

Transforming Education: *Integrating AI, AR, VR, and 3D Printing for Effective Learning*



Ayşe Merve Süt

WHO AM I?



- Ayşe Merve Süt
- Istanbul, Turkey
- Florence, Italy
- English Language Teacher
- ICT Trainer
- Microsoft Innovative Educator Expert
- Apple Teacher
- Insparational Educator
- #edtech enthusiast



CONTENT

**ICE BREAKERS
WARM-UP**

SUPER TIPS & SATURDAY'S EXCURSION

SCHOOL PRESENTATIONS

**DISCUSSION ON TECHNOLOGY AND ITS
IMPACT ON EDUCATION**

THE 'SAMR' MODEL



Students, follow the instructions on the slide

Let's get to know
each other!



Two Truths and a Lie





**Write down three sentences
about yourself; two should be
true, and one must be a lie.**

1

2

3



Students, draw anywhere on this slide!



What is your favorite city in Italy? And why?

Firenze	Milano	Roma
Napoli	Venezia	Verona
Pisa	Siena	Lucca
Bari	Bologna	Other



Students choose an option

Classmate Bingo





Find someone in class who...

loves to read	teaches a language	has a pet dog	can speak another language	plays a musical instrument
has the same birth month as you	has or had braces	loves to eat pizza	loves to drink tea	has been to Florence before
has a pet cat	speaks 3 languages	likes Microsoft tools	is an only child	wears glasses
walks to school	has a sister	plays video games	Is a high school teacher	is wearing the same color as you
loves to eat chocolate	is born in another country	likes Google tools	loves to travel	can ice skate



Students, draw anywhere on this slide!



Stretch Break!

Let's take 20 minutes to stretch and grab a coffee!



Students, follow the instructions on the slide

What do you expect from this course/this week?



Students, draw anywhere on this slide!

Pear Deck Interactive Slide
Do not remove this bar


OBJECTIVES

- Exploit AI (Artificial Intelligence) tools in their classes;
- Distinguish AR and VR technologies and use them effectively to create engaging lesson plans;
- Use AR tools to connect real life with computer-generated content;
- Get benefits from VR tools to visualize places, living things, life in the past, etc;
- Recognize the 3D Printers and how they work;
- Get familiar with the 3D Modeling websites and experience prototyping a 3D object;
- Generate projects, activities, and lessons enriched with 3D Modeling and Printing.




Drag the icon:

How do you find yourself at using #edtech in the classroom?




Pear Deck

Perfect



Pear Deck

Good



Pear Deck

Needs guidance

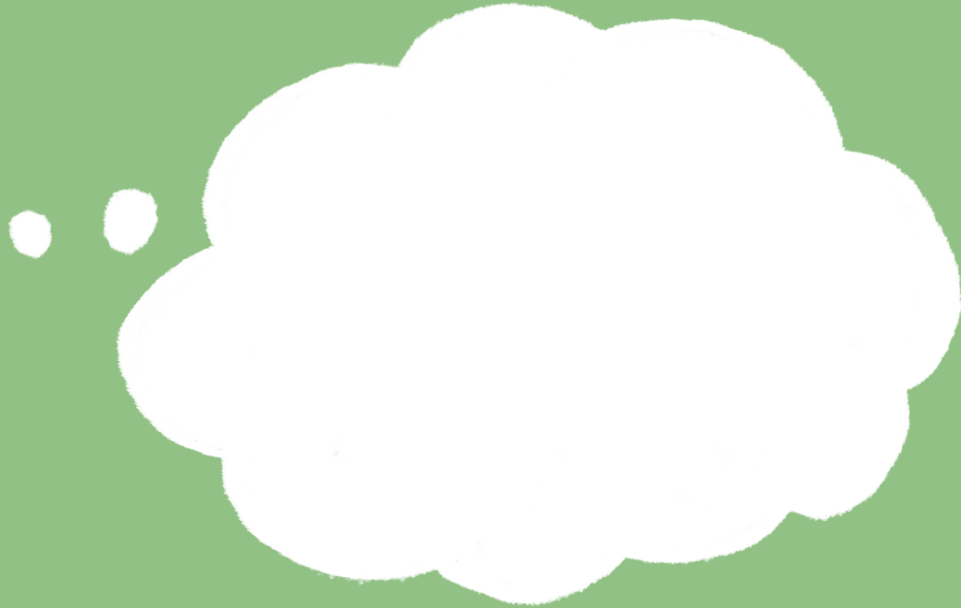


Students, drag the icon!



