custom Shapes

Create your own set of draggable shapes you frequently use in the "My Creations" section of the Shapes Panel.

Elevate your 2D designs

Scan here for more on Tinkercad 3D Design

3 Tinkercad Circuits

From blinking your first LED to building autonomous robots, we'll show you the ropes, buttons, and breadboards of electronics.

Place and wire electronic components (even a lemon) to create a virtual circuit from scratch or use our starter circuits to explore and try things out.

Learning with Arduino or micro:bit? Build behaviors using easy to follow blocks-based coding, or switch to text and create with code.

Getting started
We have a large collection of premade virtual electronic components you can try out in the Starters library. Modify with Codeblocks or text-based code for your own circuit behaviors.
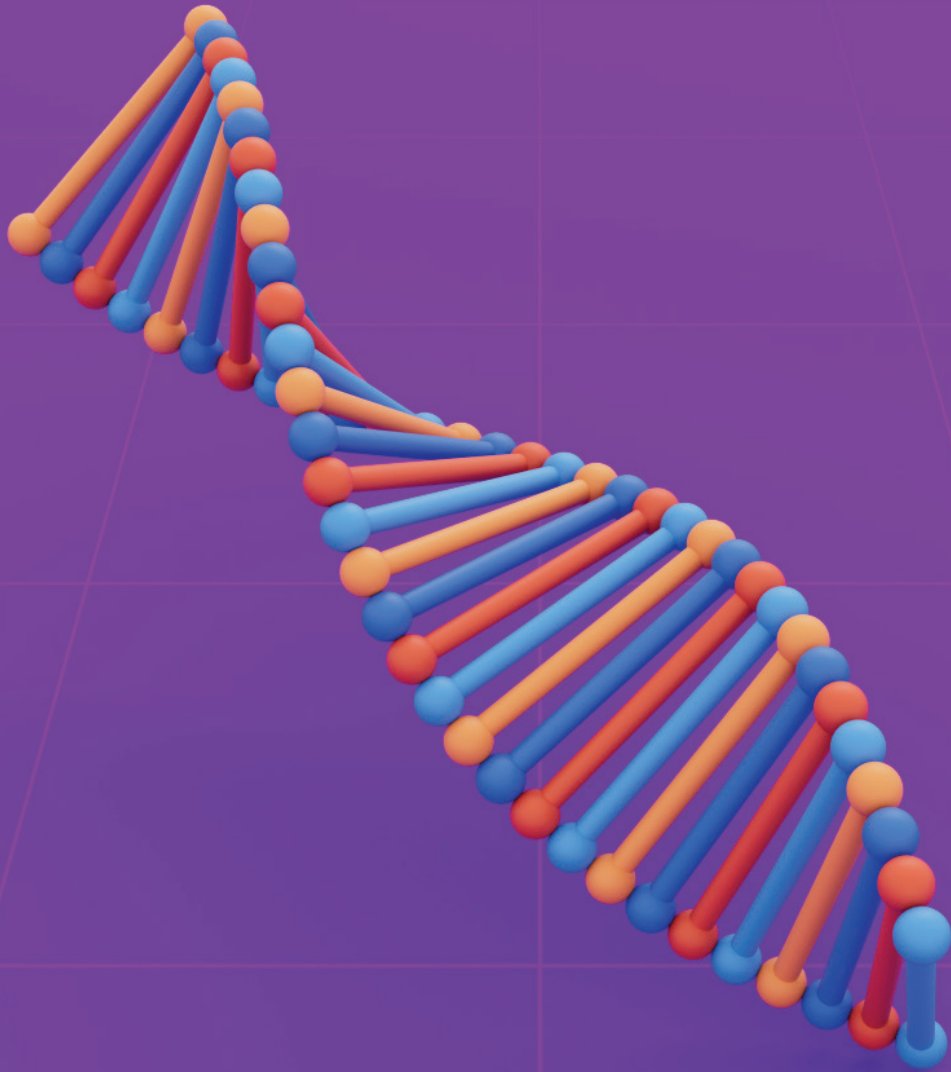
Schematic view
Generate and view a schematic layout of your designed circuit as an alternative view of how it works.

