



XYZmaker User Manual

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Introduction

WELCOME TO THE WORLD OF XYZMAKER!

Close your eyes and try to imagine what it would be like to live in a world without imagination? Where would man be today? Had not someone in the past had a vision of the wheel? Of a house? Of talking with someone over time and space? Of robotics and 3D? Everything we have and know today stems from someone's imagination and this book is one of the products of imagination and is also designed to open up your imagination and create another imagination into a reality. I strongly urge you to browse these pages in the happy knowledge that you will discover something new, something wonderful and that's from the world of XYZmaker.

If you're new to 3D applications, this book is for you. If you are not sure where to start, if you're not familiar with 3D printers and want to know more, this book is also for you. If you've found XYZmaker a little confusing about where to start, you've got the right book. I'm going to show you all you need to know to begin creating some amazing 3D objects.

Using XYZmaker is truly one of the easiest ways to create 3D models. You're about to learn a new skill and I believe that you're going to have lots of fun doing it!

So there it is — or here we go. Make sure you've got a computer, XYZmaker Application, and this book. Your 3D creation journey with XYZmaker is about to begin. Have fun!

Chapter 1

A TRIP AROUND XYZMAKER

The best way to learn about this incredible application is to get hands-on with it. Before you can create your extraordinary models, you've got to realize that there are a lot of basic skills you'll need to master first. The better way to learn XYZmaker is to start slow and first learn how to use its most basic tools and features. So let's get it on!

THE XYZMAKER

XYZmaker is a desktop-based 3D design application which allows you to make a real object from your imagination. You can easily create and customize your own designs. This can be used by both Professionals and Beginners. It can also change the dimension of your thinking. To show you how to make the parts of a simple 3D model, I've picked a fun little mini car for you to build. But first, let's take a closer look around XYZmaker.



The logo of the XYZmaker Application

THE WELCOME SCREEN

When XYZmaker is started, an introductory or welcome screen is presented which welcomes you with TIPS, ABOUT and TUTORIAL of the software. Behind this window is a disabled main window where you can start creating your model.

