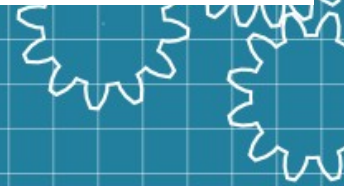
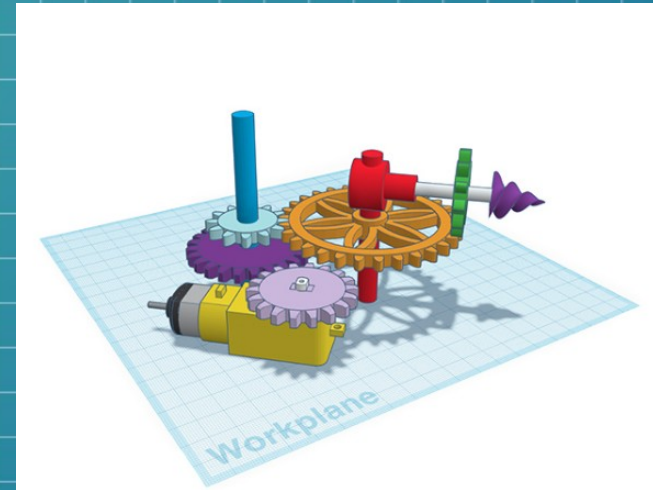




Málaga training – Tinkercad 3D 15th-19th november 2021



3D Design for
impaired hearing
kids



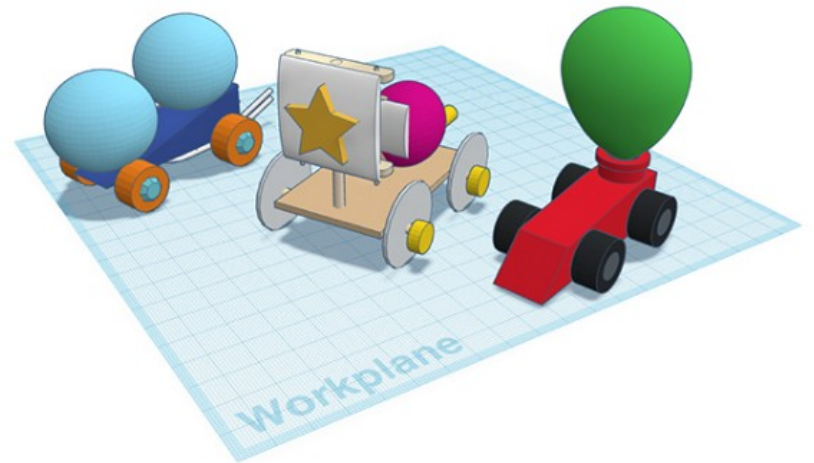
Tinkercad 3D – what is it?



- Tinkercad is an powerful easy-to-use CAD tool for creating 3D digital designs.
- Tinkercad is a free-of-charge, online 3D modeling program that runs in a web browser.
- It is available since 2011 and it has become a popular platform for creating models for 3D printing
- It is also an entry-level introduction to constructive solid geometry in schools.
- Tinkercad 3D was design by Google in 2011 and acquire by Autodesk, one of the main 3D software enterprises, in 2013.

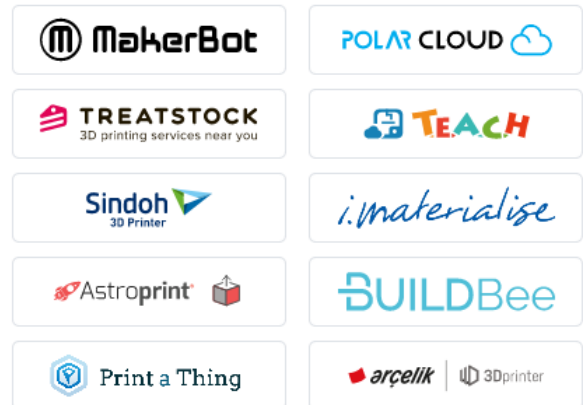
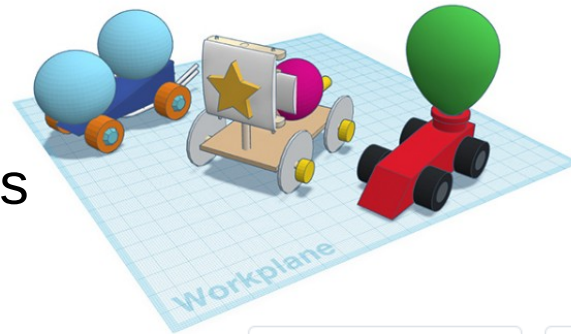
Tinkercad 3D – what is it?

- Advantages:
 - Free-of-charge
 - You can use it without paying
 - Web interface
 - No need to install anything
 - All PCs have a web browser
 - Online access
 - You can use it everywhere
 - If you have internet access



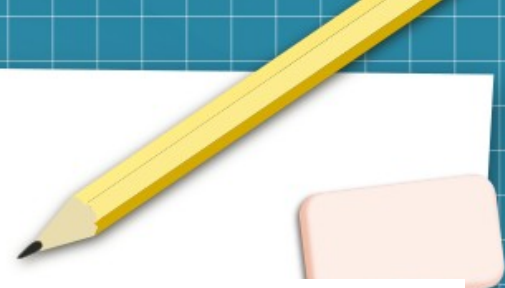
Tinkercad 3D – what is it?

- Advantages:
 - Easy to use
 - It is really easy to use
 - Compatibility with standard formats
 - It imports and exports:
 - Obj objects
 - Stl objects
 - Export to some popular 3D printers
 - Makerbot, PolarCloud, ...



Tinkercad 3D – what is it?

- Disadvantages:
 - Limited capabilities
 - Difficult or tricky to do complex objects.
 - It doesn't support all 3D printers
 - It doesn't have integrated slicing tool
 - Only works online
 - You need internet access
 - It can be discontinued at any moment (as 123D circuits)



Tinkercad 3D – how can I access it?

- Tinkercad 3D web:
 - <https://www.tinkercad.com/>



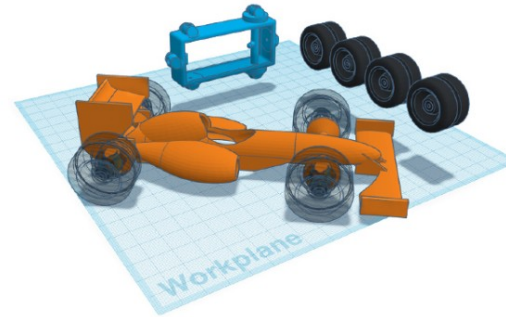
From mind to design in minutes

Tinkercad is a free, easy-to-use web app that equips the next generation of designers and engineers with the foundational skills for innovation: 3D design, electronics, and coding!

Start Tinkering

Join your class

Gallery Blog Learn Teach Q Sign in JOIN NOW



Rubberband-Powered Racer Car. Tinker it! ◀ || ▶



Community of 35 million



Fast, free, easy to use



Loved by educators worldwide

Tinkercad 3D – Register and login



AUTODESK®
TINKERCAD®

From mind to design in minutes

Tinkercad is a free, easy-to-use web app that equips the next generation of designers and engineers with the foundational skills for innovation: 3D design, electronics, and coding!

Login

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Teach

Q

Sign in

JOIN NOW

Login

Register



Rubberband-Powered Racer Car. Tinker it! ◀ || ▶



Community of 35 million



Fast, free, easy to use

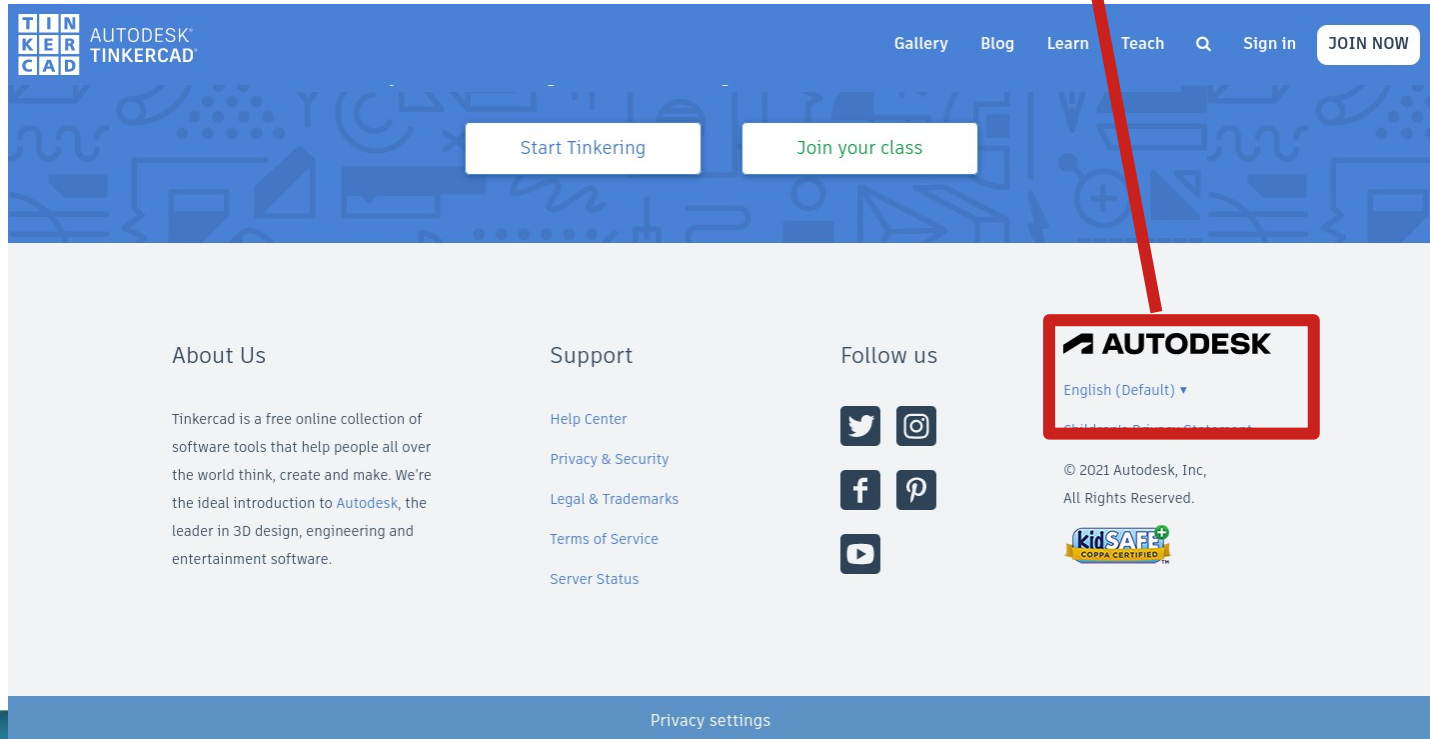


Loved by educators worldwide

Tinkercad 3D – Register and login

- Choose language:
 - At the bottom of the website

Click to
select
language



The screenshot shows the Tinkercad website homepage. At the top left is the Tinkercad logo (TIN, KER, CAD) and the Autodesk Tinkercad text. The top right navigation bar includes links for Gallery, Blog, Learn, Teach, a search icon, Sign In, and a JOIN NOW button. Below the navigation bar are two main buttons: Start Tinkering and Join your class. The footer is divided into three columns: About Us, Support, and Follow us. The About Us section describes Tinkercad as a free online collection of software tools. The Support section lists links for Help Center, Privacy & Security, Legal & Trademarks, Terms of Service, and Server Status. The Follow us section displays social media icons for Twitter, Instagram, Facebook, and YouTube. On the right side of the footer, there is the Autodesk logo, a language dropdown menu currently set to English (Default), and a KidSAFE COPPA Certified logo. A red box highlights the language dropdown menu, and a red arrow points from a text box above to it. A yellow pencil and a pink eraser are also visible in the top right corner of the slide.

TINKERCAD AUTODESK TINKERCAD

Gallery Blog Learn Teach Q Sign In JOIN NOW

Start Tinkering Join your class

AUTODESK
English (Default) ▼

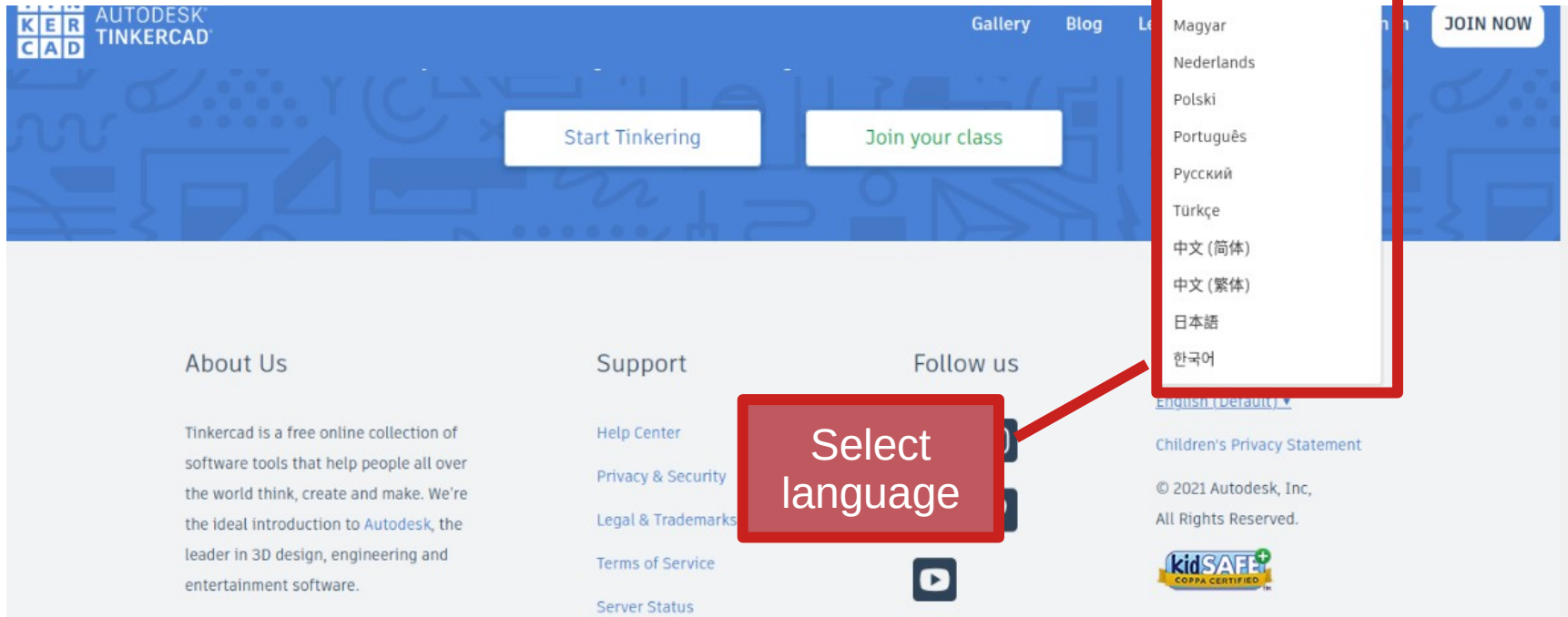
© 2021 Autodesk, Inc.
All Rights Reserved.

KidSAFE
COPPA CERTIFIED

Privacy settings

Tinkercad 3D – Register and login

- Choose language:
 - At the bottom of the website



The screenshot shows the footer of the Tinkercad website. At the top left is the logo 'KER CAD AUTODESK TINKERCAD'. In the center are two buttons: 'Start Tinkering' and 'Join your class'. On the right, there is a 'JOIN NOW' button. Below these are three columns of links: 'About Us', 'Support', and 'Follow us'. The 'Support' column includes links for 'Help Center', 'Privacy & Security', 'Legal & Trademarks', 'Terms of Service', and 'Server Status'. The 'Follow us' column has social media icons for YouTube, Facebook, and Twitter. A language selection dropdown menu is open on the right side, listing various languages: Magyar, Nederlands, Polski, Português, Русский, Türkçe, 中文(简体), 中文(繁体), 日本語, and 한국어. A red box highlights the dropdown menu, and a red arrow points from a red box containing the text 'Select language' to the dropdown menu. At the bottom right, there is a 'kidSAFE COPPA CERTIFIED' logo and copyright information: '© 2021 Autodesk, Inc, All Rights Reserved.'