Write your answer:

What is your favorite #edtech app?



Students, write your response!

“Good technology integration isn’t about using the fanciest tool, it’s about being aware of the range of options and picking the right strategy—or strategies—for the lesson at hand.”



Youki Terada (Editor/Edutopia)



What is the SAMR Model?

*Have you ever heard about it?
What does it stand for?*



Students, write your response!

THE SAMR MODEL

Dr. Ruben R. Puentedura

S

SUBSTITUTION

Technology acts as a direct substitute, with no functional change

A

AUGMENTATION

Technology acts as a direct substitute, with functional improvement

M

MODIFICATION

Technology allows for significant task redesign

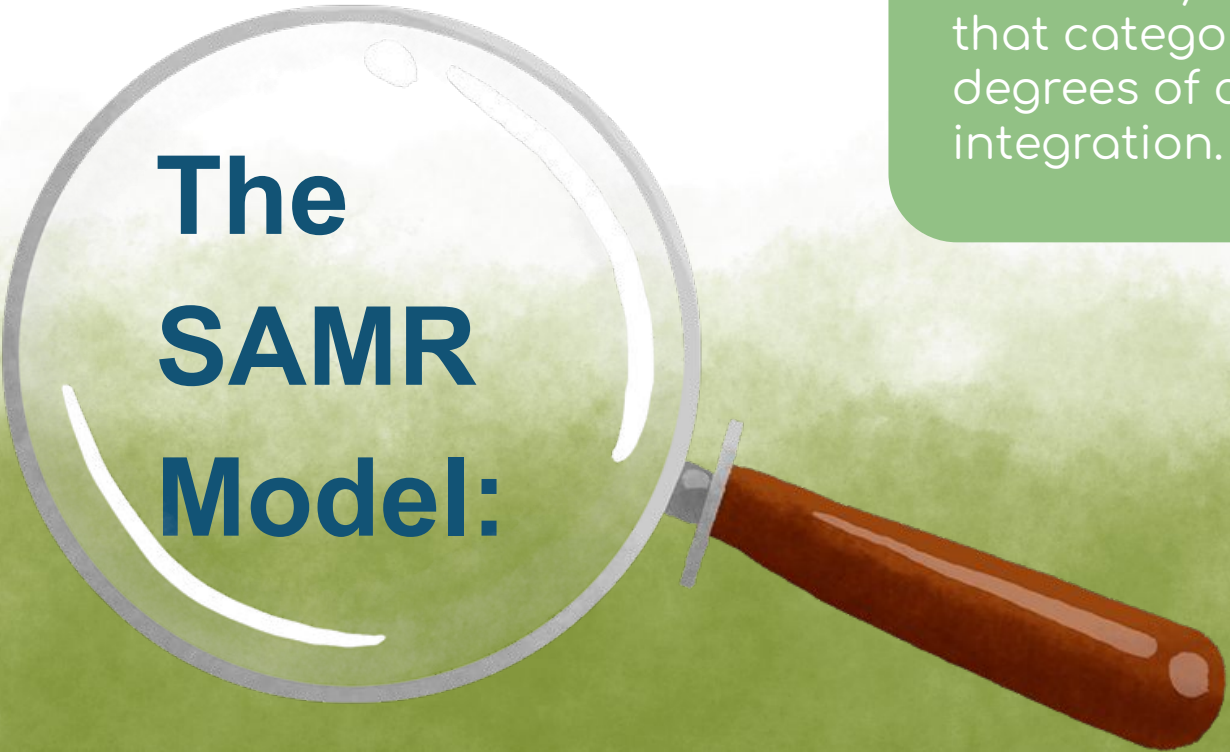
R

REDEFINITION

Technology allows for the creation of new tasks, previously inconceivable

ENHANCEMENT

TRANSFORMATION



The SAMR Model:

The SAMR Model is a framework created by Dr. Ruben Puentedura that categorizes four different degrees of classroom technology integration.

Is there anything you would like
to share or ask?





That's all for
today!

Enjoy your afternoon!

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DAY II

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CONTENT

ITALIAN CULTURE

- How AI can be useful for teachers
- A Date with *ChatGPT*
- Apps with AI-integrated tools

Canva

Quizalize

Curipod

Workshops



Students, follow the instructions on the slide

How do you feel about the AI technology?



It is perfectly fine for me! I love it!

I feel a bit lost but I believe I can fly!