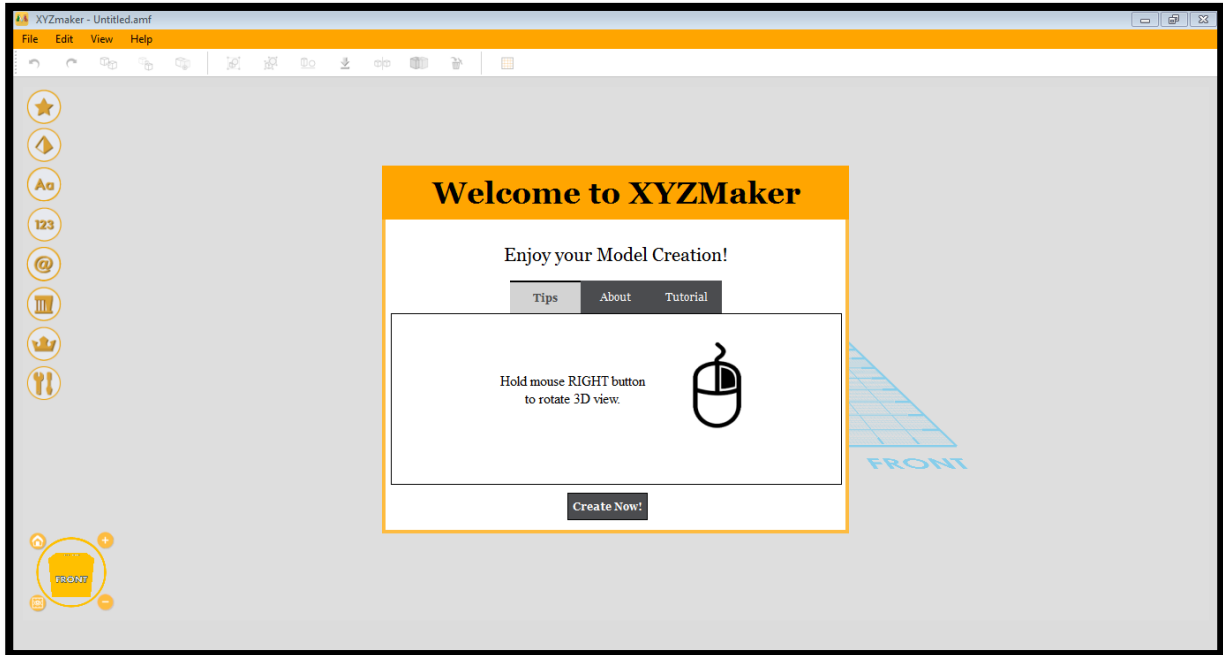
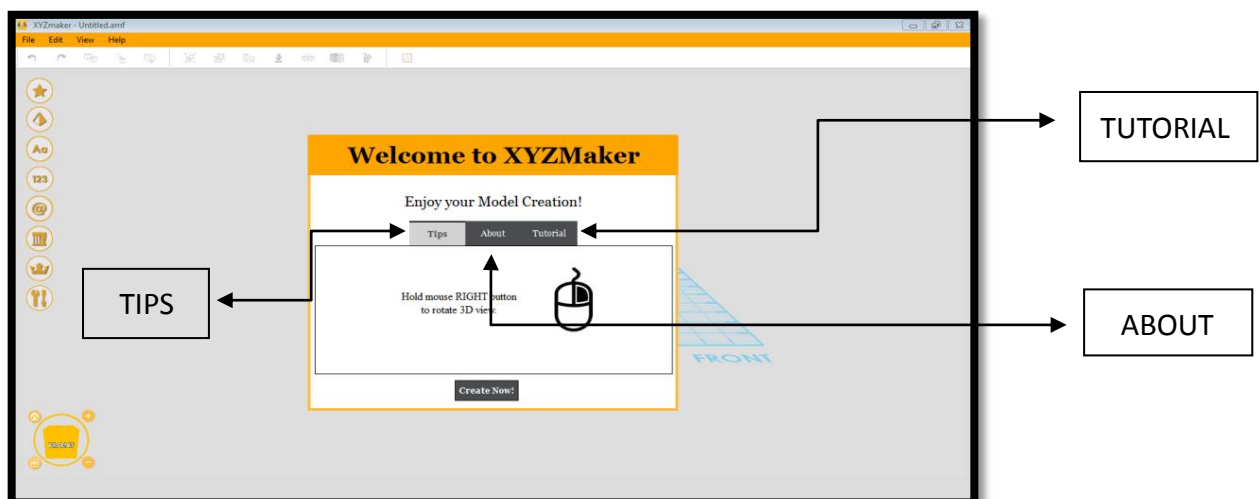