Tinkercad 3D – Register and login

- You need to create an account to access Tinkercad 3D
 - You can use any email
 - It's easier if you use:
 - Gmail
 - Microsoft
 - Apple
 - Facebook

Create an account

Create an account

The screenshot shows the 'Start Tinkering' registration page. It asks 'How will you use Tinkercad?' and provides three options: 'In school?', 'On your own', and 'Already have an account?'. The 'In school?' section has two buttons: 'Educators start here' (blue) and 'Students, join a Class' (green). The 'On your own' section has one button: 'Create a personal account' (blue). The 'Already have an account?' section has a 'Sign In' link. Red boxes highlight the 'Educators start here' and 'Create a personal account' buttons, with red lines connecting them to the 'Create an account' text boxes on the left.

Start Tinkering

How will you use Tinkercad?

In school?

Educators start here

Students, join a Class

On your own

Create a personal account

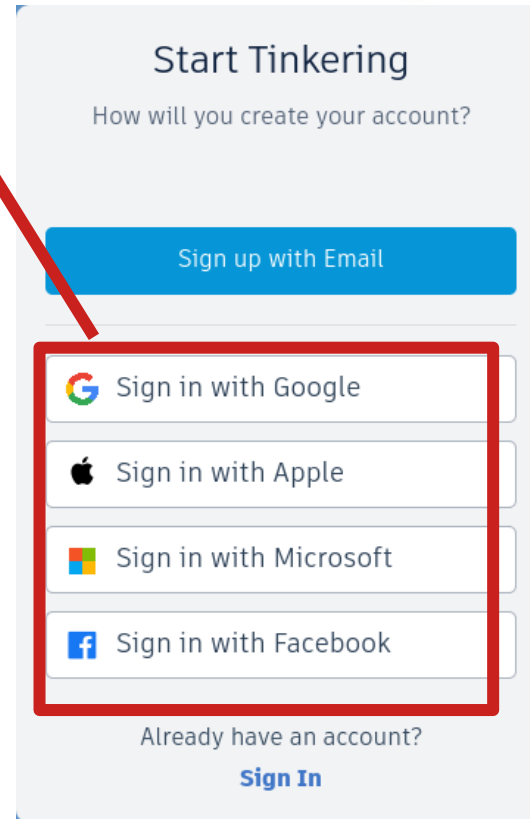
Already have an account?

[Sign In](#)

Tinkercad 3D – Register and login

- Login:
 - You can use any email
 - It's easier if you use:
 - Gmail
 - Microsoft
 - Apple
 - Facebook

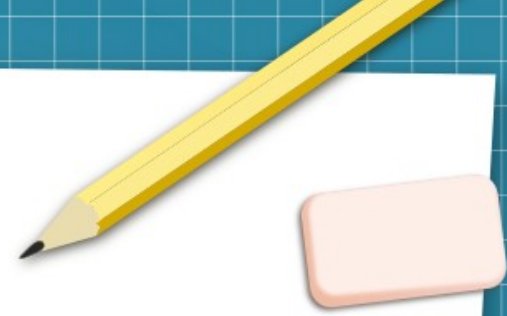
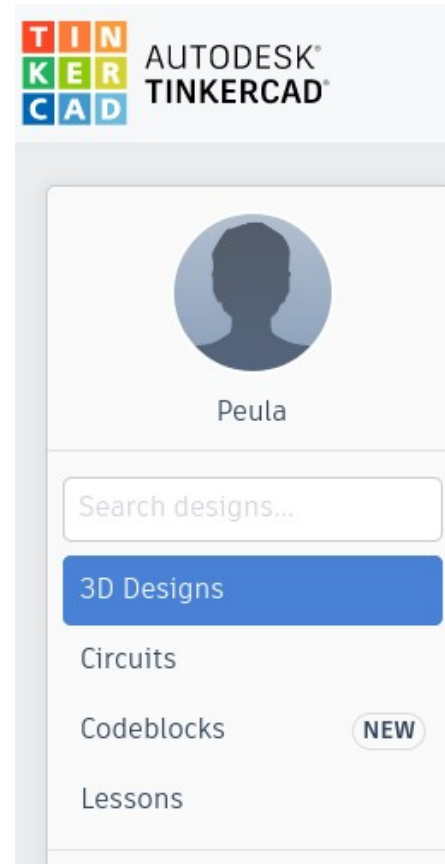
You can choose how to login



The screenshot shows the 'Start Tinkering' registration page. At the top, it asks 'How will you create your account?'. Below this is a blue button for 'Sign up with Email'. Underneath, there are four social login options: 'Sign in with Google', 'Sign in with Apple', 'Sign in with Microsoft', and 'Sign in with Facebook'. These four options are enclosed in a red rectangular box. At the bottom of the page, it asks 'Already have an account?' and provides a blue 'Sign In' link.

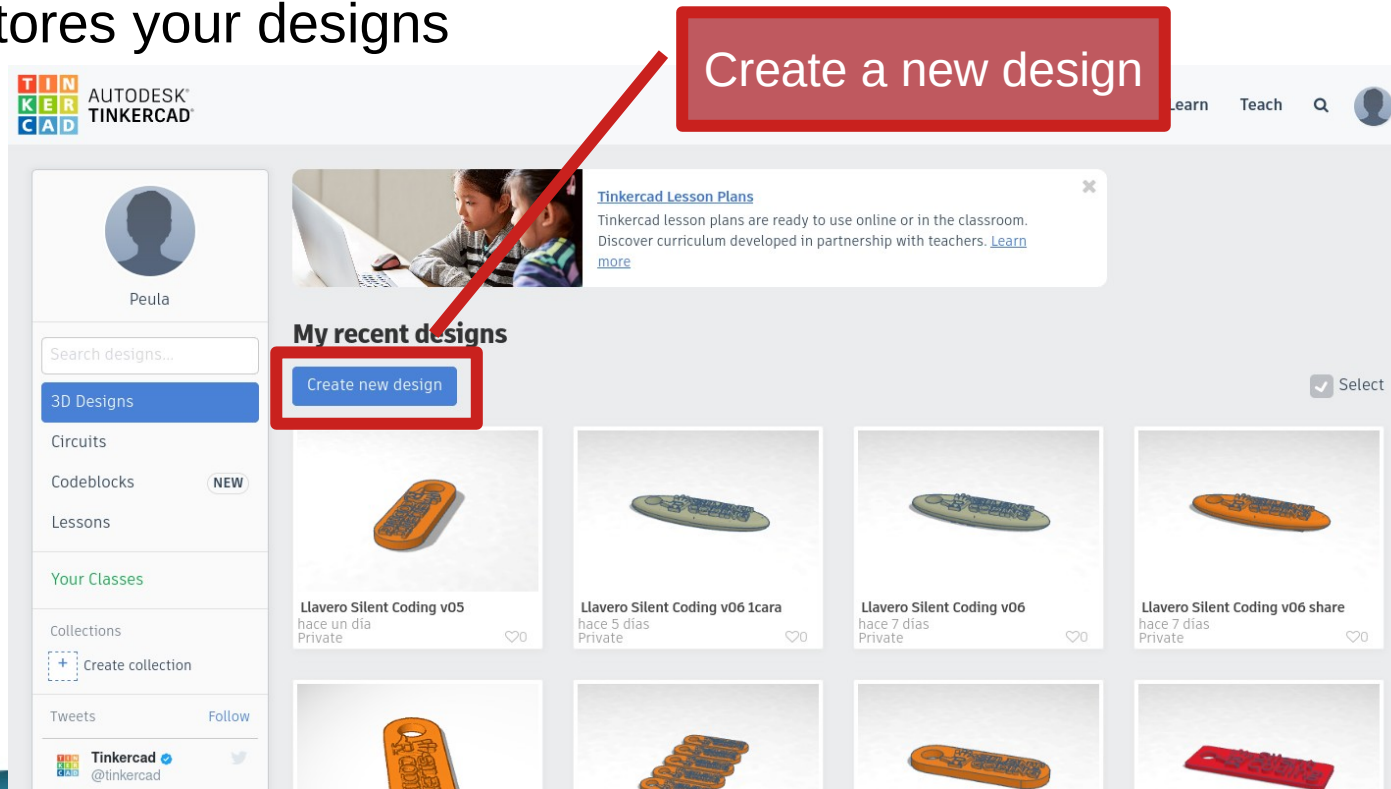
Tinkercad 3D – Dashboard

- User Tinkercad dashboard
 - You can choose:
 - 3D Designs
 - Design 3d objects
 - Circuits
 - Design circuit
 - Codeblocks
 - Design programs
 - Lessons
 - Thematic lessons:
 - Robotics
 - Electronics...



Tinkercad 3D – Dashboard

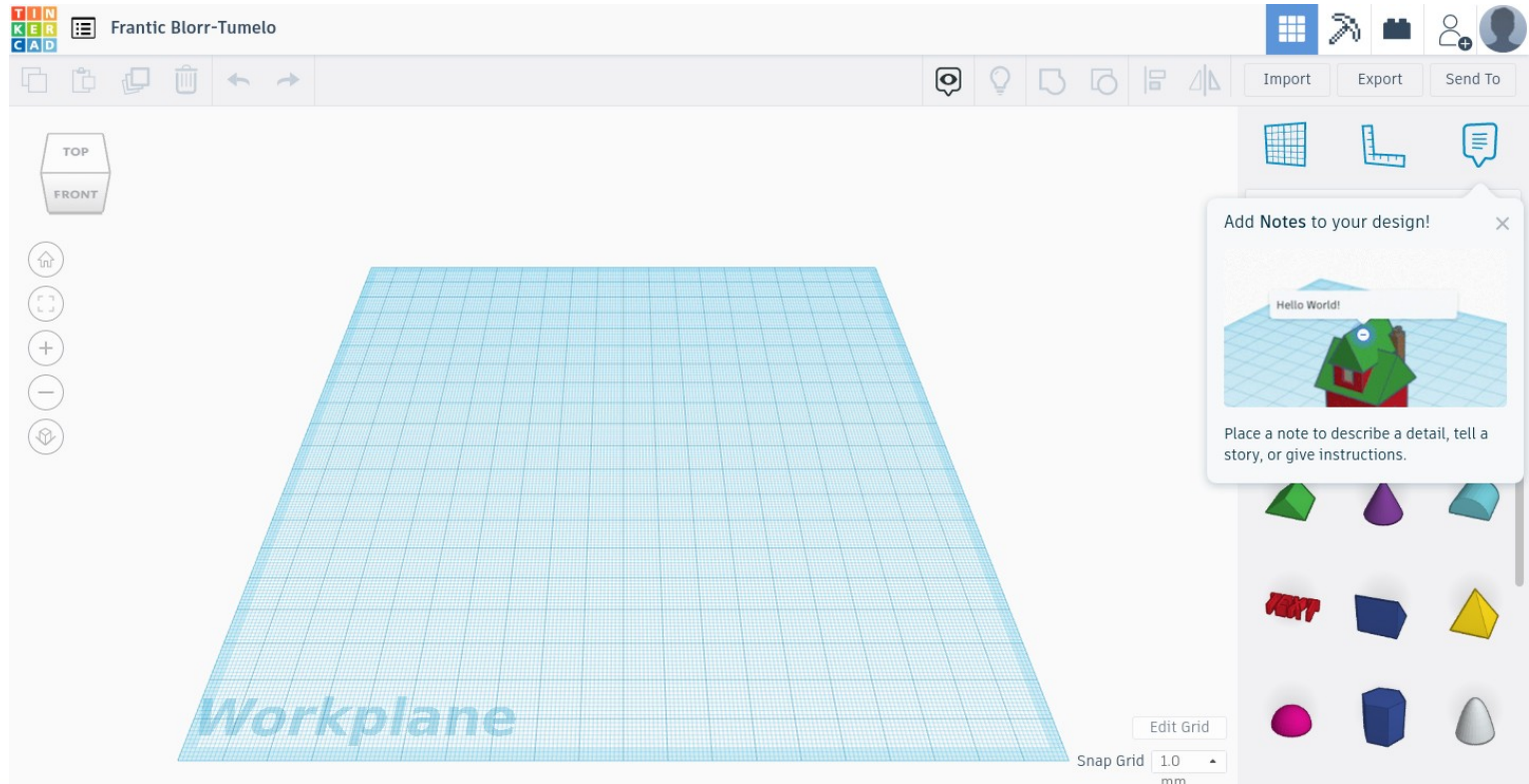
- User Tinkercad dashboard
 - It stores your designs



The screenshot shows the Tinkercad dashboard interface. At the top left is the Tinkercad logo (TINKERCAD) and the Autodesk logo. The user's name 'Peula' is visible. A search bar is present. The main content area is titled 'My recent designs' and features a grid of design thumbnails. A red box highlights the 'Create new design' button in the top left of the design grid. A red arrow points from this button to a larger red box containing the text 'Create a new design'. Another red box highlights the 'Create new design' button in the top right of the dashboard. The design thumbnails are titled 'Llavero Silent Coding v05', 'Llavero Silent Coding v06 1cara', 'Llavero Silent Coding v06', and 'Llavero Silent Coding v06 share'. The dashboard also includes a sidebar with navigation options like '3D Designs', 'Circuits', 'Codeblocks', 'Lessons', 'Your Classes', 'Collections', and 'Tweets'.