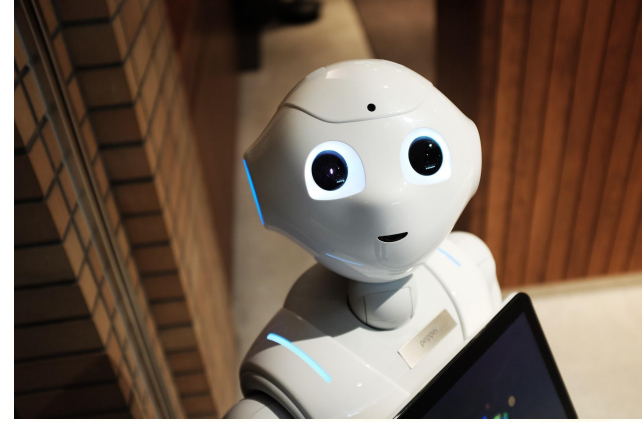
I am afraid of this new technology! Will robots take over the world??



Students, drag the icon!

WHAT IS CHATGPT?

WHAT DO YOU KNOW ABOUT IT?



Students, draw anywhere on this slide!

Pear Deck Interactive Slide
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WHAT ARE YOU?

I am ChatGPT, a type of artificial intelligence known as a language model. I've been trained on a wide variety of text sources and can understand and generate human-like text based on the input I receive. My purpose is to assist and provide information to the best of my knowledge and abilities. Is there something specific you'd like to know or discuss?

What can you do with ChatGPT?

Create a quiz

Check
writing
homework

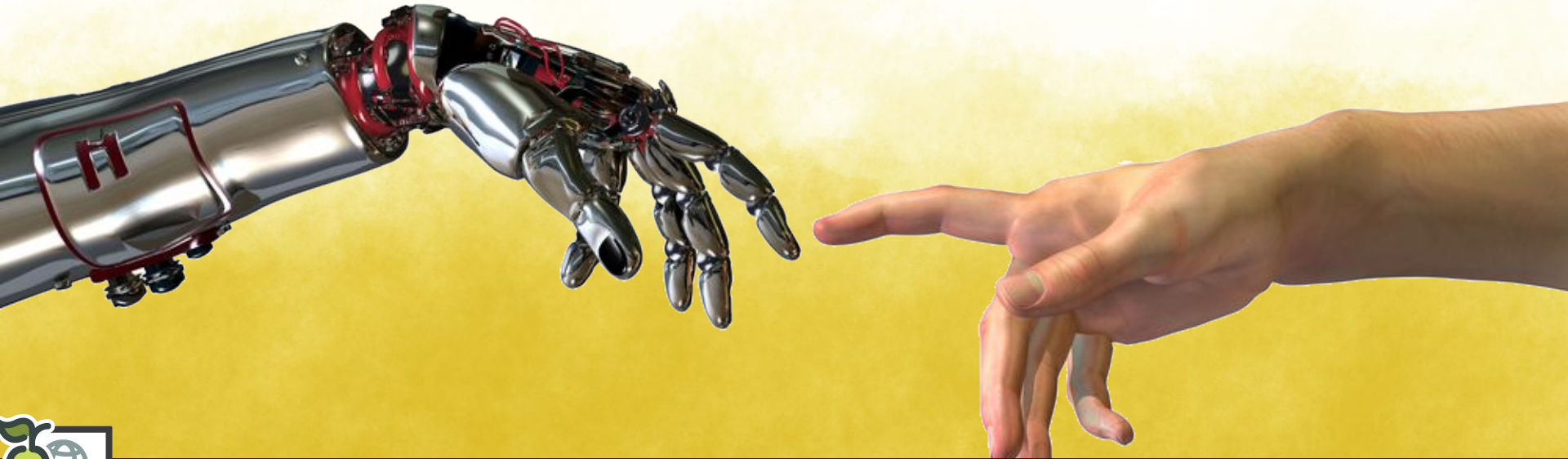


Ask for activities

Create lesson
plans

Get inspiration

DATE WITH *CHATGPT!*



Students browse: chat.openai.com/auth/login

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What can you do with Canva?

Designing materials

(infographics, quizzes, mind maps, worksheets, etc.)

Assigning homework?

Creating presentations

Canva

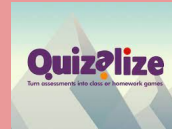
Integrating Artificial Intelligence technology

What can you do with Quizalize?

Summative
Assessment

Build a
lesson

Formative
Assessment



ChatGPT
integration

What can you do with Curipod?

