

Lesson 2: Introduction to Tinkercad + First Project

3D Printing Center - Elementary Curriculum

3D Printing Center

45 minutes

Welcome Back!

Quick Review

What did we learn about 3D printing?

- Builds layer by layer
- Starts with computer designs
- Uses heated plastic
- Helps people in many ways

Today's Mission

Learn to Design in 3D!

- **Login** to Tinkercad
- **Learn** basic navigation
- **Design** your first keychain
- **Save** your creation

Meet Tinkercad

Your 3D Design Tool

- **Free** online tool
- **Easy** to learn
- **Powerful** for beginners
- Used by **millions** of students

Let's get started!

Getting Started

Login Steps

- 1 Open your web browser
- 2 Go to **tinkercad.com**
- 3 Use your **school Google account**
- 4 Click **“Sign In”**

Wait for everyone before moving on

Learning the Moves

Basic Navigation (10 minutes)

The Big Three: - **Rotate** - spin around your design - **Zoom** - get closer or farther - **Pan** - move left, right, up, down

Follow along with the built-in tutorial

Your First Project

Design a Keychain!

Requirements: - Must have a **hole** for keyring - No bigger than **50mm** in any direction - At least **3mm thick** - Use at least **2 shapes**

Building Your Keychain

- 1 **Start** with a basic shape (cube, cylinder, etc.)
- 2 **Add text** with your name or initials
- 3 **Create a hole** for the keyring
- 4 **Combine** shapes together

Take your time - we have 20 minutes!

Making It Great

- **Keep it simple** for your first try
- **Make walls thick** enough (3mm minimum)
- **Don't forget** the keyring hole!
- **Be creative** with shapes and text

Don't Be Shy!

- **Raise your hand** if you need help
- **Ask a neighbor** if they figured something out
- **Try different things** - you can always undo
- **Have fun** with it!

Keychain Examples

Get Inspired!

Show printed keychain samples

- Simple name tags
- Sports themes
- Animal shapes
- Hobby interests
- School pride

Common Issues

- **Can't see my design?** Try zooming out
- **Shapes won't combine?** Select all, then group
- **Text looks weird?** Check the height setting
- **Hole too small?** Make it at least 5mm wide

Save Your Work!

Don't Lose It!

- 1 Click “**Design**” menu
- 2 Choose “**Download for 3D Printing**”
- 3 Select “**STL**” format
- 4 Give it a good name
- 5 Click “**Save**”

Show and Tell Time!

- **Walk around** and see everyone's designs
- **Give compliments** to your classmates
- **Ask questions** about cool features
- **Be proud** of your work!

What Happens Next?

The Printing Process

- Your designs will be **printed** between lessons
- **Not all** designs can be printed (time limits)
- **Teacher will choose** 2-3 per class
- **Everyone** will see the results next lesson!

How Did It Go?

Quick share: - What was **easy** about Tinkercad? - What was **challenging**? - What would you **change** about your design?

Lesson 3 Preview

“How Printing Works + Design a Container”

- See your keychains printed!
- Learn more about the printing process
- Design a useful container

Cleanup Time!

5 Minutes to Pack Up

- **Save** your work one more time
- **Close** your browser tabs
- **Clean up** your workspace
- **Log out** of computers

Excellent work designing today!