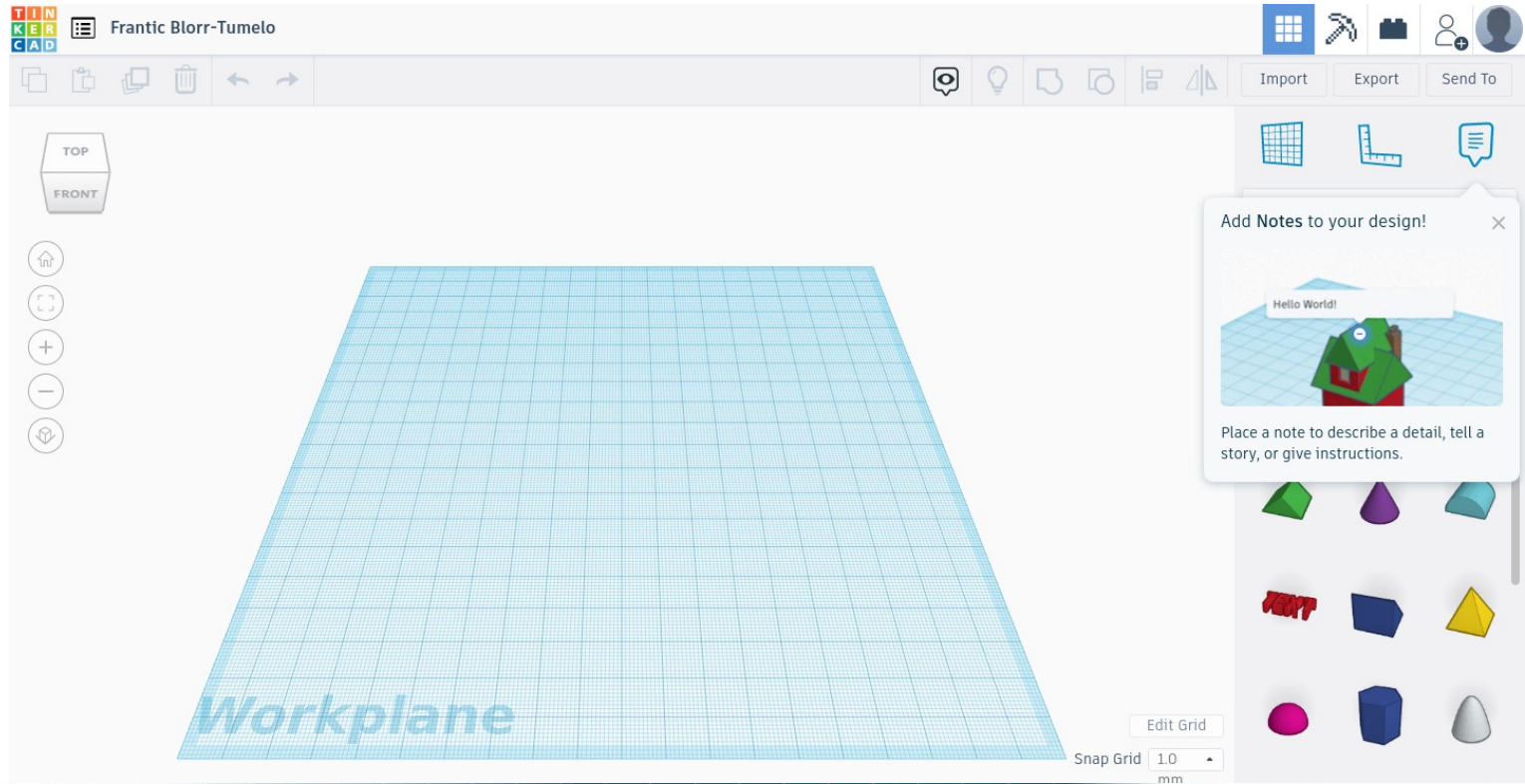
Tinkercad 3D – Dashboard

- User workplane



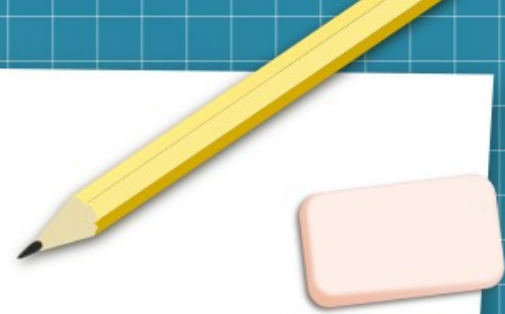
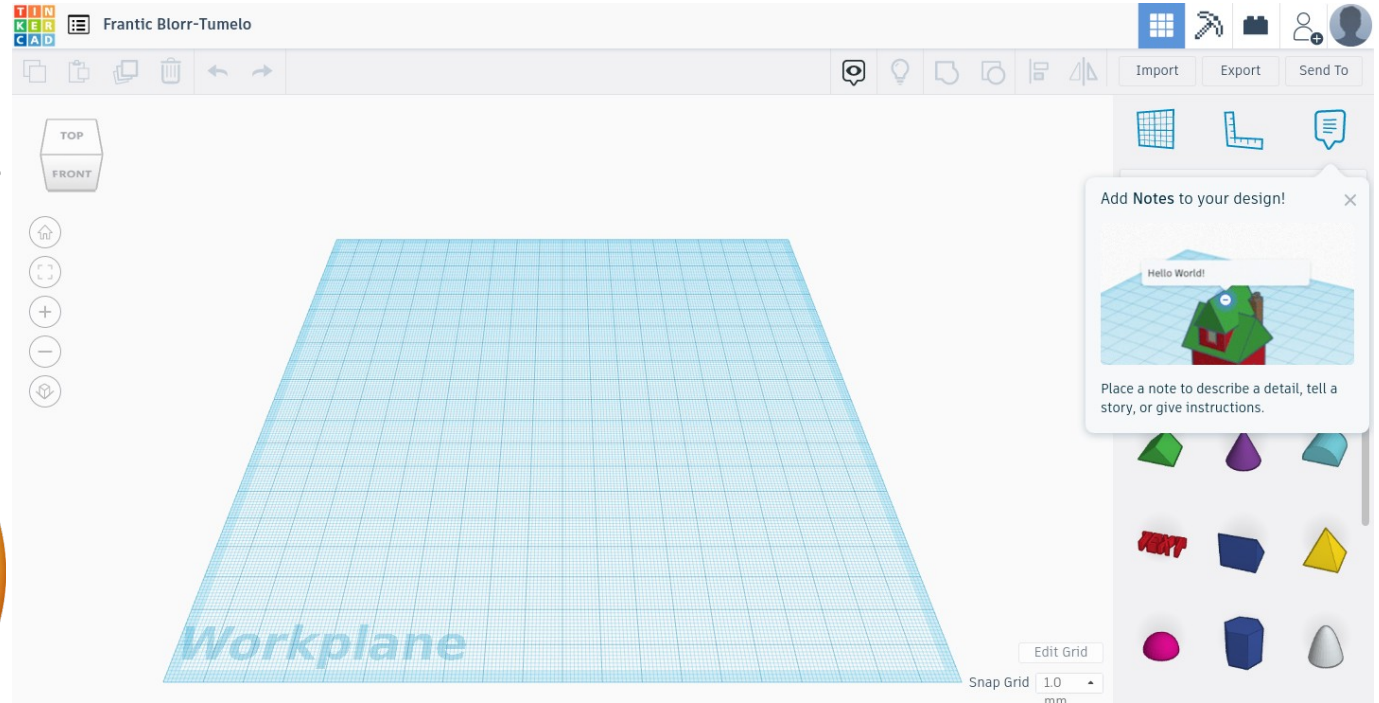
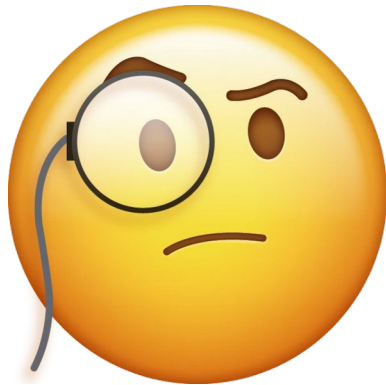
Tinkercad 3D – Let's begin with the workspace

- First, create you own account and access to your dashboard



Tinkercad 3D – Workspace

- You have an:
 - Empty plane
 - Some buttons
 - Some objects
 - A cube...

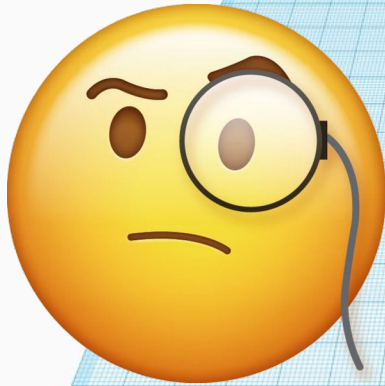


Tinkercad 3D – Workspace

TINKERCAD

Frantic Blorr-Tumelo

Project name. It's an strange and weird name, click to change it. For example: "Tutorial project"



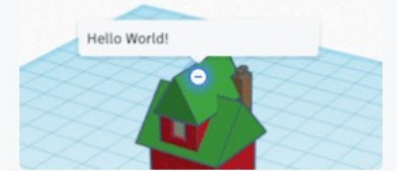
Workplane



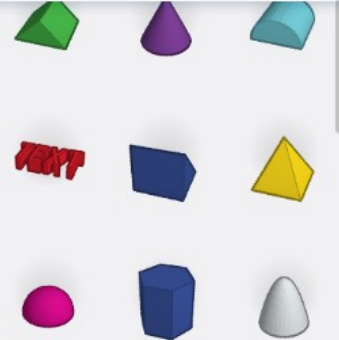
Import Export Send To



Add Notes to your design!



Place a note to describe a detail, tell a story, or give instructions.



Edit Grid

Snap Grid 1.0 mm

Tinkercad 3D – Workspace

Frantic Blorr-Tumelo

Import Export Send To

TOP FRONT

Workplane

Edit Grid

Snap Grid 1.0 mm

Basic objects and shapes, text and figures for use when building your own 3D designs

Add Notes to your design!

Hello World!

Place a note to describe a detail, tell a story, or give instructions.

Basic objects and shapes, text and figures for use when building your own 3D designs

Tinkercad 3D – Workspace

TINKERCAD Tutorial Project

TOP FRONT

Workplane

Left click on the cube and drag It to the workplane

Basic Shapes

Radius 0
Steps 0
Length 20 20 20

Edit Grid
Snap Grid 1.0 mm

The image shows the Tinkercad 3D workspace interface. At the top, the title bar reads 'TINKERCAD Tutorial Project'. Below the title bar is a toolbar with icons for file operations (copy, paste, delete, undo, redo) and workspace actions (import, export, send to). The main workspace features a blue grid labeled 'Workplane'. A red cube is positioned on the grid, with a red box around it and a red arrow pointing to the 'Basic Shapes' panel on the right. The 'Basic Shapes' panel is also highlighted with a red box and contains various 3D shapes like a cube, cylinder, sphere, and cone. A yellow emoji with glasses is overlaid on the bottom right of the workspace. A red box contains the text 'Left click on the cube and drag It to the workplane'. The interface also shows a 'Hole' panel with a radius slider and a 'Snap Grid' set to 1.0 mm.

Tinkercad 3D – How to use it

Tutorial Project

Copy, paste, delete, clone, undo and redo options

Box

Solid Hole

Radius 0

Steps 10

Length 20

Width 20

Height 20

Basic Shapes

Workplane

Edit Grid

Snap Grid 1.0 mm

Tinkercad 3D – How to use it

Tutorial Project

Now duplicate and repeat or copy and paste the cube

Workplane

Box

Solid Hole

Radius 0

Steps 10

Length 20

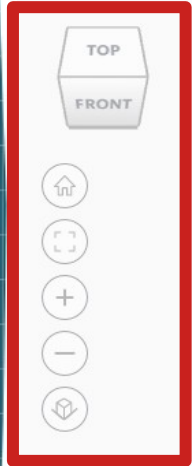
Width 20

Height 20

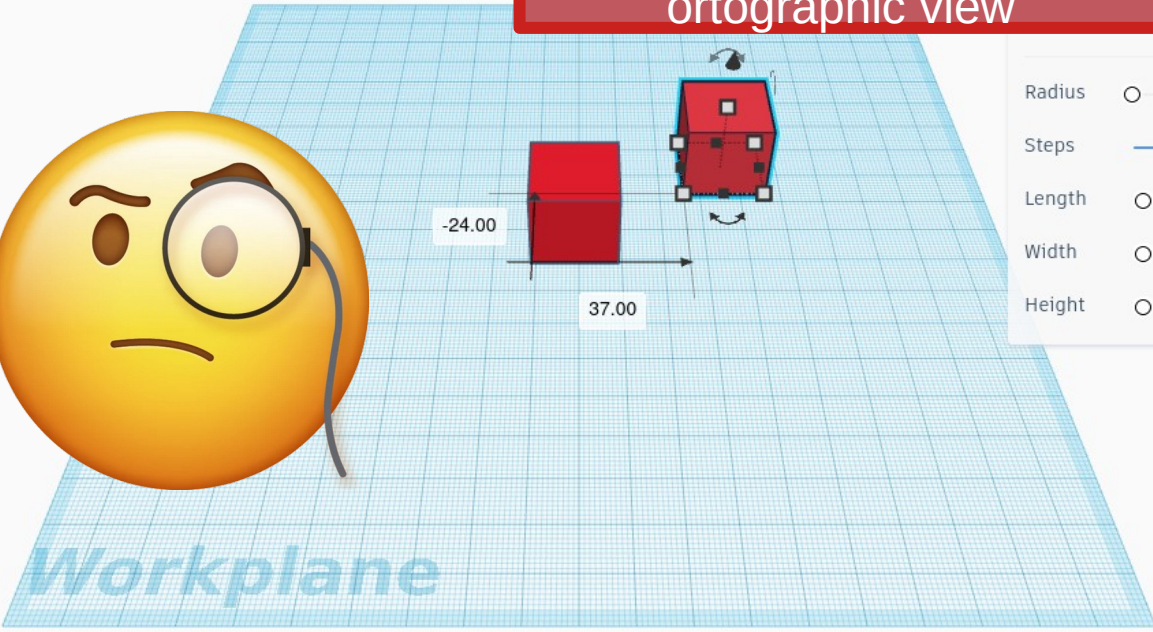
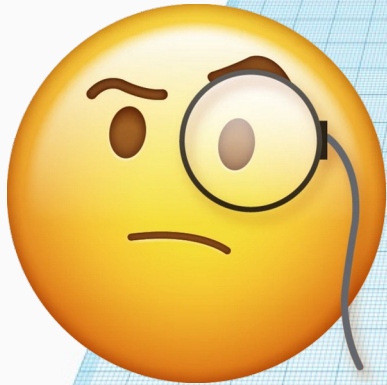
Edit Grid

Snap Grid 1.0 mm

Tinkercad 3D – Workspace



View tools. Let you rotate set default view, fit selected object, zoom in and out, and ortographic view



Hole

Radius 0

Steps 10

Length 20

Width 20

Height 20

Basic Shapes

Tinkercad 3D – Workspace

TINKERCAD Tutorial Project All changes saved Import Export Send To

TOP FRONT

Home View Rotate Zoom In Zoom Out

You can move through the workspace pressing center button and moving the mouse. You can rotate the view pressing right button and moving the Mouse. You can zoom in and out using the mouse wheel.

Basic Shapes

Hole

0 10 20 20 20

Width Height

Workplane

Edit Grid Snap Grid 1.0 mm

Tinkercad 3D – Workspace

TINKERCAD Tutorial Project All changes saved Import Export Send To

TOP FRONT

Now set fit selected object

Radius 0
Steps 10
Length 20
Width 20
Height 20

Workplane

Edit Grid Snap Grid 1.0 mm

Basic Shapes

Hole

Thinking face emoji

Tinkercad 3D – Workspace

The screenshot displays the Tinkercad 3D workspace. At the top left, the logo 'TINKERCAD' is visible, followed by the text 'Tutorial Project'. The workspace contains a red hexagonal prism with a hole through its center. A red callout box with a white border and text is positioned over the top of the prism, containing the text: "And now, return to default view". A red arrow points from the callout box to the 'Home' icon in the left-hand toolbar, which is highlighted with a red square. To the left of the prism is a yellow emoji with a confused expression and glasses. The right-hand side of the interface shows a 'Basic Shapes' panel with various 3D objects and a 'Hole' panel with sliders for Radius, Steps, Length, Width, and Height. The bottom right corner shows 'Edit Grid' and 'Snap Grid 1.0 mm'.

Tutorial Project

And now, return to default view

Home

Radius 0

Steps 10

Length 20

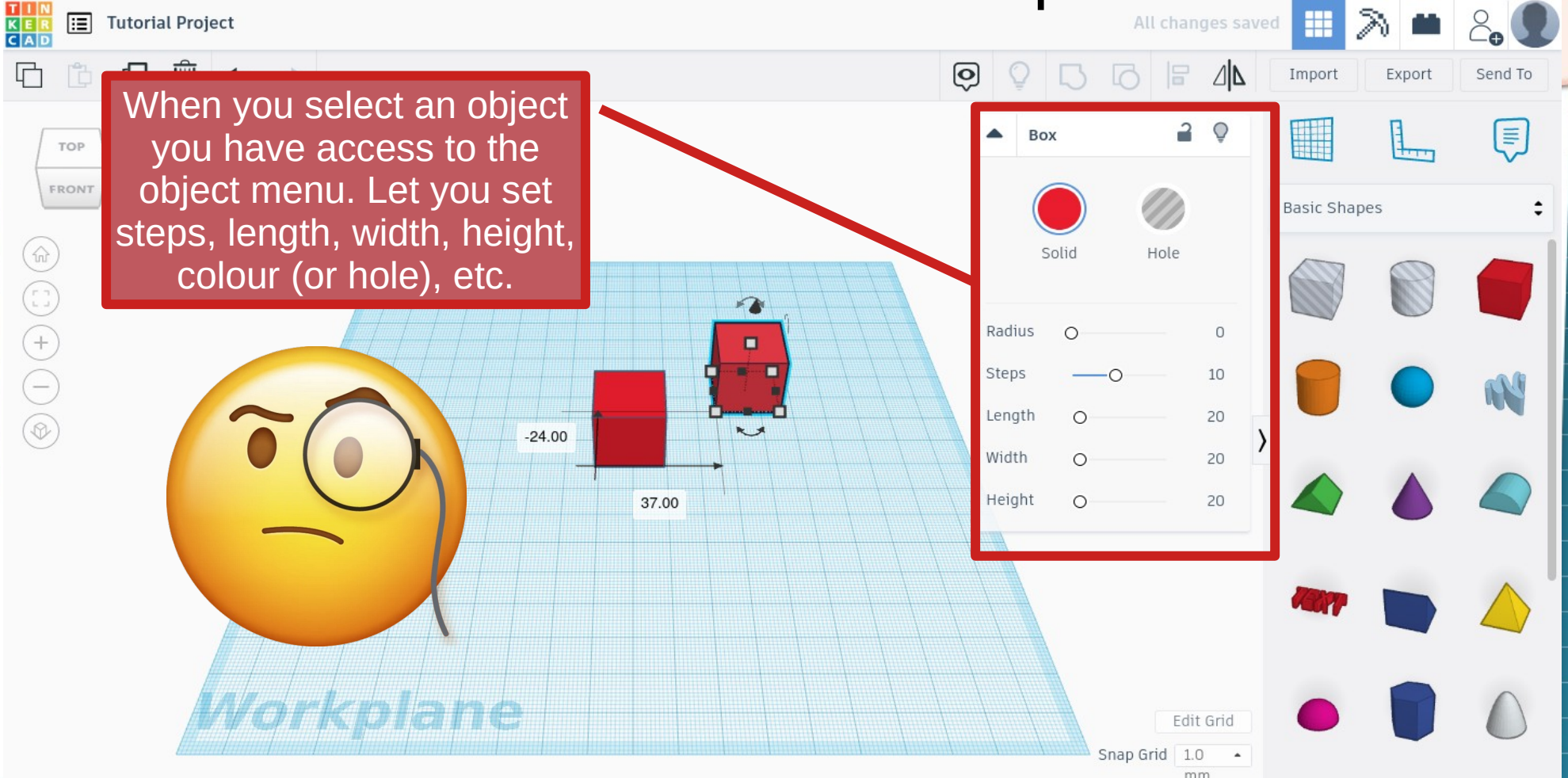
Width 20

Height 20

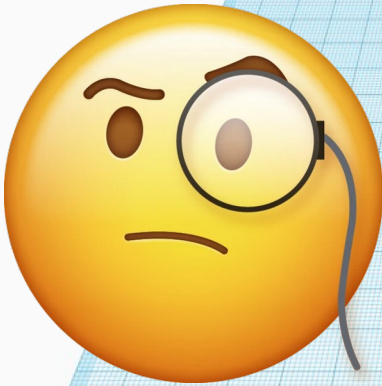
Edit Grid

Snap Grid 1.0 mm

Tinkercad 3D – Workspace



When you select an object you have access to the object menu. Let you set steps, length, width, height, colour (or hole), etc.