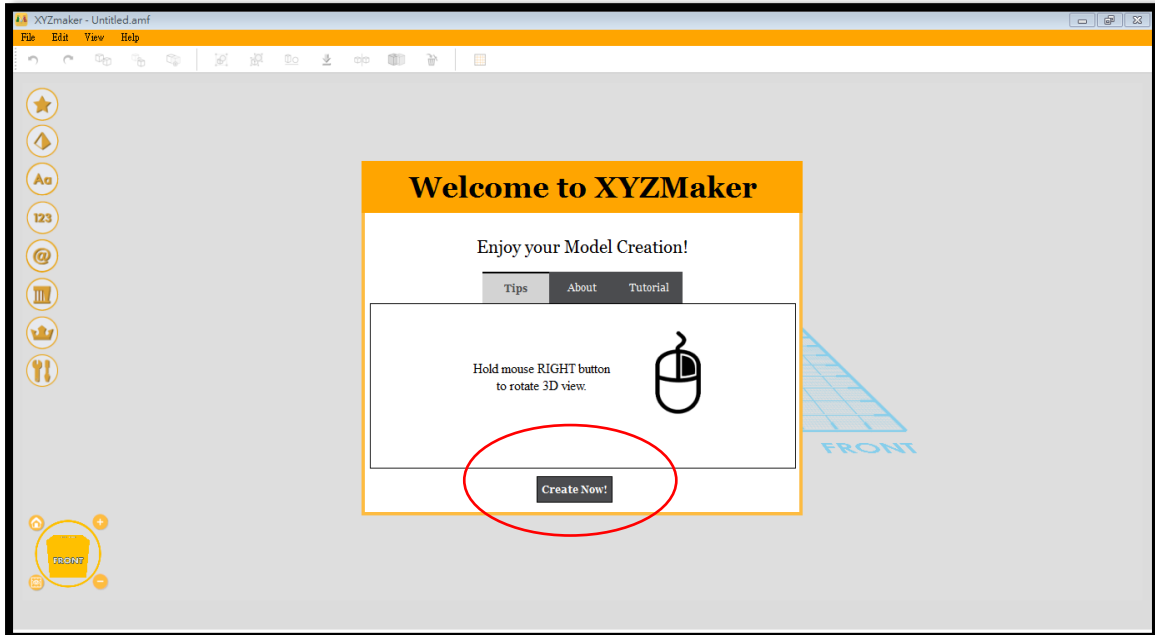
Fig. The Welcome screen

Tips will give you a piece of practical advice on using XYZmaker. Click **About** to learn more about using the software, and to know the basic controls of the program, click on **Tutorial**. A tab will open which shows how to put an object on the plane, resizing, scaling and much more.



In order for us to create a 3D object, we need to get around and familiarize ourselves with this amazing application!

Click Create Now and We're ON!



THE MAIN WINDOW

This is where you can create your own 3D object! You will see an empty work plane, a large blue grid of 150mm x 150mm default size. At the top part of the screen, you will see the **Menu bar and Tool Bar**. The four options within Menu bar include 1) File, 2) Edit, 3) View, or 4) Help. Each of these four steps can be expanded by clicking the Menus of each option. For example, clicking on File expands this menu to include 6 sub options: a) New File, b) Open, c) Open Recent, d) Save, e) Save as, f) Exit. **The Model Bar** is at the left corner of the window with **View Tool** below