Create
interactive
activities

Individualized AI
feedback

Create a full
lesson

Ready-made
plans





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DAY III

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CONTENT

WARM UP: PLICKERS

Apps with AI-integrated tools

Quizalize

Curipod

WHAT IS VIRTUAL REALITY (VR)

EXPERIENCE META QUEST II

GOOGLE CARDBOARD

WHAT IS AUGMENTED REALITY (AR)



Students, follow the instructions on the slide

What can you do with Quizalize?

Summative
Assessment

Build a
lesson

Formative
Assessment



**ChatGPT
integration**

What can you do with Curipod?

Create
interactive
activities

Individualized AI
feedback

Create a full
lesson

Ready-made
plans



Stretch Break!

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Students, follow the instructions on the slide

VIRTUAL REALITY VS. AUGMENTED REALITY

1

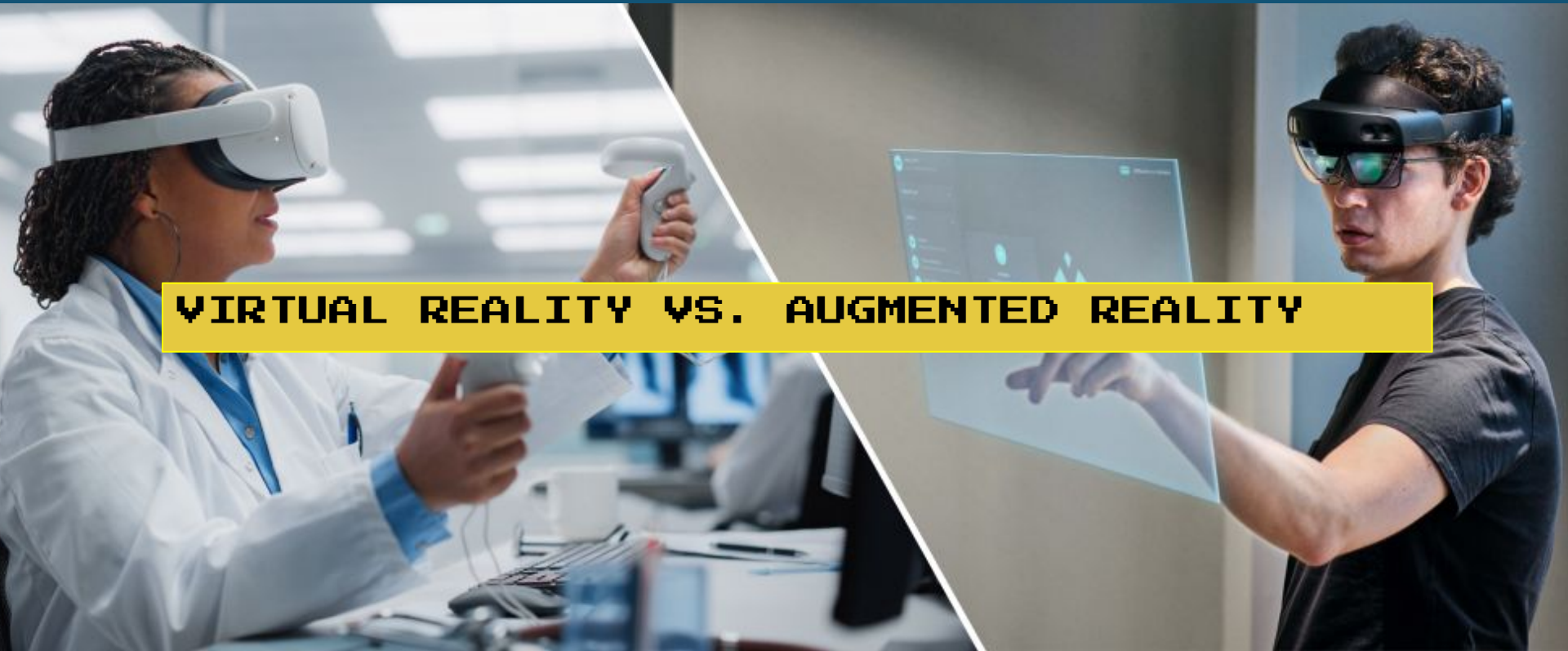
- VR is completely virtual
- VR users are controlled by the system
- VR requires a headset device
- VR only enhances a fictional reality

2

- AR uses a real-world setting
- AR users can control their presence in the real world
- AR can be accessed with just a smartphone
- AR enhances both the virtual and real world



Students, draw anywhere on this slide!