Box

Solid Hole

Radius 0

Steps 10

Length 20

Width 20

Height 20

-24.00

37.00

Workplane

Edit Grid

Snap Grid 1.0 mm

Tinkercad 3D – Workspace

The screenshot shows the Tinkercad 3D workspace. At the top, the title bar reads "Tutorial Project" and "All changes saved". The workspace contains a red box with dimensions: Length 37.00, Width -24.00, and Height 20.00. A properties panel for the selected box is open on the right, showing options for Solid and Hole, Radius (0), Steps (10), Length (20), Width (20), and Height (20). The Length property is highlighted with a red box. A red arrow points from a text box to the Length property. The text box contains the text: "Object menu. Let you set steps, length, width, height, colour (or hole), etc." A yellow emoji with glasses and a sad expression is overlaid on the left side of the workspace. The workspace is labeled "Workplane" at the bottom.

Object menu. Let you set steps, length, width, height, colour (or hole), etc.

Box

Solid Hole

Radius 0

Steps 10

Length 20

Width 20

Height 20

Workplane

Edit Grid

Snap Grid 1.0 mm

Tinkercad 3D – Workspace

TINKERCAD Tutorial Project

Now modify length's object

Box

Solid Hole

Radius 0

Steps 10

Length 80

Width 20

Height 20

Basic Shapes

Workplane

Edit Grid

Snap Grid 1.0 mm

The image shows the Tinkercad 3D workspace interface. At the top, the logo 'TINKERCAD' is visible next to the text 'Tutorial Project'. The main workspace features a blue grid labeled 'Workplane'. A red rectangular box is positioned on the grid, with a red callout box pointing to its 'Length' property in the 'Box' settings panel on the right. The 'Length' property is currently set to 80. A yellow thinking emoji with glasses is overlaid on the left side of the workspace. The right sidebar contains a 'Basic Shapes' panel with various 3D models like cubes, cylinders, and spheres. At the bottom right, there are controls for 'Edit Grid' and 'Snap Grid' (set to 1.0 mm).

Tinkercad 3D – Workspace

When you click on the corner you can see object's size and modify it here too.

Box

Solid Hole

Radius 0

Steps 10

Length 80

Width 20

Height 20

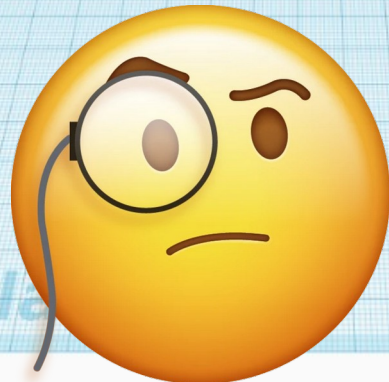
80.00

20.00

Basic Shapes

Edit Grid

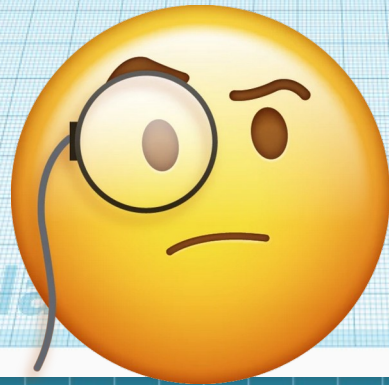
Snap Grid 1.0 mm



Tinkercad 3D – Workspace

TINKERCAD Tutorial Project

You can also rotate the object. If you shift key you can choose 45°,90°,135°...

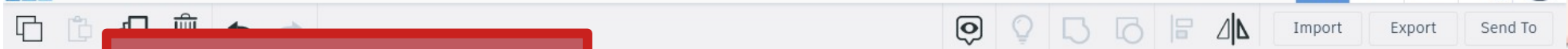


The screenshot displays the Tinkercad 3D workspace. A red rectangular box is positioned on a blue grid. A red callout box points to the rotation handles on the box, with text explaining that the shift key can be used to rotate the object at specific angles (45°, 90°, 135°). The interface includes a top toolbar with icons for Import, Export, and Send To. A right sidebar shows the 'Box' properties panel with options for Solid and Hole, and a 'Basic Shapes' library. The bottom status bar shows 'Edit Grid' and 'Snap Grid' settings.

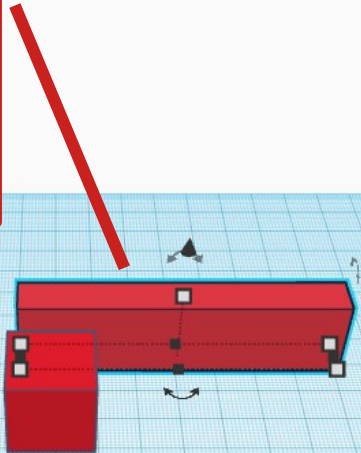
Property	Value
Radius	0
Steps	10
Length	80
Width	20
Height	20

Tinkercad 3D – Workspace

TINKERCAD Tutorial Project



Rotate the object 90°



Box

Solid Hole

Radius

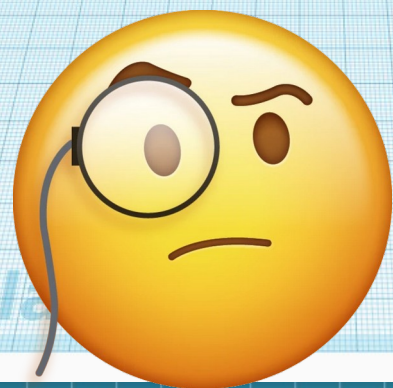
Steps

Length

Width

Height

Basic Shapes



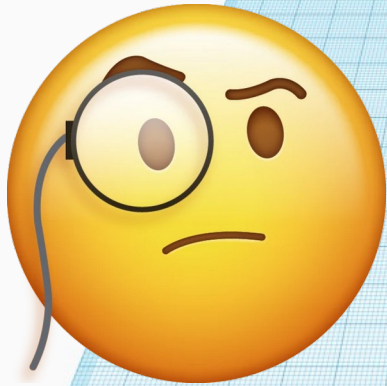
Workpl

Edit Grid
Snap Grid 1.0 mm

Tinkercad 3D – Workspace

TINKERCAD Tutorial Project

Adjust menu:
Show or hide notes, group
and ungroup, align and
mirror objects.



Box

Solid Hole

Radius

Steps

Length

Width

Height

Import Export Send To

Basic Shapes

Workplane

Edit Grid

Snap Grid 1.0 mm

Tinkercad 3D – Workspace

TINKERCAD Tutorial Project

Importar Exportar Enviar a

Shapes(2) Sólido Hueco

Añada Notas al diseño. Hello World

Coloque una nota para describir un detalle, contar una historia o proporcionar instrucciones.

Ed. rejilla Ajustar Rejilla 1 mm

Plano de trabajo

Now select both objects and align them respect to the center

Tinkercad 3D – Workspace

TINKERCAD Tutorial Project

Now select both objects and align them respect to the center

Shapes(2)

Sólido Hueco

Añada Notas al diseño.

Coloque una nota para describir un detalle, contar una historia o proporcionar instrucciones.

Ed. rejilla

Ajustar Rejilla 1 mm

Plano de trabajo

Tinkercad 3D – Workspace

TINKERCAD Tutorial Project

And finally group both objects in a new one

Shapes(2)

Sólido Hueco

Añada Notas al diseño.

Coloque una nota para describir un detalle, contar una historia o proporcionar instrucciones.

Ed. rejilla

Ajustar Rejilla 1 mm

Plano de trabajo

Tinkercad 3D – Workspace

TINKERCAD Tutorial Project

Importar Exportar Enviar a

Forma

Sólido Hueco

Añada Notas al diseño.

Hello World!

Coloque una nota para describir un detalle, contar una historia o proporcionar instrucciones.