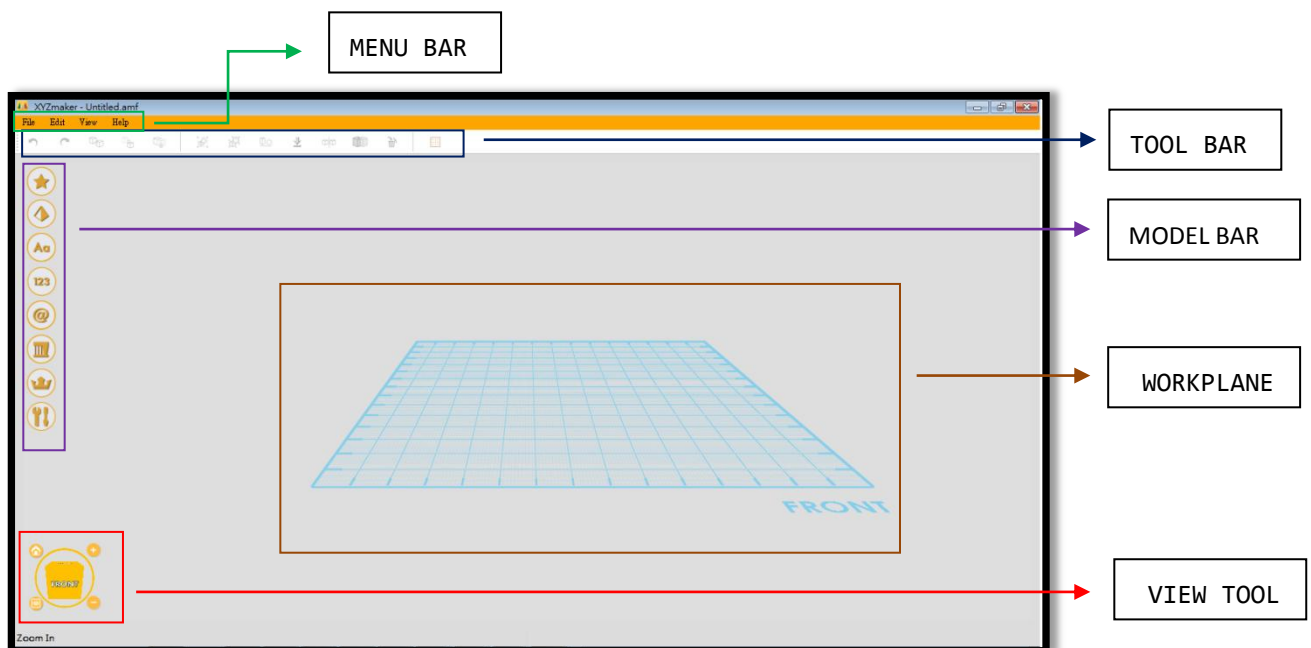
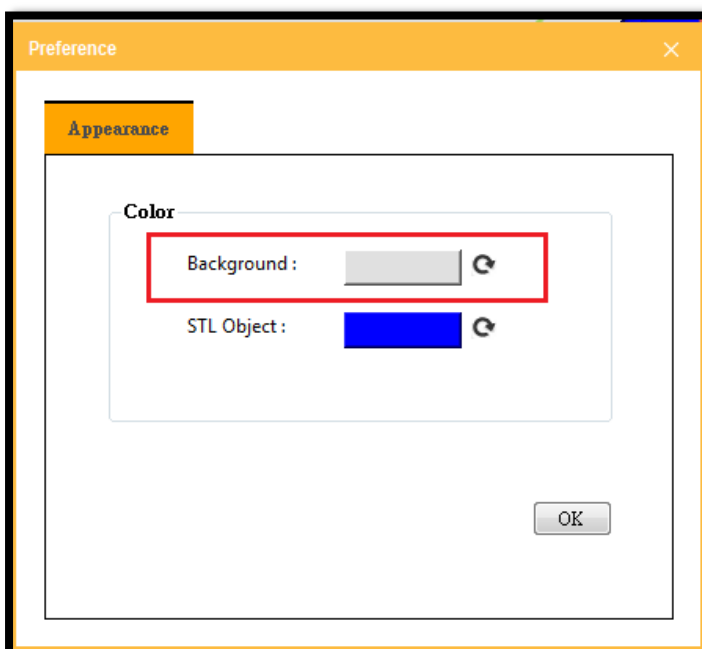
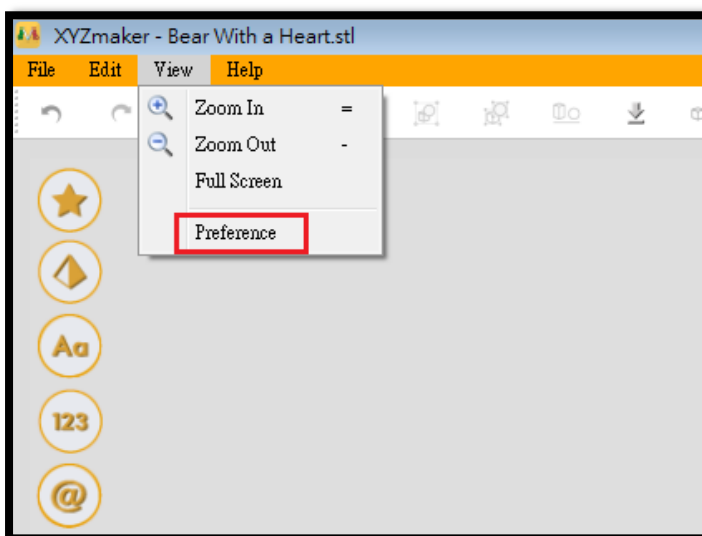


Fig. The Main Window

CHANGING THE BACKGROUND COLOR OF THE MAIN WINDOW

One of the good things about XYZmaker that cannot be found in any other 3D application is that we can change the background of its main window with our preferred colors, that it's also very easy to do.

Once you clicked the Create Now in the Welcome Screen, you will be led to the main window as we discussed in the previous pages and the main window that you are looking has its custom color, and if you find it boring, you can change it just by clicking View in the Menu Bar, click Preference



By clicking Preference, you will prompt another window.

Click Background and Color Property Window will appear. Select what color you want. Click Ok then you will see your new main window. If you want to reset the custom color, just click the arrow and it will automatically reset the background color.