Simulation
Simulate how components respond virtually before wiring your real-life circuits.

Power up your creation
Scan here for more on Tinkercad Circuits

4 Tinkercad Codeblocks

Write programs that bring your designs to life. Familiar Scratch based block coding makes it easy to create dynamic, parametric, and adaptive 3D designs.

Drag and drop from a library of blocks. Snap them together to form a stack of actions that can be run and visualized in an animated simulation.

Create and control variables for object properties to experiment with endless variations of your code. Run, stack, repeat for instant feedback.
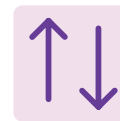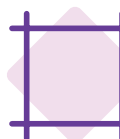
Conditionals + Booleans
Conditional blocks combined with the boolean blocks will add logic to the designs your code builds.

Color Control
Use the "Set Color" blocks to control color variables within a loop to create colorful creations with code.

New Template
Define objects with the new "Templates" blocks, and add them only where you need them with the companion "Create from Template" block.

Build a coding foundation
Scan here for more on Tinkercad Circuits

5 Tinkercad Classrooms

Teaching with Tinkercad has never been easier. Send and receive assignments, monitor student progress, and assign new activities – all in Tinkercad Classrooms.

Set up your classroom and share the class link to onboard your students in minutes. Works well with Google Classrooms.

A variety of built-in tutorials will have students creating in no time.

Lesson Plans
Tinkercad Lesson Plans span all subjects and adhere to ISTE, Common Core, and NGSS standards.

Tutorials
Tinkercad tutorials from the Learning Center can now be added to a Class Activity for in-app learning.

Safe Mode
Default "On" for each Class, Safe Mode cuts down on Gallery distractions and limits students from sharing publicly.
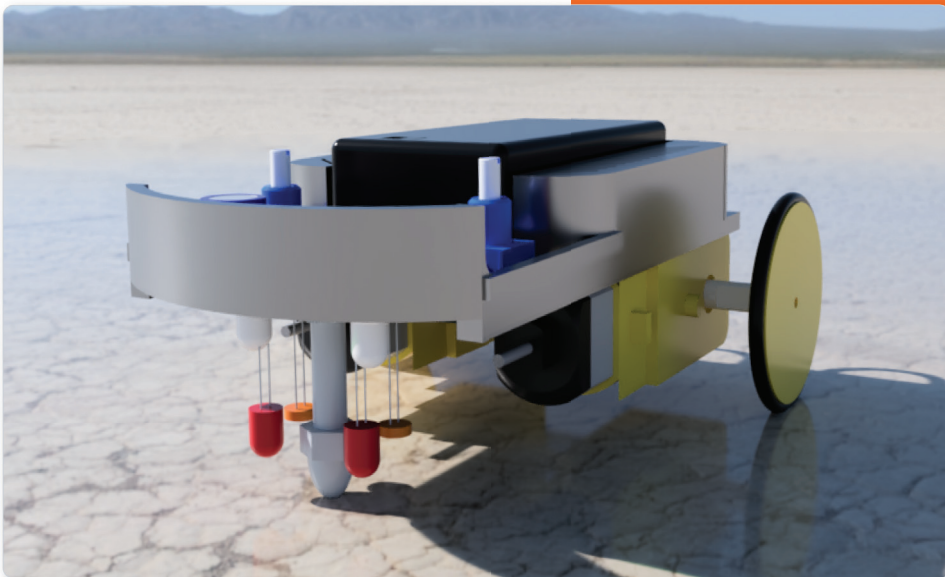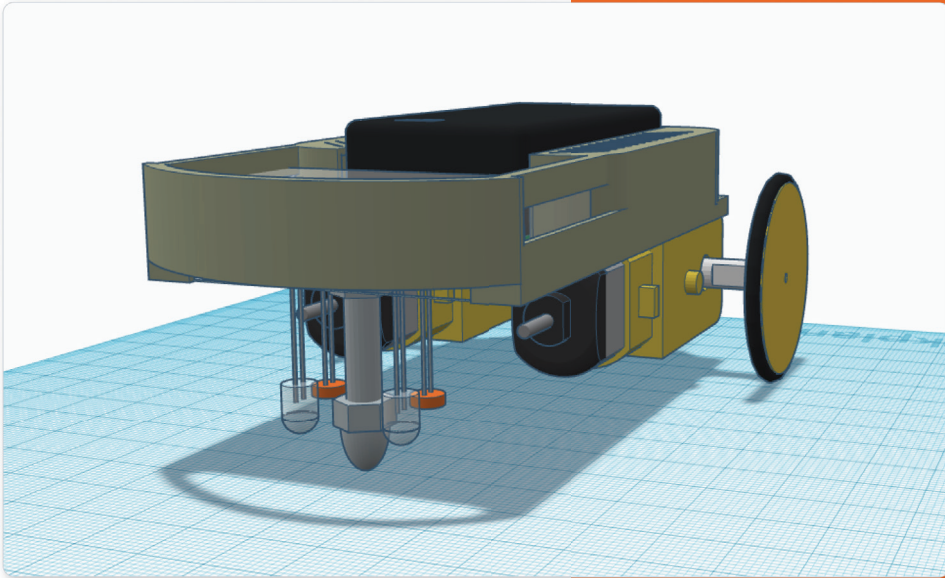
Accelerate learning with Tinkercad
Scan here for more on Tinkercad Classrooms