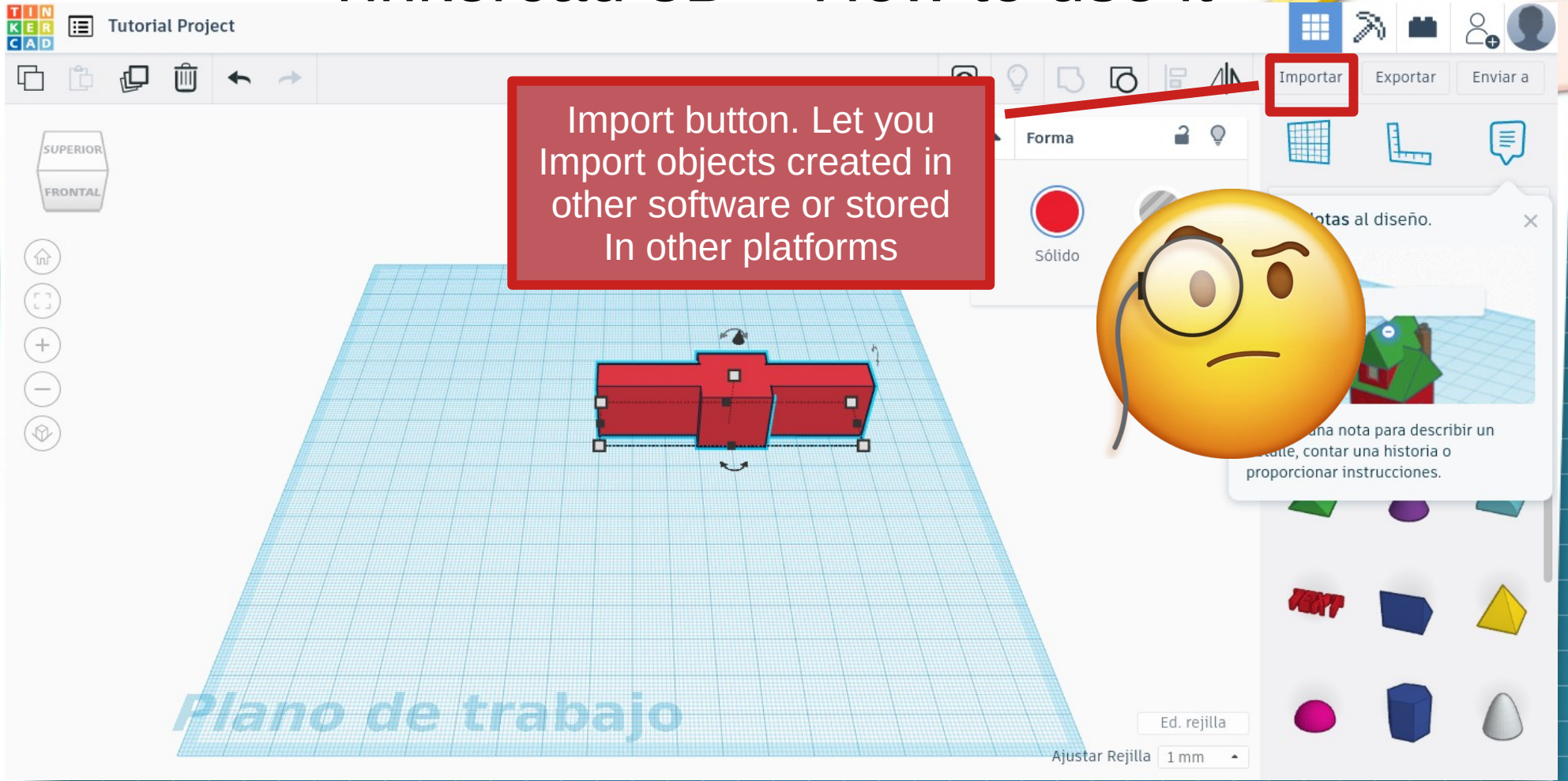
Ed. rejilla

Ajustar Rejilla 1 mm

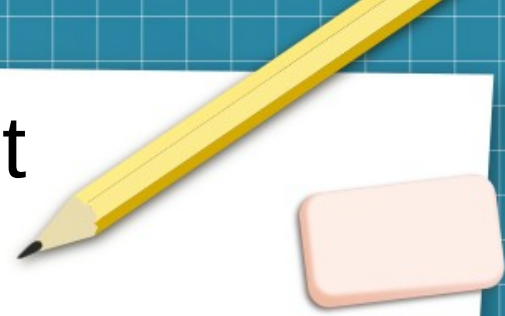
Plano de trabajo

You can ungroup and group object to modify each of its parts

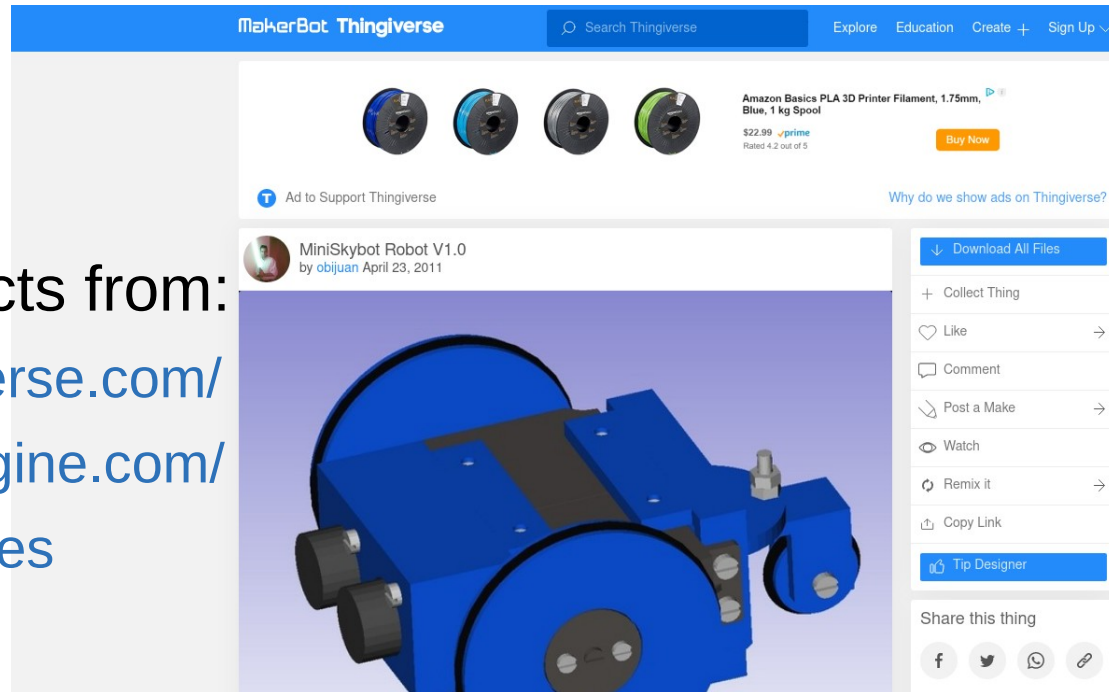
Tinkercad 3D – How to use it



Tinkercad 3D – How to use it

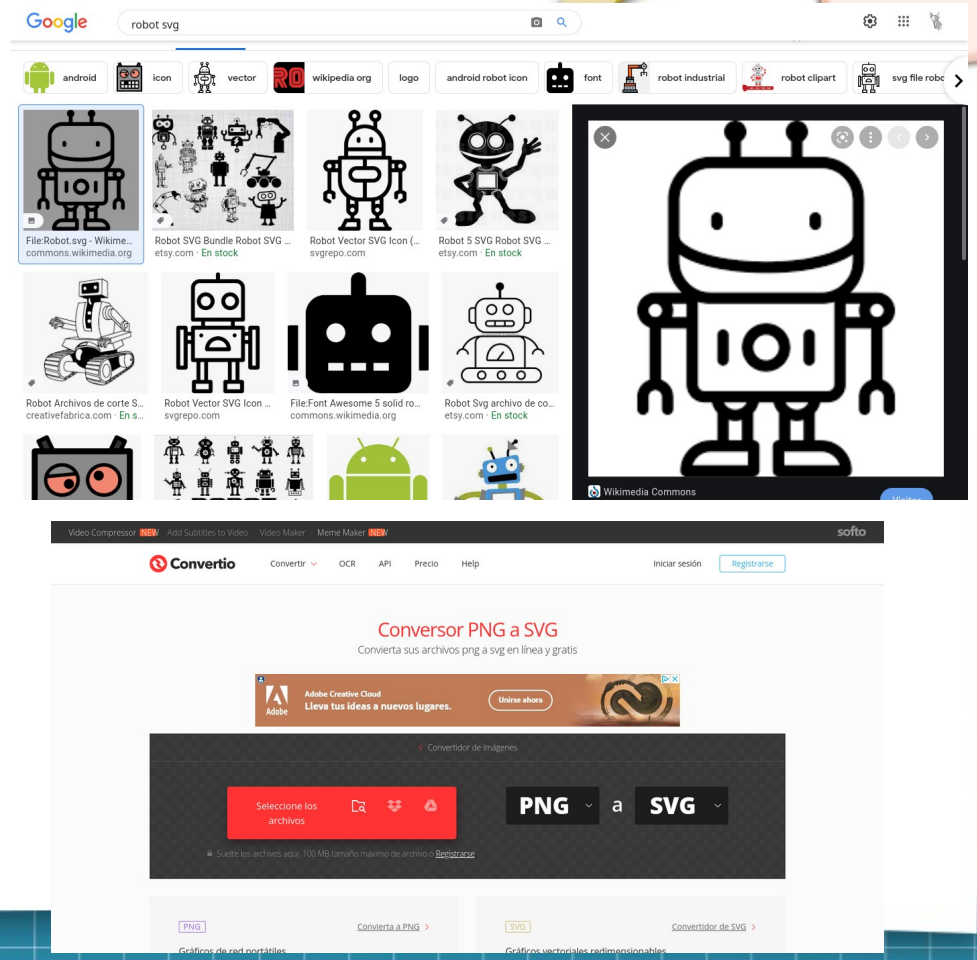


- Import files. You need files:
 - Stl (object 3d)
 - Obj (object 3d)
 - Svg (image)
- You can import objects from:
 - <https://www.thingiverse.com/>
 - <https://www.youmagine.com/>
 - <https://cults3d.com/es>
 - And others



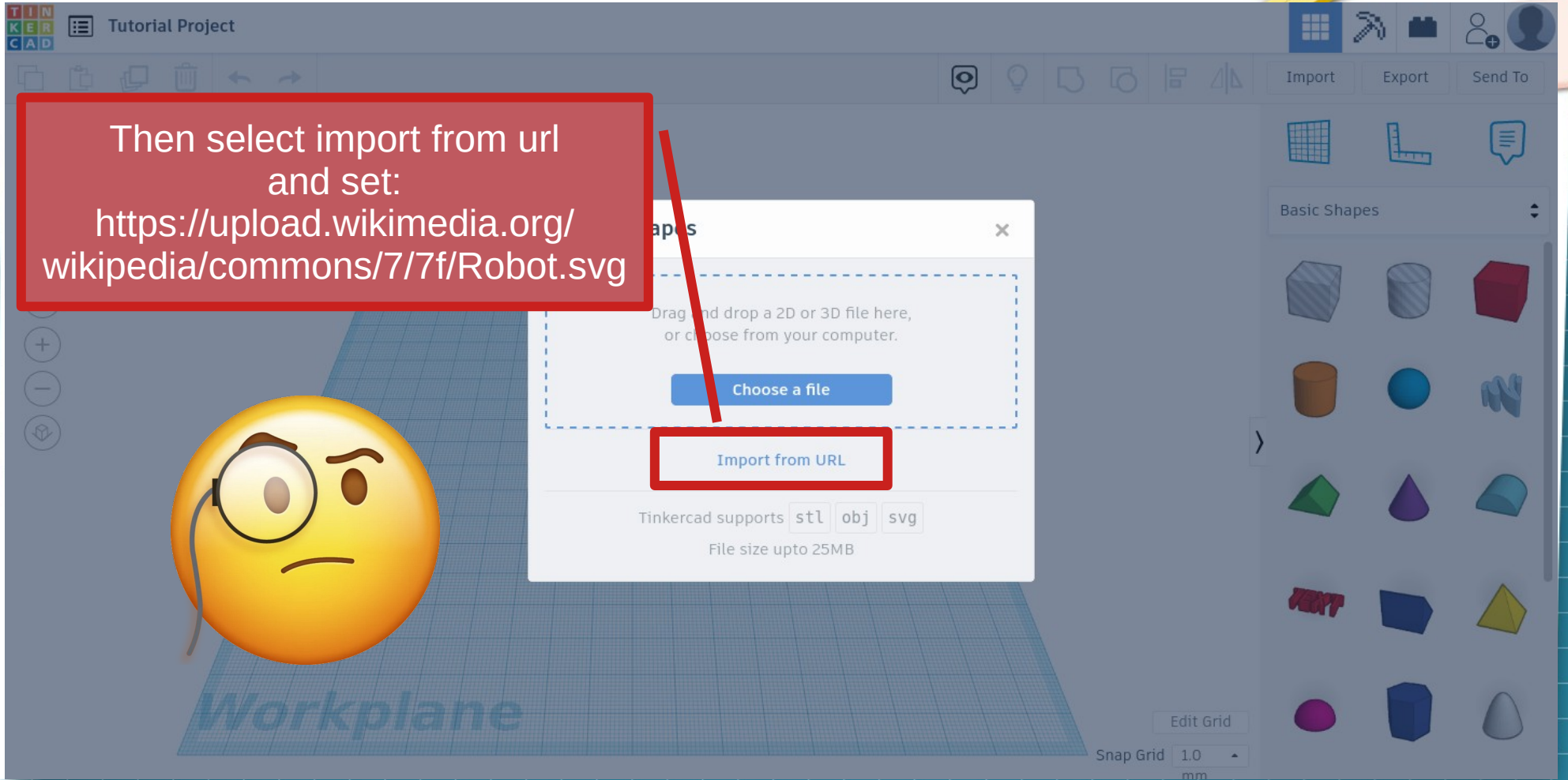
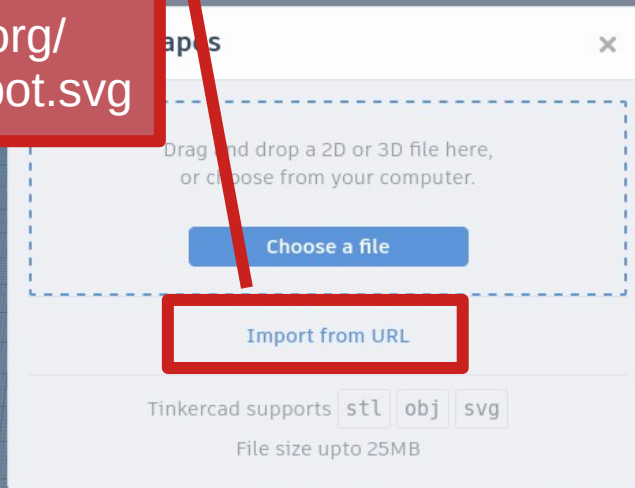
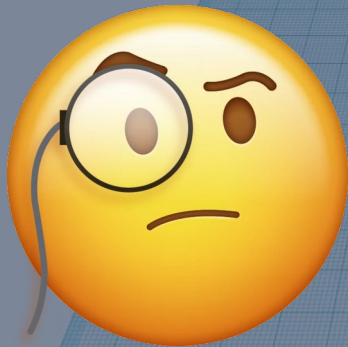
Tinkercad 3D – How to use it

- Import files. You need files:
 - Stl (object 3d)
 - Obj (object 3d)
 - Svg (image)
- You can import images from:
 - <https://www.google.com/>
 - <https://commons.wikimedia.org/>
- You can convert to svg:
 - <https://convertio.co/es/png-svg/>



Tinkercad 3D – How to use it

Then select import from url
and set:
<https://upload.wikimedia.org/wikipedia/commons/7/7f/Robot.svg>



Tinkercad 3D – How to use it

TINKERCAD Tutorial Project

Import 3D Shape

Robot.svg
0 MB

Center on Art Artboard

Scale (%) 25

Dimensions Length 115.5 Width 115.5

Cancel Import

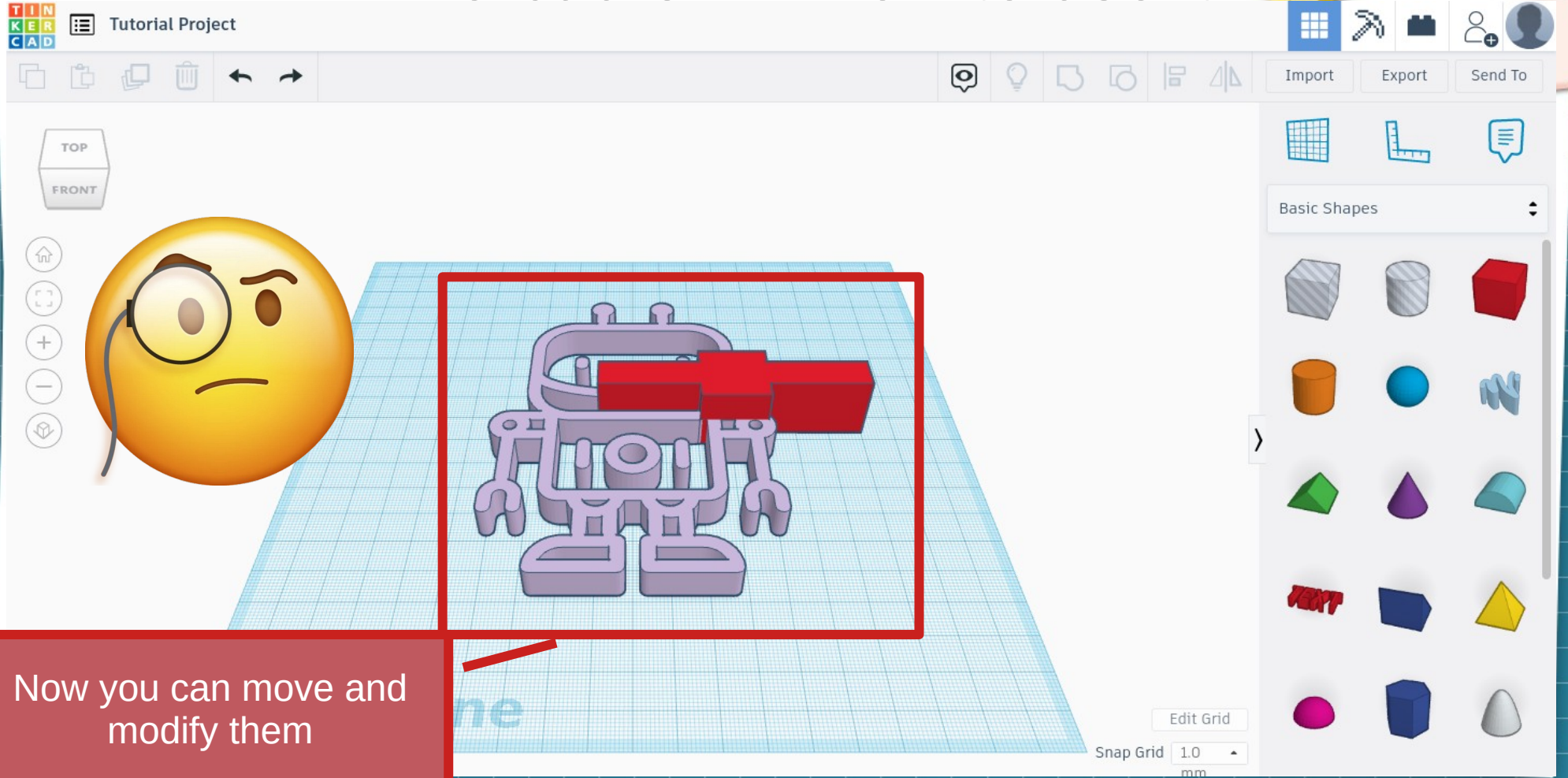
Set scale (25 % normally) and import. Scale sets the size in the plane

Basic Shapes

Edit Grid

Snap Grid 1.0 mm

Tinkercad 3D – How to use it

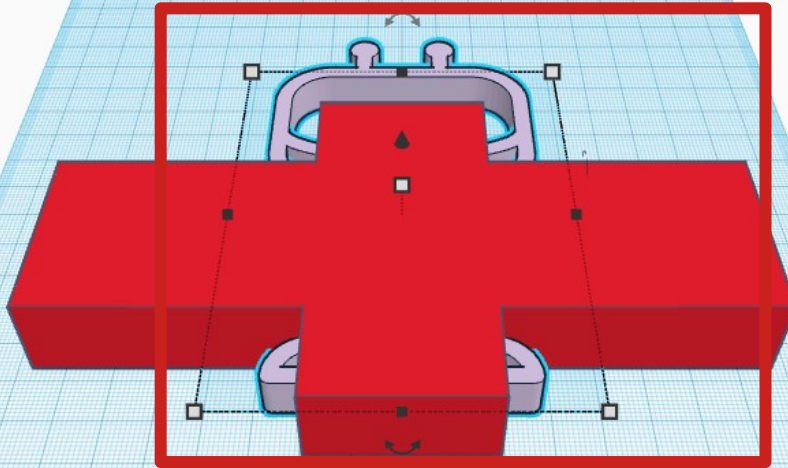
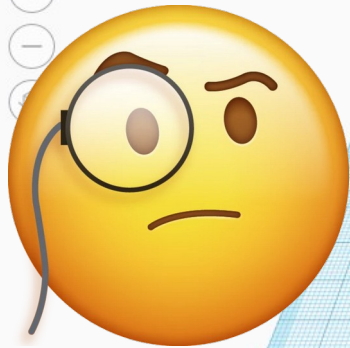


Tinkercad 3D – How to use it

Left click and drag or cursor arrows to move the object. Click on the points to change the size. Press shift key to maintain proportions