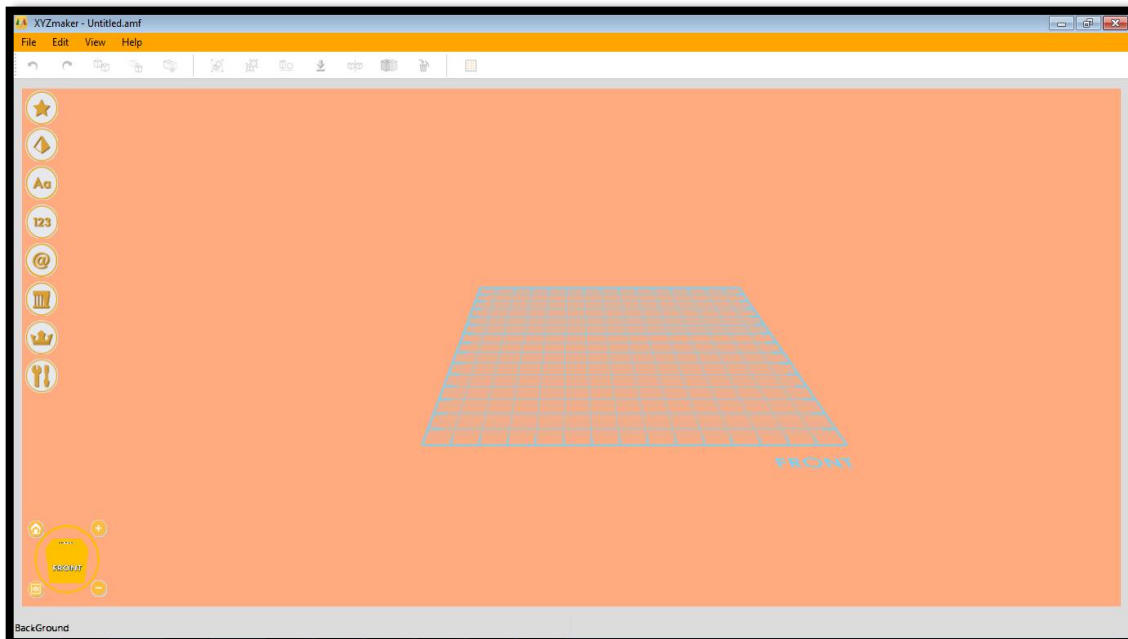
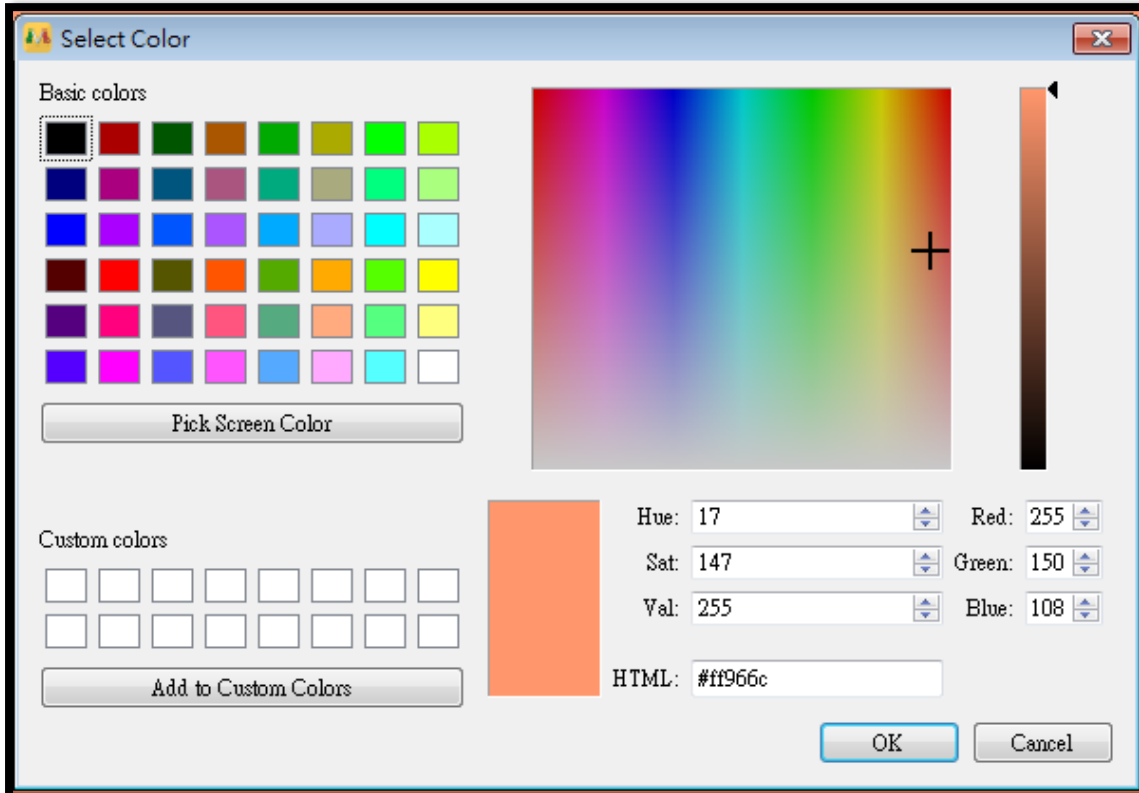