VIRTUAL REALITY VS. AUGMENTED REALITY

VIRTUAL REALITY (VR):

The background image shows two individuals wearing VR headsets. They are in a virtual environment with a cityscape and greenery. The person on the left is wearing a white VR headset and has their hand raised. The person on the right is wearing a white VR headset and has their hand raised. The overall scene is brightly lit with a soft, ethereal glow.

The main difference between AR vs VR is that VR is a computer generated simulation. This means that reality or an alternative world is generated graphically.

By using appropriate hardware, it is possible for the user to be fully immersed in the digital world. Therefore, there are also important differences between AR headsets vs VR headsets. Hardware geared towards VR requires sensory devices that translate real-world movements into a modeled reality.

● GOOGLE CARDBOARD



Students browse: jasoren.com/44-best-vr-apps-for-google-cardboard/

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A background image showing two people wearing VR headsets. The person on the left is wearing a white VR headset and has their hands raised in a virtual environment. The person on the right is wearing a pink VR headset and also has their hands raised. The background is a bright, colorful virtual landscape with a city skyline and a bright sun or light source. The overall tone is futuristic and immersive.

CHEAP & EXPENSIVE VR TOOLS:

- GOOGLE CARDBOARD
- META QUEST - OCULUS

● META QUEST - OCULUS



Students browse: allvirtualreality.com/learning/best-educational-apps-oculus-quest...

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AUGMENTED REALITY (AR):

A close-up photograph of a person's face wearing clear, futuristic AR glasses. The glasses have a digital overlay on the right lens, showing a circular reticle and some data points. The background is a blurred outdoor scene with green foliage.

Augmented Reality (AR) combines the digital world with real elements. It is a technology that is equally suitable for mobile devices and desktops. What makes it special is the fact that it offers the possibility of reflecting digital components in the real world.

AR APPS:

- Halo AR
- Assembler AR
- Geogebra
- And others





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DAY IV

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CONTENT

WARM UP: NEARPOD
GOOGLE CARDBOARDS
AUGMENTED REALITY

LET'S MEET WITH 3D PRINTING
TECHNOLOGY

3D MODELING
HOW TO USE 3D PRINTING IN EDUCATION

PRACTICAL WORKSHOP
TINKERCAD

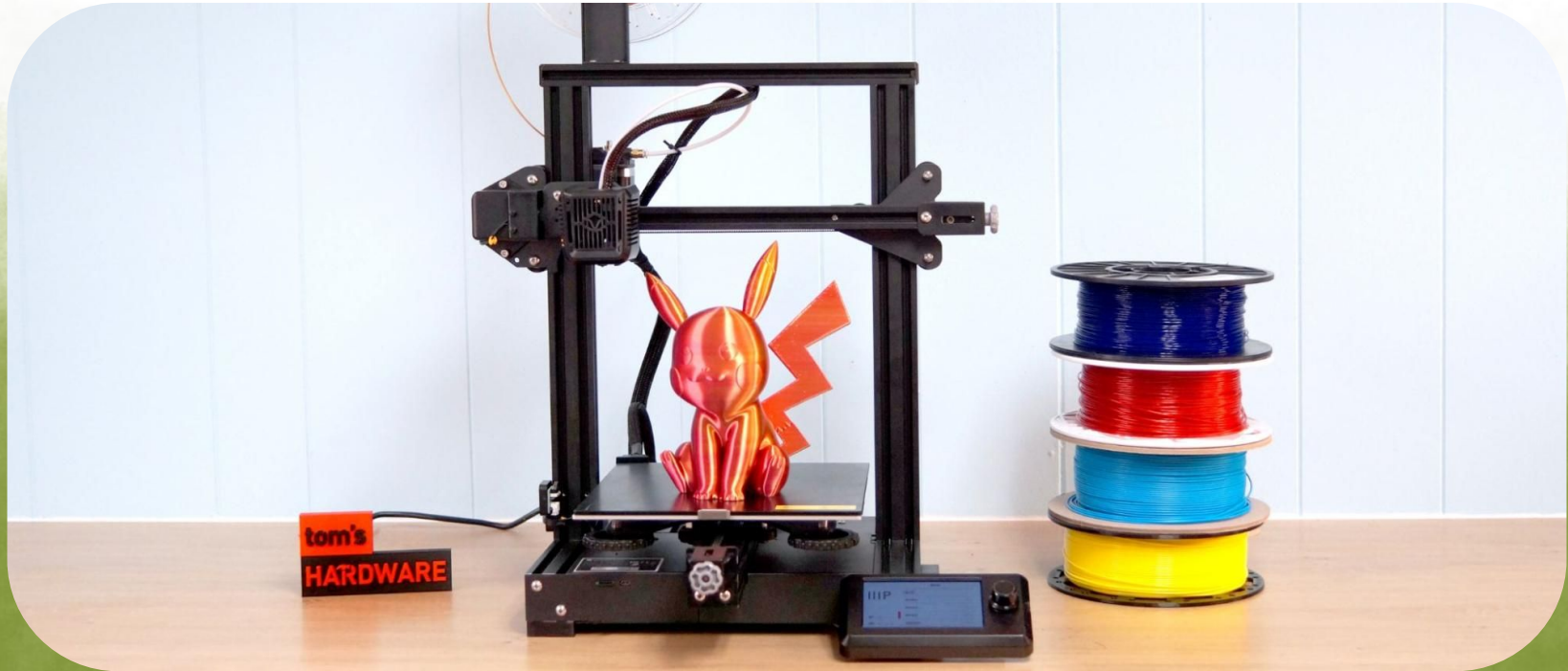


Students, follow the instructions on the slide

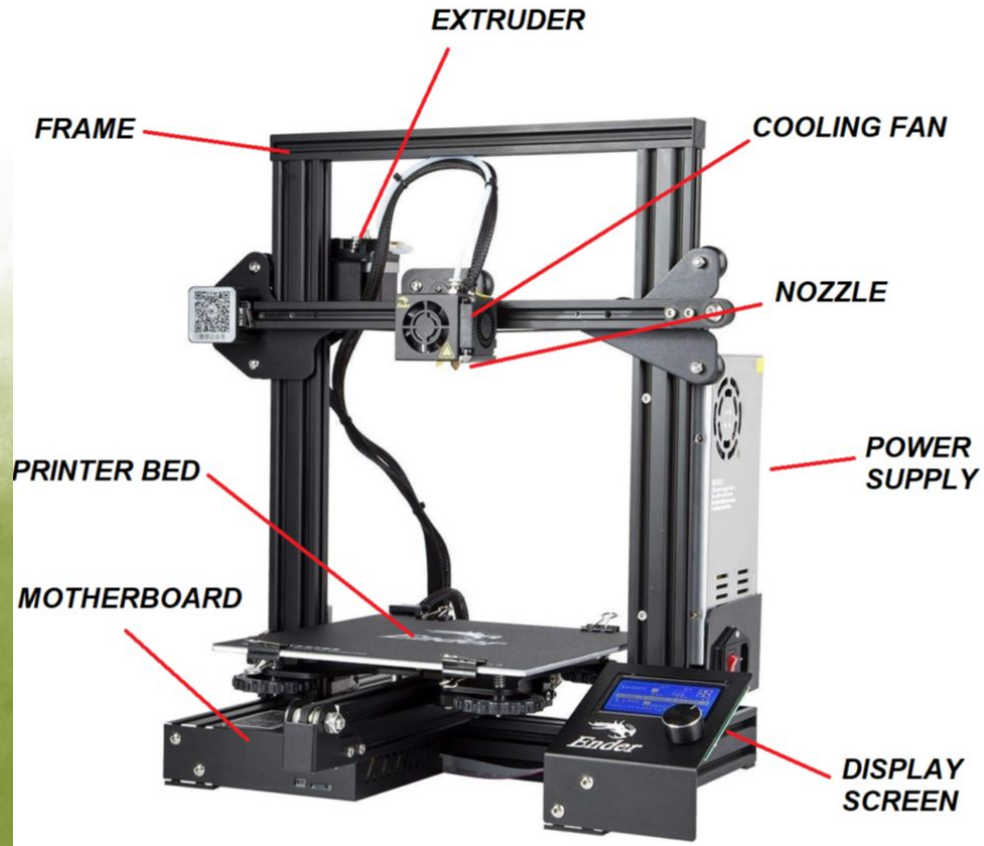
Introduction to 3D Printers



Let's learn more about it!



Parts of a 3D printer: Ender 3



Discover ready-made 3D Objects!