Shift key



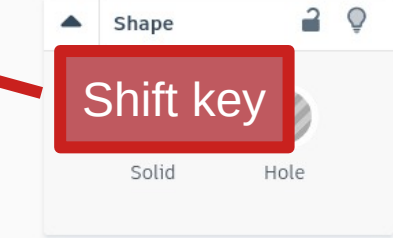
Workplane

Edit Grid

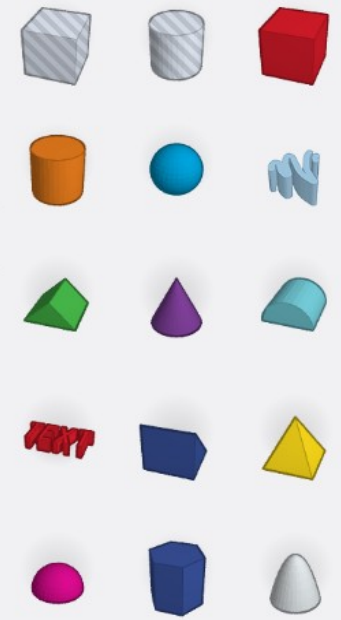
Snap Grid 1.0 mm



Import Export Send To



Basic Shapes

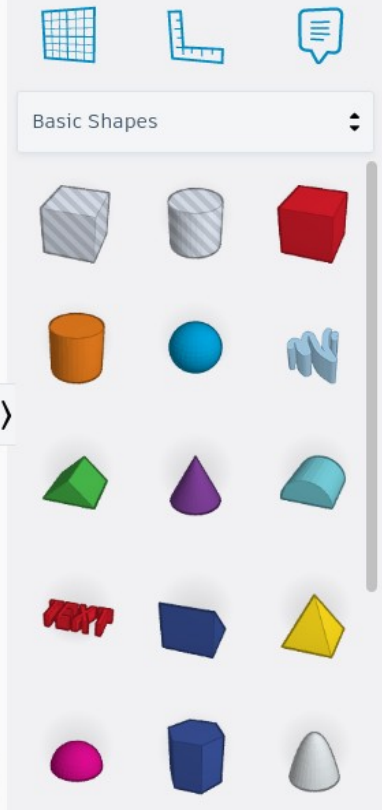
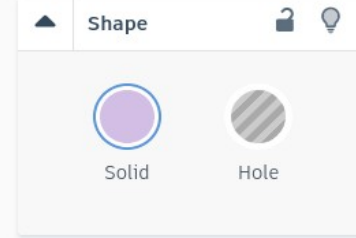
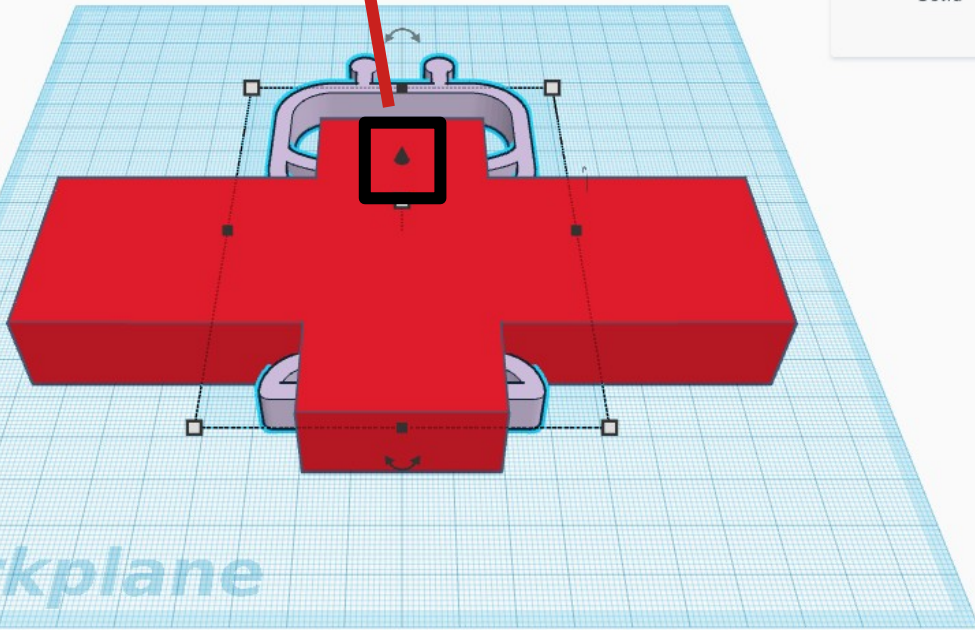
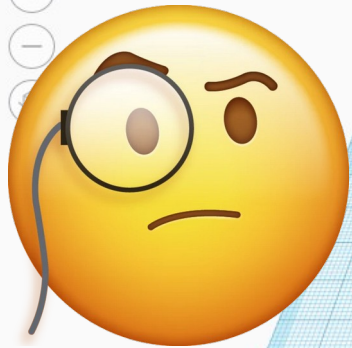


Tinkercad 3D – How to use it

TINKERCAD Tutorial Project



Left click on the little pyramid in the center to move up and down the object

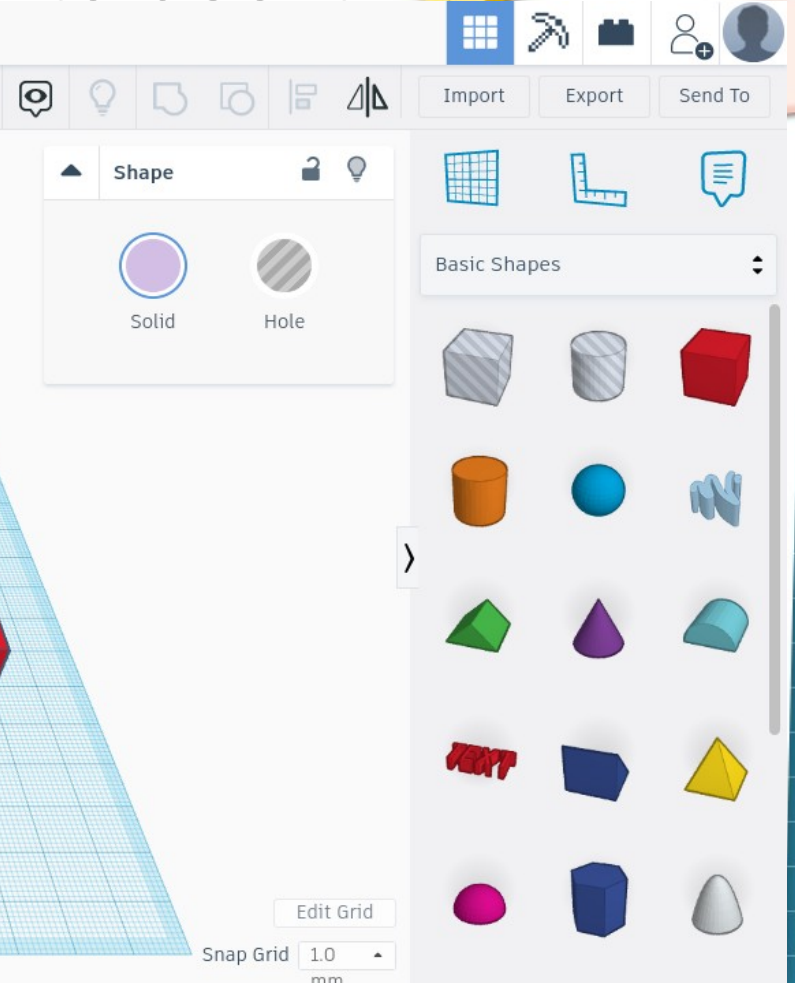
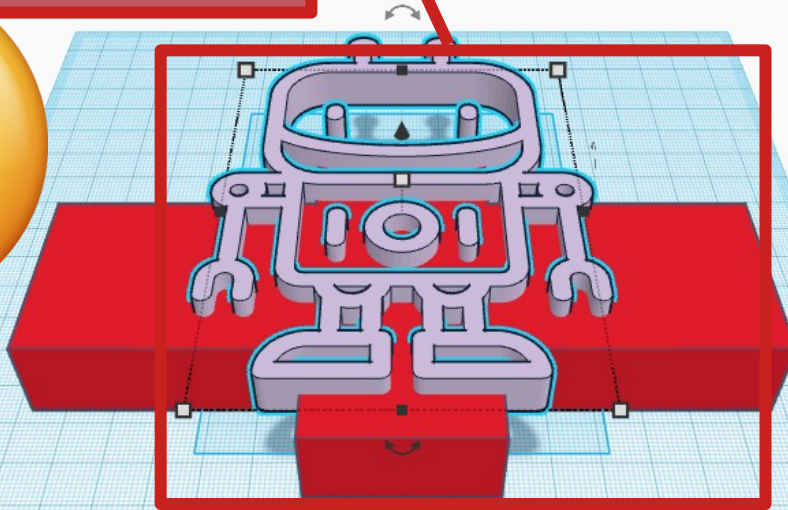
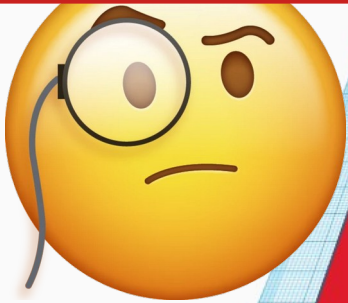


Edit Grid
Snap Grid 1.0 mm

Tinkercad 3D – How to use it

TINKERCAD Tutorial Project

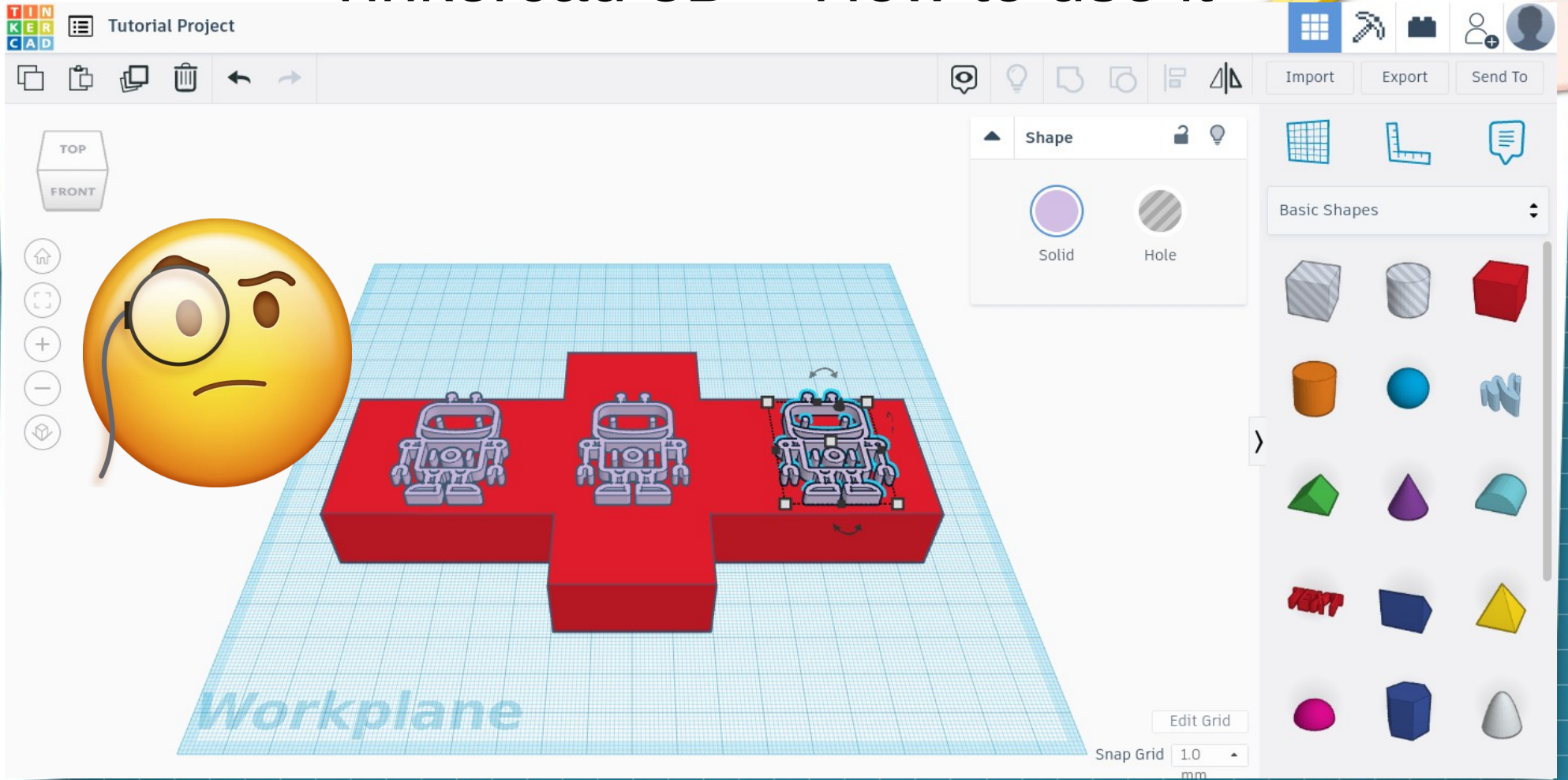
And finally set the robot in the size and position you want



Edit Grid

Snap Grid 1.0 mm

Tinkercad 3D – How to use it



Tinkercad 3D – How to use it

TINKERCAD Tutorial Project

TOP FRONT

Shape

Solid Hole

Basic Shapes

Grid size. Here you select the size of the grid and Units (mm, inch).

Workplane

Edit Grid

Snap Grid 1.0 mm

Yellow emoji with question mark and glasses

Tinkercad 3D – How to use it

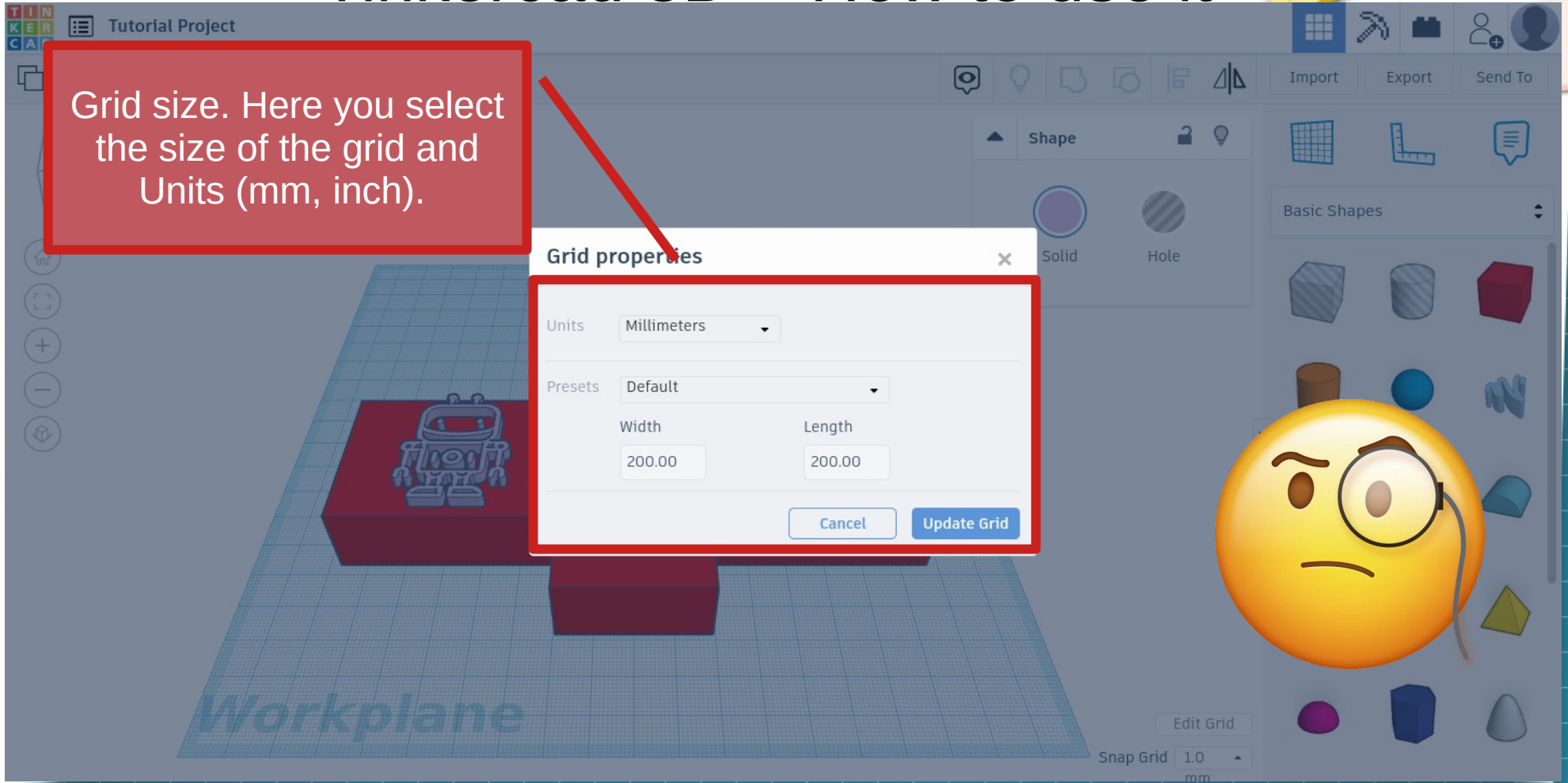
Grid size. Here you select the size of the grid and Units (mm, inch).