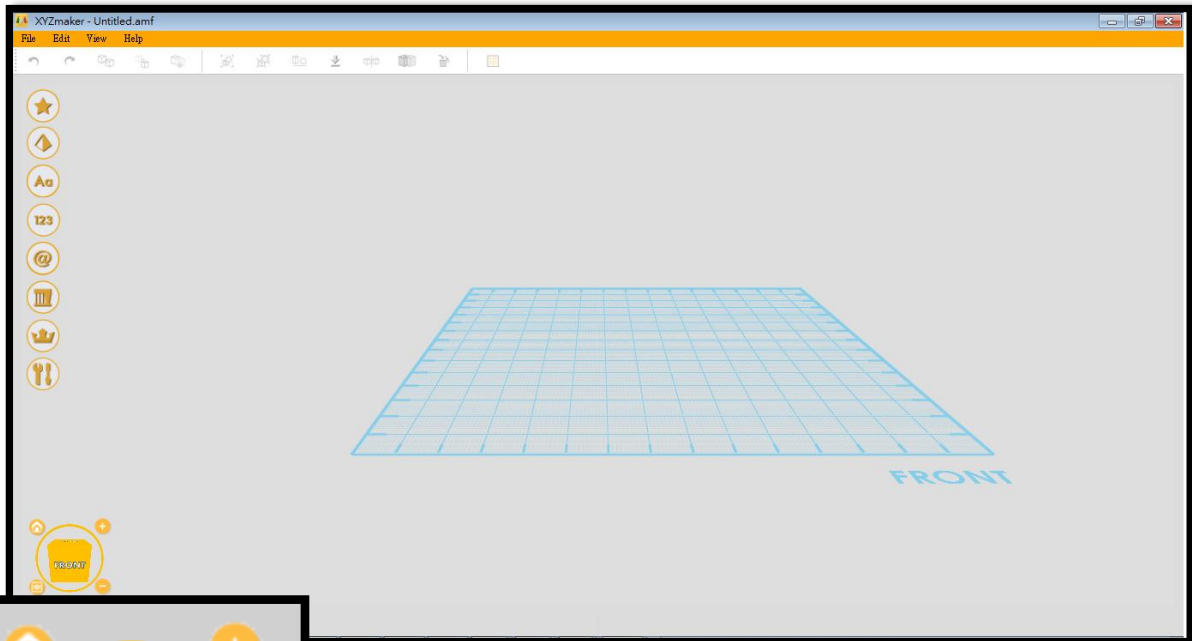