- Thingiverse
- Cults
- MyMiniFactory

Thingiverse	Repository	Free	★★★★★
Cults	Marketplace	Free, Paid	★★★★★
Printables	Repository	Free	★★★★★
MyMiniFactory	Marketplace	Free, Paid	★★★★★
Pinshape	Marketplace	Free, Paid	★★★★★
YouMagine	Repository	Free	★★★★



Modelling Software options:

Rhinoceros®



The most student-friendly:



AUTODESK
Tinkercad



Students browse: www.tinkercad.com/join

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Designing in Tinkercad for 3D Printing - Online Course

0% COMPLETE

Project Resources

Your Instructor

Project Resources

Start next section > 0 | Introduction

Designing in Tinkercad for 3D Printing

- ☰ 0 | Introduction Start
- ▶ 1 | Overhangs (2:39) Start
- ▶ 2 | Bridging (2:13) Start
- ▶ 3 | Wall Thickness (1:57) Start
- ▶ 4 | Orientation (1:38) Start
- ▶ 5 | Tolerance (2:34) Start
- ▶ 6 | Engrave and Emboss (2:31) Start
- ▶ 7 | Bed Adhesion (1:58) Start
- ▶ 8 | Fillets (1:57) Start
- ▶ 9 | Sharp and Narrow Points (1:50) Start



Time to level the printer! (Ender 3 S1)

- Reset configuration
- Prepare/auto home
- Move Z, set to zero (0)
- Put an A4 paper
- Go to Z offset to adjust Z axis
- Disable stepper
- Go to 4 corners to adjust with the A4 paper



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DAY V

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CONTENT

WARM-UP: TRIVIA GAME

LET'S MEET WITH 3D PRINTING TECHNOLOGY

3D MODELING

PRACTICAL WORKSHOP
TINKERCAD

HOW TO SLICE YOUR DESIGN: CURA

REVIEW ALL STEPS FOR PRINTING

CHOOSE THE BEST PRINTER FOR YOUR SCHOOL!

FEEDBACK & CERTIFICATES



Slice your design with Cura!

- Download Cura (Ultimaker)
- Drop your STL file (model from Tinkercad)
- Arrange the settings
- Export it!



Students browse: ultimaker.com/app/ultimaker-cura-account-sign-up/

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WHICH 3D PRINTER MEETS MY NEEDS THE BEST?

- 200 Euros- higher
- How big will your designs be?
- Enclosed-open depending on the age group
- Where will you keep it? Does it need to be silent?

LET'S MEET SOME MODELS!

- ULTIMAKER
 - Professional
 - More expensive



LET'S MEET SOME MODELS!

- [MAKERBOT](#)
 - Education line by Ultimaker
 - More reachable



Students browse: www.makerbot.com/

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LET'S MEET SOME MODELS!



MakerBot SKETCH Classroom



WISH LIST

COMPARE

EMAIL

SHARE THIS



The MakerBot SKETCH Classroom includes a two-printer setup connected to MakerBot Cloud™ and all of MakerBot's Education resources for delivering the ideal student-to-printer ratio and setting you up for classroom 3D printing success.

Grades: K-12+

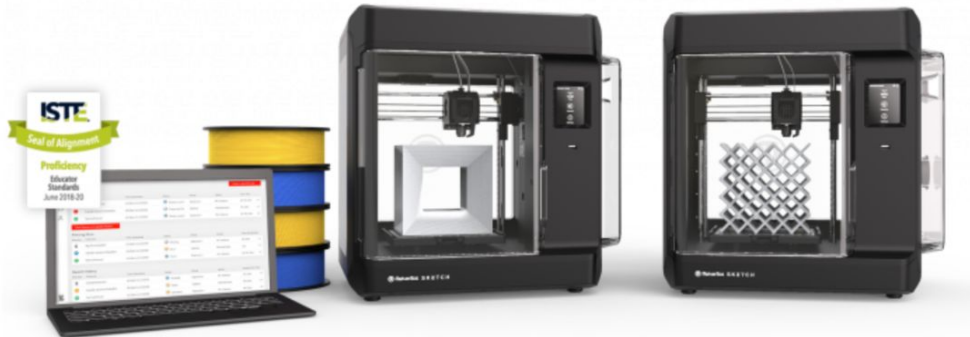
Compatible Filaments:

- [Sketch Tough Filament 4-Pack](#)
- [Sketch Filament PLA 5-Pack](#)

[Be the first to review this product](#)

\$1,999.00

SKU#: SKETCHKIT-KIT



LET'S MEET SOME MODELS!