Grid properties

Units:

Presets:

Width	Length
<input type="text" value="200.00"/>	<input type="text" value="200.00"/>



Tinkercad 3D – How to use it

TINKERCAD Tutorial Project

Import Export Send To

shape

Solid

Basic Shapes

Workplane

Edit Grid

Snap Grid 1.0 mm

Advance options: create new working planes, show rule, and set notes

Thinking Face emoji

Tinkercad 3D – How to use it

TINKERCAD Tutorial Project

TOP FRONT

86.50

0.00

0.00

154.00

20.00

0.00

Workplane

Rule

Basic Shapes

Edit Grid

Snap Grid 1.0 mm

Set a rule in the plane. It shows positions and size of the selected object respect to the rule

Thinking Face Emoji

Tinkercad 3D – How to use it

TINKERCAD Tutorial Project

Import Export Send To

Grid

Basic Shapes

86.50

0.00

154.00

20.00

0.00

Workplane

Edit Grid

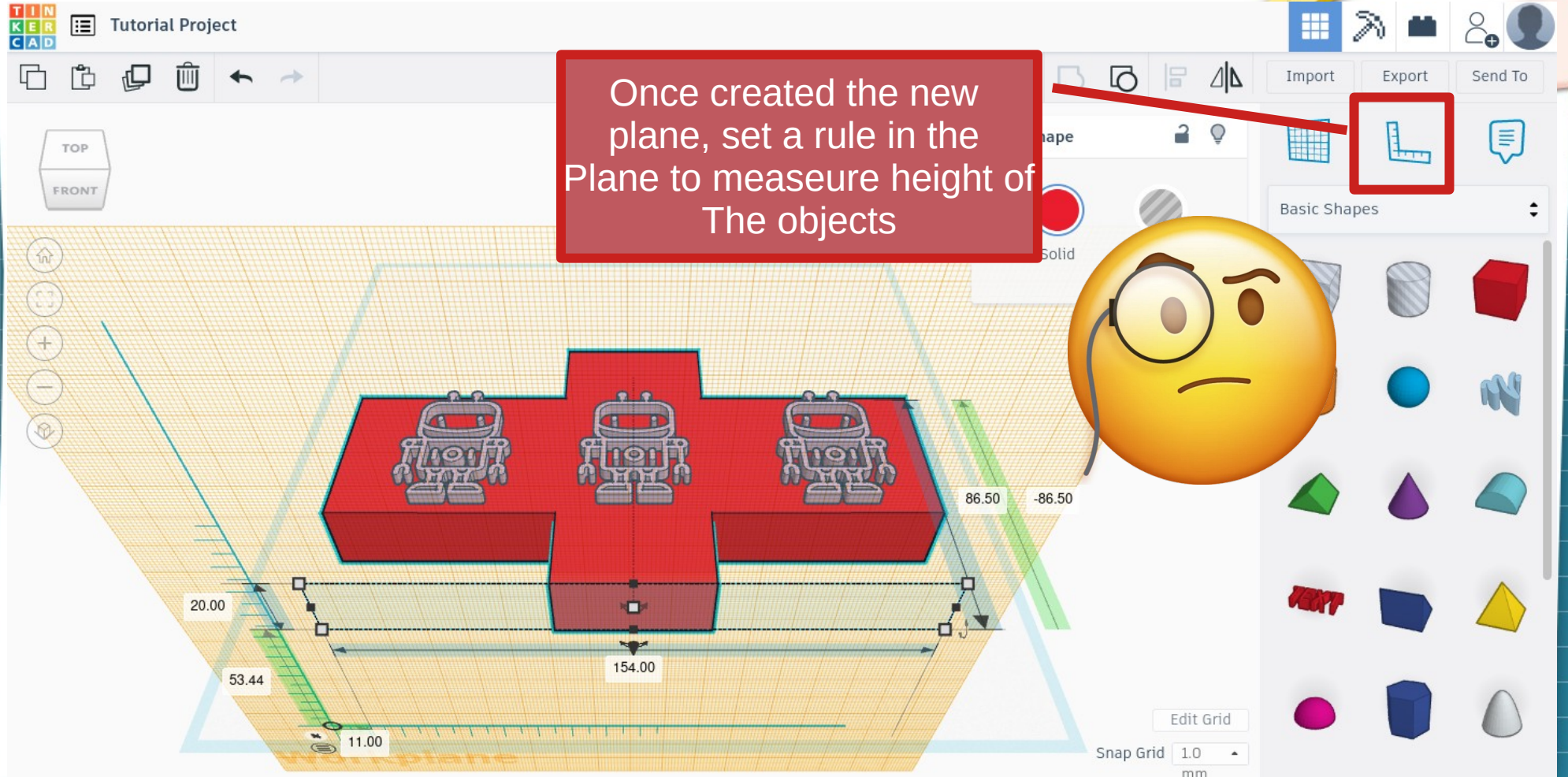
Snap Grid 1.0 mm

Create a new plane for setting a rule and measure height of the object

Thinking Face

Tinkercad 3D – How to use it

Once created the new plane, set a rule in the Plane to measure height of the objects



Tinkercad 3D – How to use it

The screenshot shows the Tinkercad 3D workspace. At the top left, the logo 'TINKERCAD' is visible, followed by the text 'Tutorial Project'. The main workspace contains a red 3D model of a mechanical part. A red box highlights the 'FRONT' view button on the left sidebar. A red callout box points to this button with the text: 'It's easier to measure height If you choose the front view'. The 3D model has several dimension lines and numerical values: 3.35, 21.44, 28.10, 38.75, and -63.00. A yellow pencil is positioned at the top right corner of the image. In the bottom left corner, there is a yellow emoji with a thinking expression and glasses. The right sidebar shows the 'Shape' panel with 'Solid' and 'Hole' options, and a 'Basic Shapes' panel with various 3D shapes. At the bottom right, there are controls for 'Edit Grid' and 'Snap Grid' set to 1.0 mm.



Workplane

Tinkercad 3D – How to use it

TINKERCAD Tutorial Project

Import Export Send To

TOP FRONT

My first model

Workplane

Add Notes to your design!

Note to describe a detail, tell a story, or give instructions.

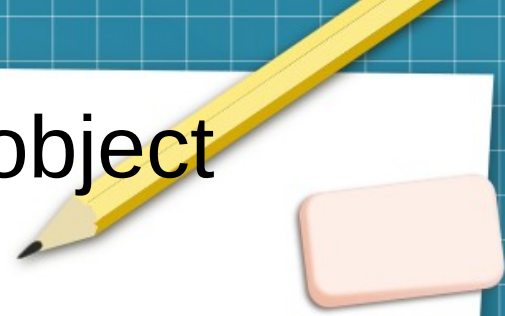
Edit Grid

Snap Grid 1.0 mm

The image shows the Tinkercad 3D workspace. At the top, there's a toolbar with icons for Import, Export, and Send To. A red box highlights the 'Notes' icon (a speech bubble) in the toolbar, with a red arrow pointing to a note box on the model. The note box contains the text 'My first model'. A 'Thinking Face' emoji is overlaid on the right side of the interface. The workspace features a blue grid and a red cross-shaped base with three robot models on top. The word 'Workplane' is visible at the bottom left. The bottom right corner shows 'Edit Grid' and 'Snap Grid 1.0 mm'.

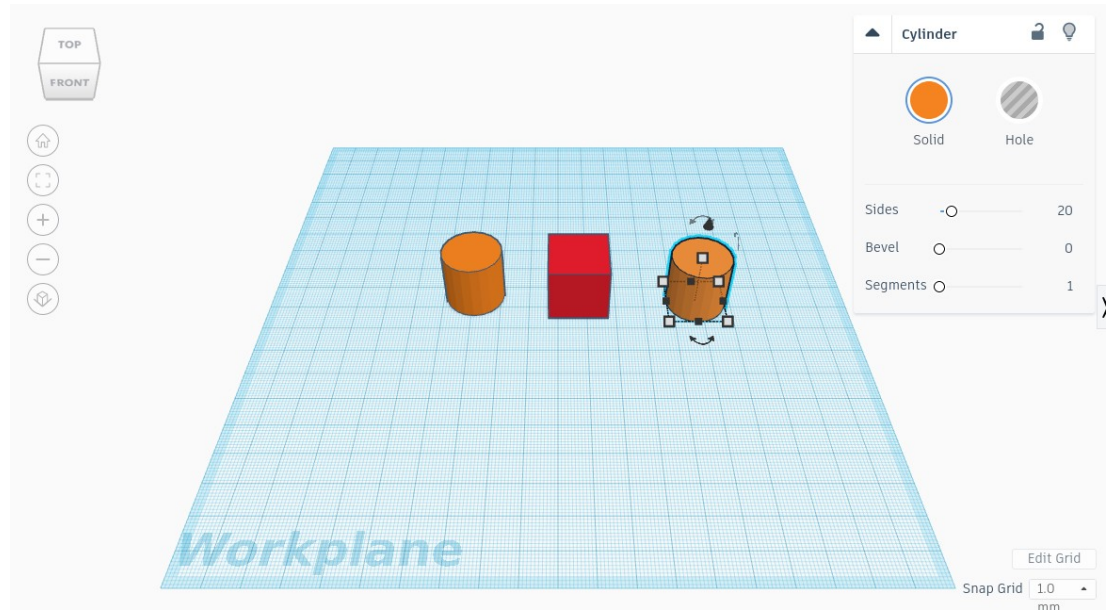
Tinkercad 3D – Create your first object

- Let's create our first object. A keyring.
- You need to select the basic objects for the keyring
 - A cube
 - Two cylinders
 - An image for the design



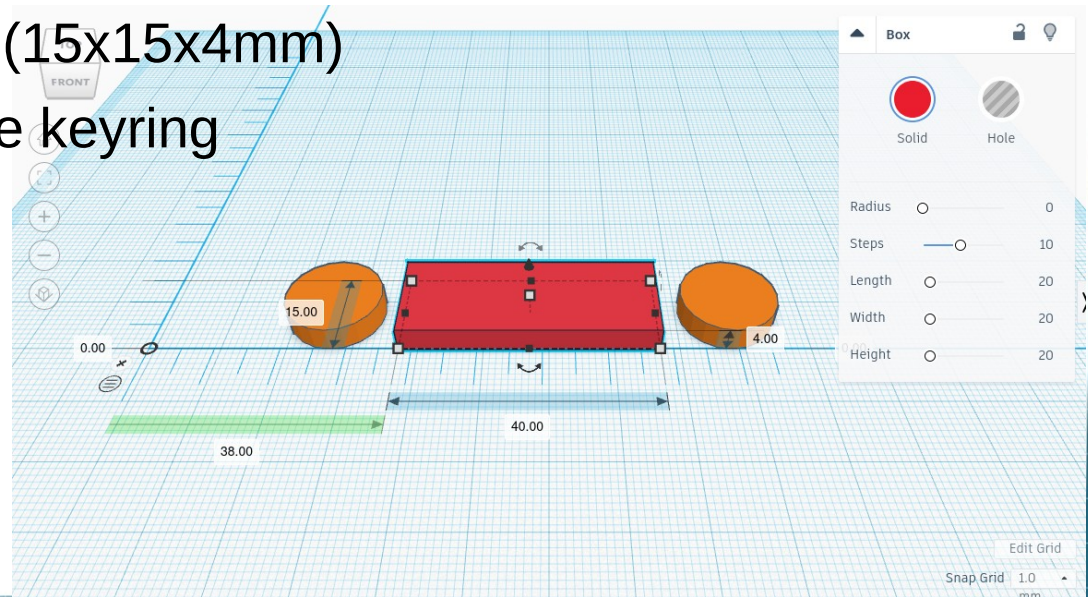
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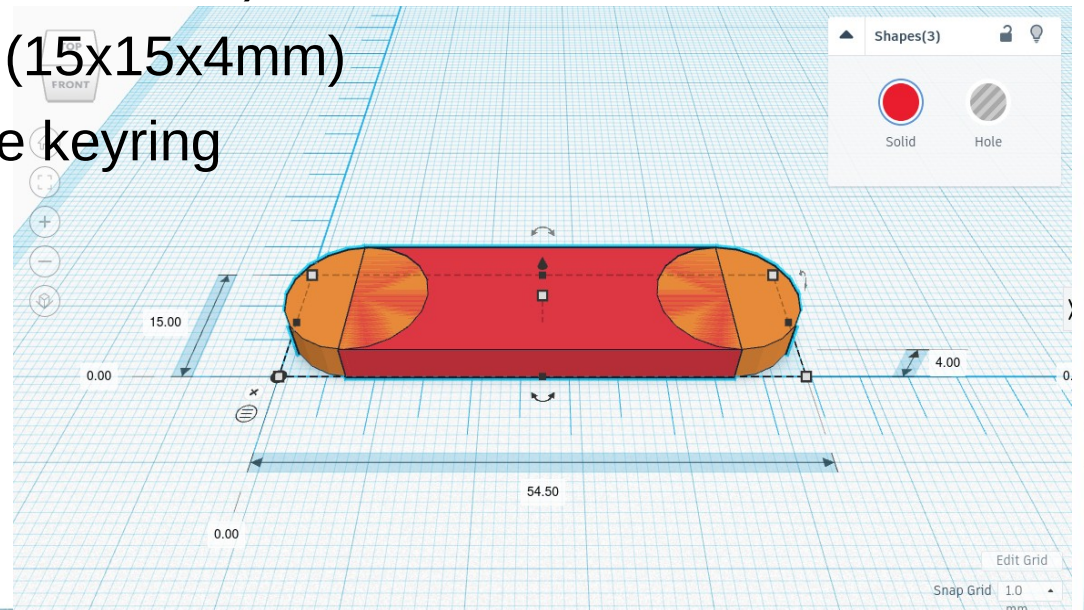
Tinkercad 3D – Create your first object

- Let's create our first object. A keyring.
- You have to modify and move the objects to form a keyring
 - Set the size of the cube (15x40x4mm)
 - Set the size of the cylinders (15x15x4mm)
 - Move the objects to form the keyring



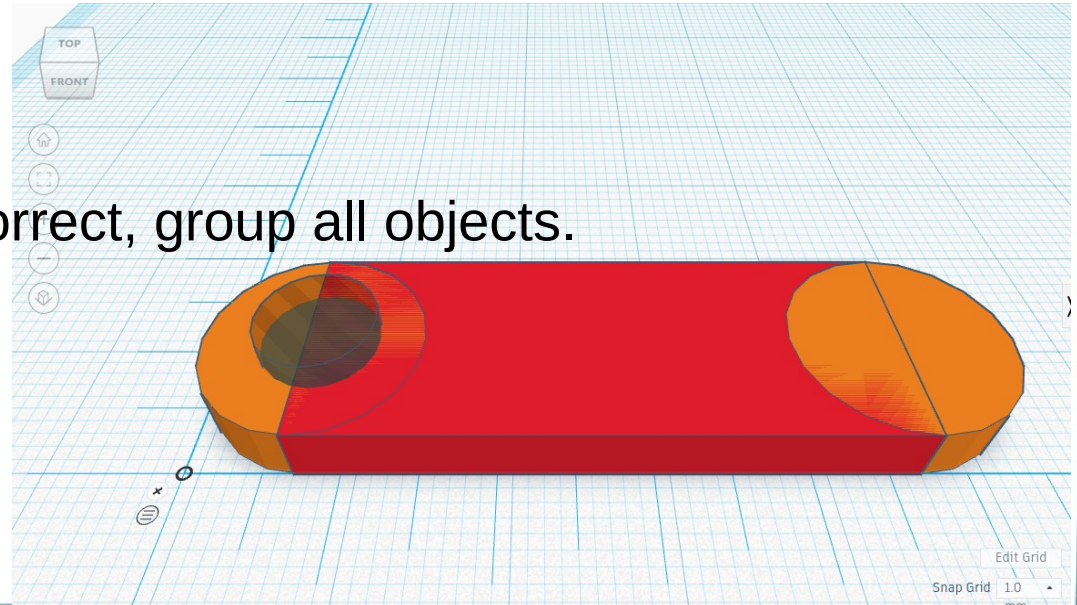
Tinkercad 3D – Create your first object

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 - Move the objects to form the keyring



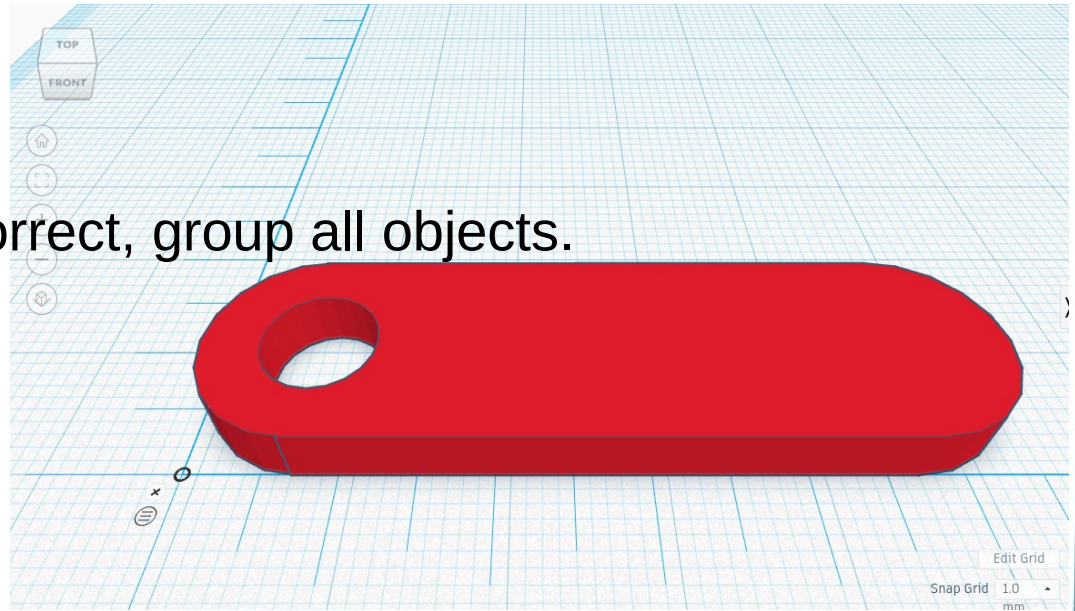
Tinkercad 3D – Create your first object

- Let's create our first object. A keyring.
- Now, we need a hole for the chain:
 - Create a new cylinder
 - Set hole instead of colour
 - Align it to the main cylinder
 - If everything seems to be correct, group all objects.