Fig. The Main Window after Changing Background Color

THE WORK PLANE

Since you will be creating figures out of shapes, numbers and letters, the main thing to learn is how to work inside the work plane and how to scale objects in the work plane to save more time.

Let's try to get around the work plane.



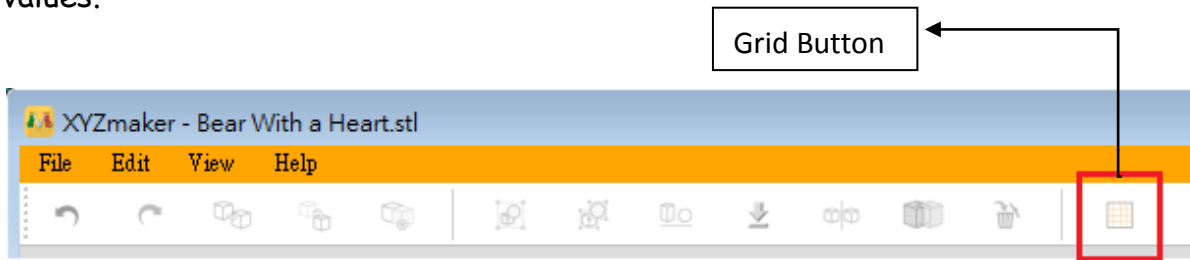
The view tool in the bottom left corner are used to change your viewing angle: use the four circles around the yellow box icon to spin the model left or right, or to tilt the model up or down. You can also use the plus and minus icons to zoom in and out.

If you have a scroll wheel mouse, you can rely on your mouse buttons, which is even more convenient. Press and hold the right mouse button and drag the mouse around - this is for spinning and tilting the model. Scrolling the mouse wheel up and down lets you zoom. Try out these moves with your mouse -once you get used to using these buttons, you'll never need to click those navigation buttons again!

You can also change the visibility status of the grid by turning On/Off Grid. Just click the square under the Home Icon and the work plane will be disabled, clicking it once again and the work plane will be visible again.

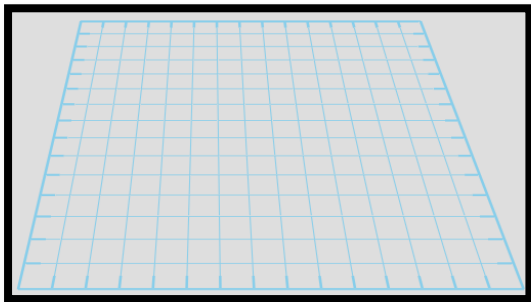
TYPES OF WORK PLANE:

There are three types of work plane that you can use. It may vary on the scaling that you will need on the figure. If you try to look inside the Tool Bar you can see the Grid Button. By clicking the Grid Button, your work plane will change its appearance into work plane having grids in centimeter, inch or millimeter values.