- [MAKEBLOCK](#)
 - An important firm from Maker Movement
 - Laser Engraving opportunity

makeblock

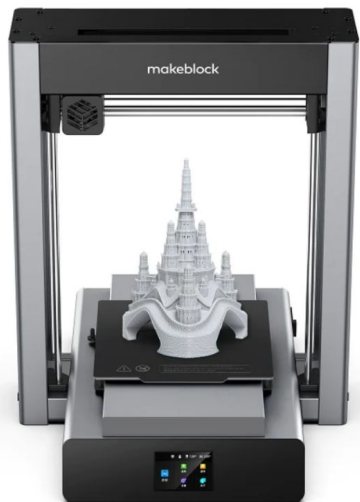


Students browse: www.makeblock.com/products/mcreate-3d-printer-with-laser-head-2pcs...

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LET'S MEET SOME MODELS!

makeblock



-45%

mCreate 3D Printer with laser head (2PCS Limited)

[post a review](#)

\$500.00 ~~\$899.00~~

You Save: \$399.00

>

Quantity

ADD TO CART

 Pay

LET'S MEET SOME MODELS!

- [PRUSA](#)
 - A pioneer firm from 3D printing
 - More economical-free materials

PRUSA
RESEARCH
by JOSEF PRUSA



Students browse: www.prusa3d.com/

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Do not remove this bar

LET'S MEET SOME MODELS!

Original Prusa MINI+ kit

★★★★★ 46 reviews



Introducing our new compact 3D printer with all the bells and whistles you would expect from the creators of the award-winning Original Prusa i3 MK2 and MK3S! The MINI+ is a big printer in a compact body. We did our best to squeeze as many features into the lowest possible price as possible. The MINI+ is great for beginners, companies looking to build a printing farm and 3D printing enthusiasts worldwide.

Smooth PEI print sheet included

Please note, the assembly manual for the MINI+ kit is available in [digital form](#) only.

Alternatively, you can buy an assembled printer with complete warranty and a free online course.

Original Prusa MINI+ Semi-assembled 3D Printer



In stock

€489

[Detail](#)

Printer color

Black-Orange

Additional Print sheet

No extra sheet

Filament sensor

No

Power Cable (EU), Handbook (EN) ([change](#))

In stock

Preparation time: 1-3 business days.

€459

€376.23 without VAT

— 1 +

Buy



LET'S MEET SOME MODELS!

- CREALITY
 - The most economical option
 - Easy to find extra materials

CREALITY



Students browse: www.creality.com/

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LET'S MEET SOME MODELS!

- Recommended for schools
- Enclosed
- Wifi
- HD camera

Sermoon V1 &V1 Pro 3D Printer



Printing Noise Lower Than 45dB

Built-in WIFI

Out-of-Box Printing

\$539.00

Buy Now

CREALITY



Print Out Of
The Box



Silent
Printing



Remote Printing
& Monitoring



Automatic
Feed/ Return



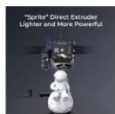
Fully Enclosed
Chassis



Intelligent
Door

LET'S MEET SOME MODELS!

Store / Ender Series / Ender-3 S1 3D Printer



Fedex

Popular Printer

Ender-3 S1 3D Printer

★★★★★ (10) [View](#)

\$309.00 ~~\$379.00~~ Save \$70.00

4 interest-free payments of **\$77.25** with **klarna**. [Learn more](#)

Klarna.

High-quality printing with "Sprite" direct extruder, CR touch automatic leveling, and dual z-axis synchronization.

- 96% pre-installed 6-step fast assembly
- Silent Motherboard, Decibel≤50dB
- Resumed Printing, Save Time and Filament
- Take out the Model in an Easier Way
- New UI Interaction with LCD Knob Screen
- 4.3-inch HD Color Screen

Combos

Chat with us

BONUS:



Home / FDM 3D Printer / Anycubic Kobra



ANYCUBIC

Anycubic Kobra

★★★★★ 45 reviews

~~\$359.00~~ \$315.00

INCLUDE FILAMENT

None

1KG PLA

2KG PLA

3KG PLA

SHIPPING TO

US

DE

EU/UK

CA

AU

Other

Add to cart

Buy it now

Free Express Shipping

100% Secure Payment

One-Year Warranty For 3D Printers

One-To-One After-Sale Support

THANK YOU FOR YOUR VALUABLE
CONTRIBUTIONS!





Pear Deck™

WELL DONE!

**YOU HAVE
FINISHED THE
COURSE!**

**LET'S GET THE
CERTIFICATES!**