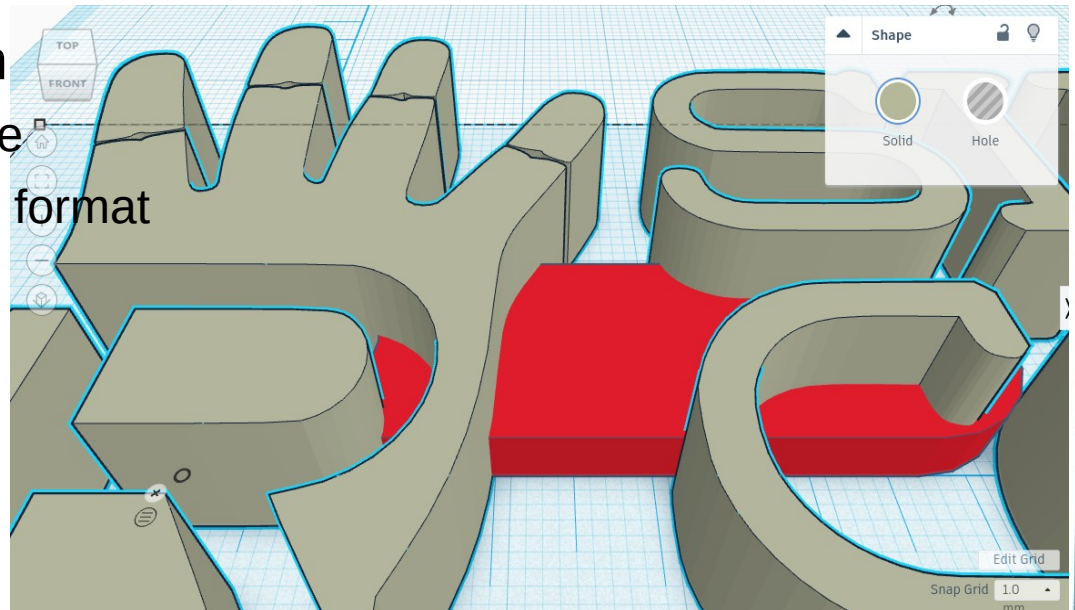
Tinkercad 3D – Create your first object

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- Now, we need a hole for the chain:
 - Create a new cylinder
 - Set hole instead of colour
 - Align it to the main cylinder
 - If everything seems to be correct, group all objects.



Tinkercad 3D – Create your first object

- Let's create our first object. A keyring.
- Choose the design. You can:
 - Use text
 - Use an image for the design
 - You need to import the image
 - The image have to be in svg format
 - Let's use the project logo:
 - www.shorturl.at/nBLV5



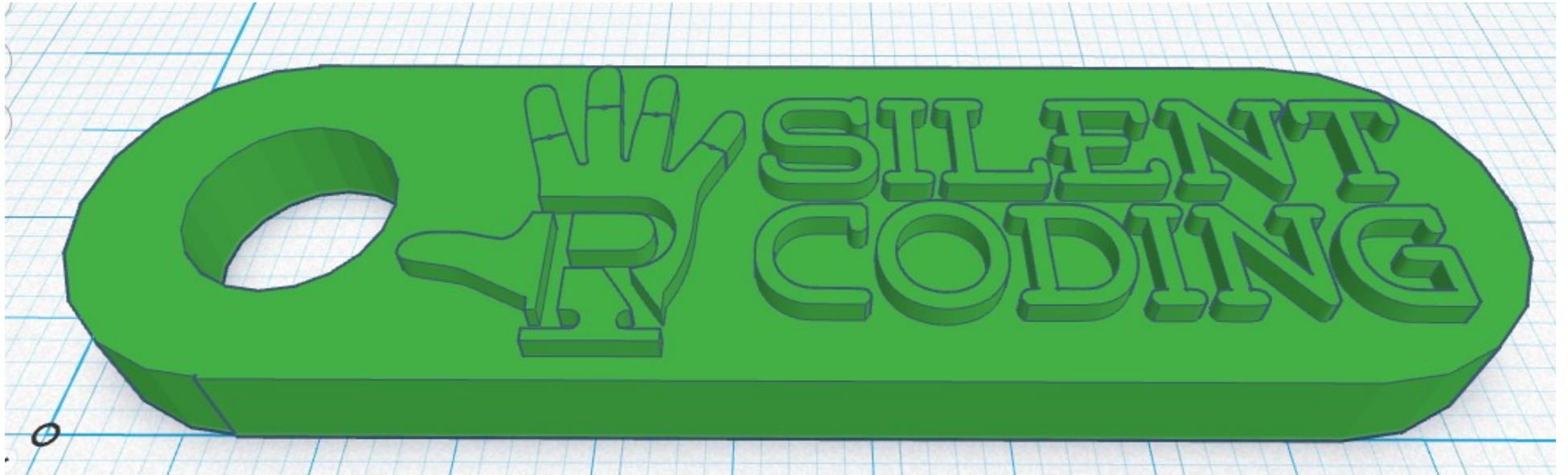
Tinkercad 3D – Create your first object

- Let's create our first object. A keyring.
- Choose the design. You can:
 - Use text
 - Use an image for the design
 - You need to import the image
 - The image have to be in svg format
 - Let's use the project logo:
 - www.shorturl.at/nBLV5



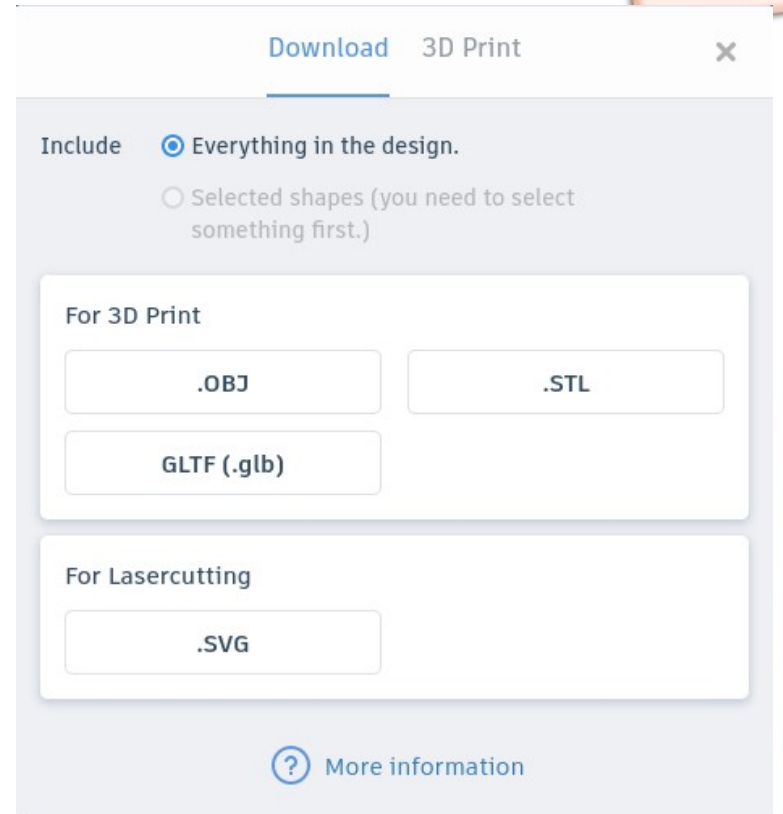
Tinkercad 3D – Create your first object

- Let's create our first object. A keyring.
- Finally, group everything. It's necessary before exporting.



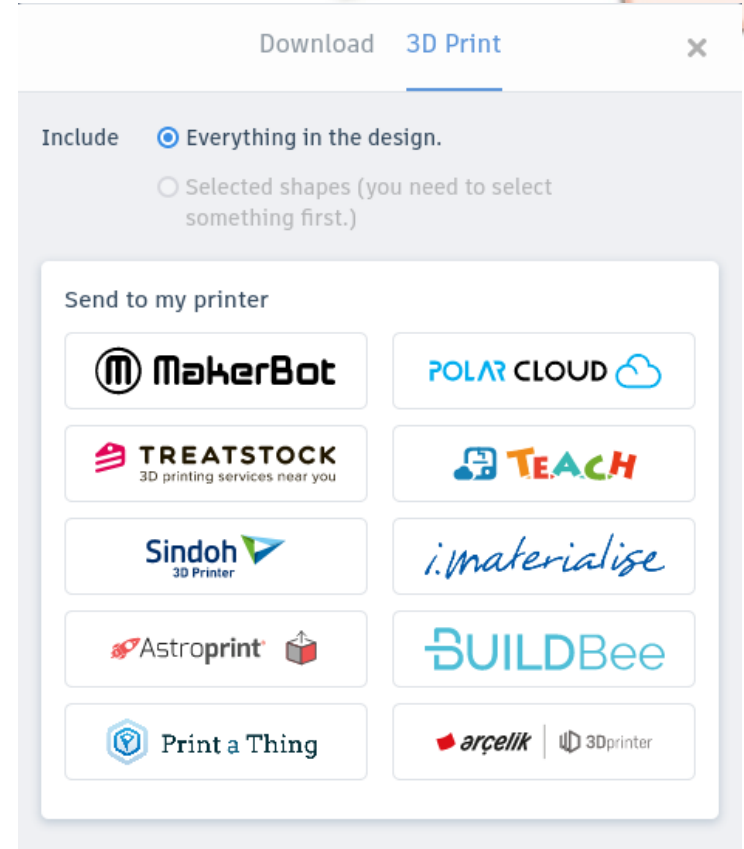
Tinkercad 3D – Export your work

- Click on export and select the format you need.
- More typical format is stl.
- Most of 3d printers need to convert stl or obj format to its own format (g-code, pwno, etc) using a slicer program or 3d slicer (we will explain it later).



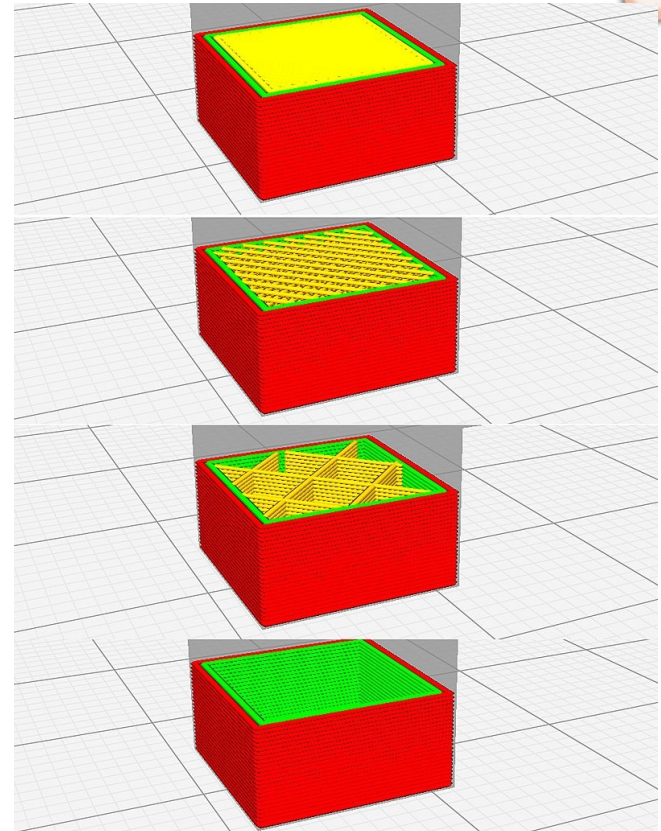
Tinkercad 3D – Export your work

- You can also send the design to your 3D printer, if you have it:
 - Connected to the PC
 - Configured correctly
- It can export some typical 3D printers or 3D printer services:
 - MakerBot
 - Treatstock
 - Polarcloud
 - ...



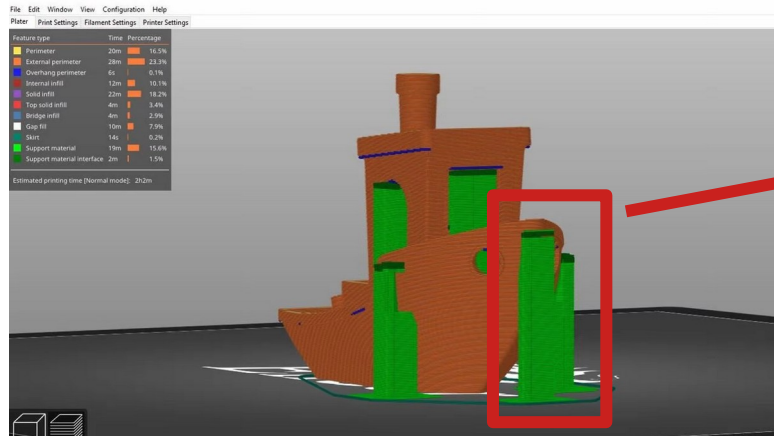
Tinkercad 3D – Export your work

- 3D slicer or slicer program.
- 3D slicer is a program that converts a 3D object model (stl or obj) to specific instructions for the printer (g-code normally).
- A slicer program:
 - Creates supports for model parts
 - Selects object density.
 - More density means a stronger object and more material and time use in the object



Tinkercad 3D – 3D Print your object

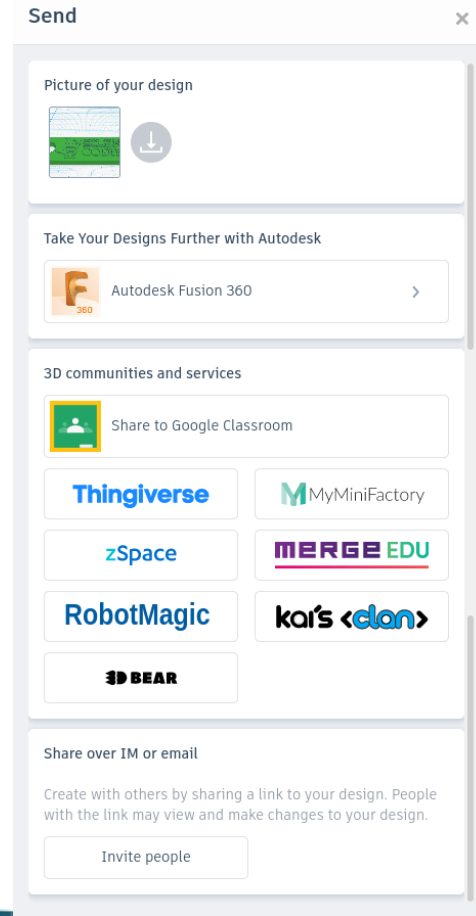
- Each 3D printer has its own slicer.
- Some 3D printer support generic or well known 3d slicers such as cura
 - Free software
 - Multiplatform (Linux, Windows, Mac)



Support for creating the model (green areas)

Tinkercad 3D – Share and export projects

- You can share and export your projects just clicking export:
 - Export a picture
 - Send it to Autodesk (professional program)
 - Send to 3D community or service
 - Send via email
 - Invite someone to modify and collaborate in your project





Thanks for your attention!

THANK YOU