AUTODESK Tinkercad

AUTODESK Fusion 360

6 Tinkercad to Fusion 360

Fusion 360 is a cloud-based 3D modeling, manufacturing, simulation and electronics design software platform for professional product design and manufacturing. It provides full control over aesthetics, form, fit and function.

Fusion 360 is the perfect next step for Tinkercad users that start finding limitations to make their ideas real. When you're ready to design and make like the pros,

Fusion 360 will let you:

- Gain full control of all shapes

- Enhance the quality of your 3D prints

- Assemble and animate your models

- Bring designs to life with realistic images

Take your design to the next level

Get started and download Fusion 360 today. Educators and students can get Fusion 360 for free by creating an Autodesk account and verifying eligibility.

7 Tinkercad keyboard shortcuts

PC / Mac   Ctrl = Command   Alt = Option

Shape properties

Group	Ctrl + G
Ungroup	Ctrl + Shift + G
Make a Hole	H
Make a Solid Color	S
Make Transparent	T
Lock or Unlock	Ctrl + L
Hide	Ctrl + H
Show all	Ctrl + Shift + H
Group	Ctrl + G

Helpers

Place Ruler	R
Place Workplane	W
Place Workplane at shape	Shift + W
Show Shape Workplane	E

Viewing 3D space

Fit selected in view	F
Orbit	Right mouse or Ctrl + Left mouse
Pan	Middle mouse or Shift + Right mouse
Pan	Ctrl + Shift + Left mouse
Zoom in or out	+ and − or Scroll

Printable PDF version: autode.sk/tinkercad-keyboard-shortcuts

Commands

Copy	Ctrl + C
Paste	Ctrl + V
Duplicate, repeat duplicate	Ctrl + D
Drag a copy	Alt + move shape
Undo	Ctrl + Z
Redo	Ctrl + Y
Redo	Ctrl + Shift + Z
Select all	Ctrl + A
Select multiple	Shift
Drop to workplane	D
Align	L
Mirror or flip	M

Move, rotate, and scale shapes

Move 1 grid step (X/Y axis)	Arrow keys
Move up (Z axis)	+ Ctrl
10x move	+ Shift
Rotate snap to 45°	Shift + Rotate handle
Scale about center	Alt + Scale handle
Uniform scale	Shift + Scale handle
Cruise tool	C
Cruise below surface	Shift while cruising

8 Tinkercad Resources

Tinkercad Blog
A wealth of wisdom in one place.

Tips and Tricks
Learn how to maximize your workflow.

Learning Center
Get Started fast with these easy tutorials.

Lesson Plans
Free lessons for use in the classroom.

Help Center
Browse articles by topic.

Privacy Policy
Your students are safe.