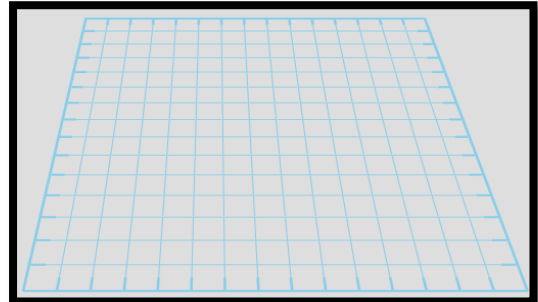
WORK PLANE WITH

INCH GRID



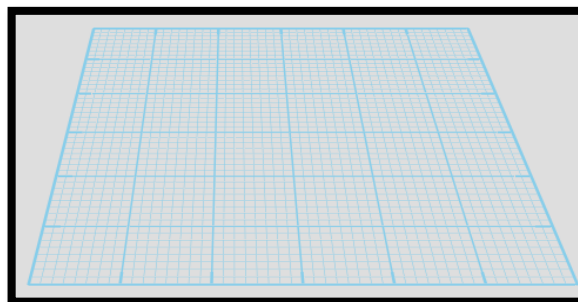
WORK PLANE WITH

CENTIMETER GRID



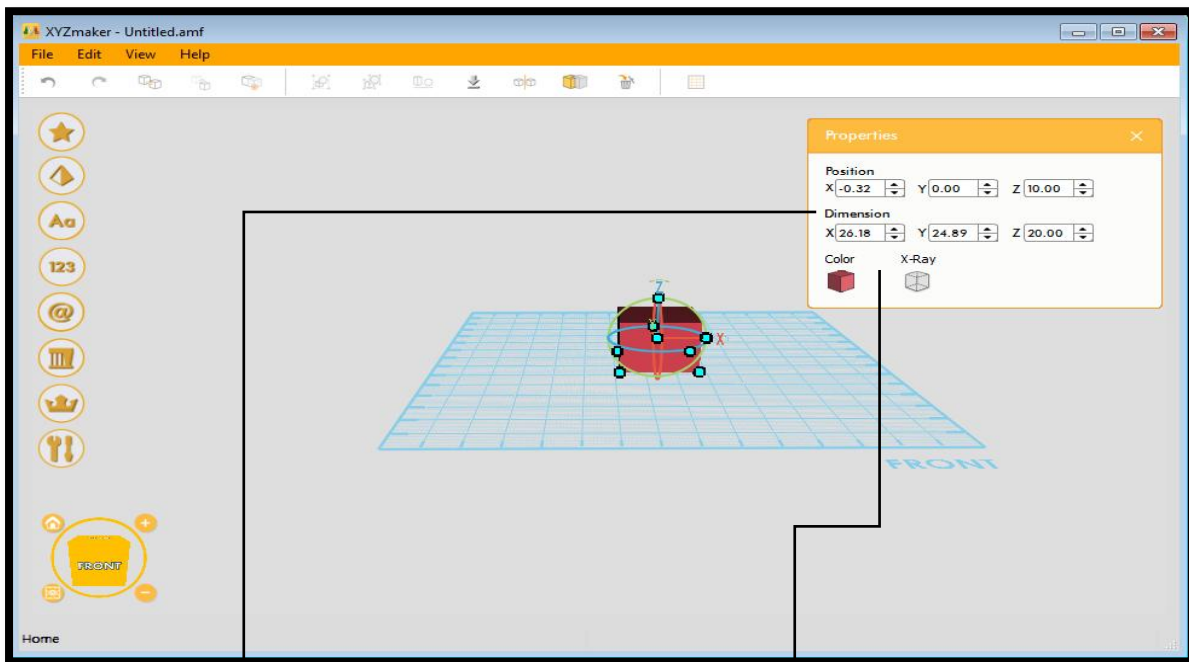
WORK PLANE WITH

MILLIMETER GRID



UNDERSTANDING MEASUREMENTS IN A FIGURE

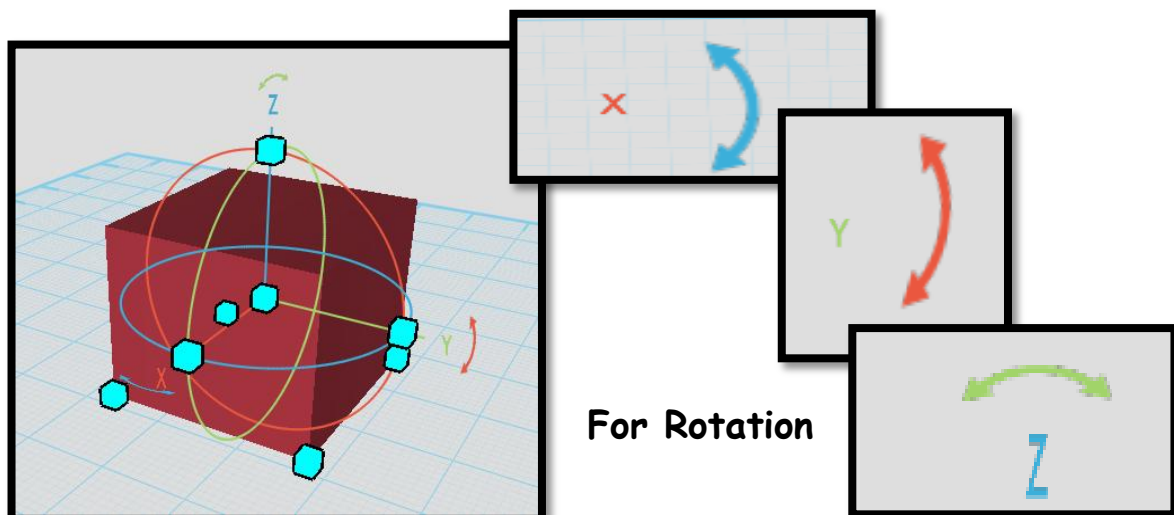
When you select a figure, you can rescale it and change its dimensions. You can always change its height, length and width and even rotate it in different angles either through the Properties Window, or in the small blue circles that



surround the figure.

For the Position:
 X is for horizontal movement
 Y is for vertical movement
 Z is for Up and Down movement

For the Dimension
 X is for length of the figure
 Y is for width of the figure
 Z is for height of the figure



For Rotation

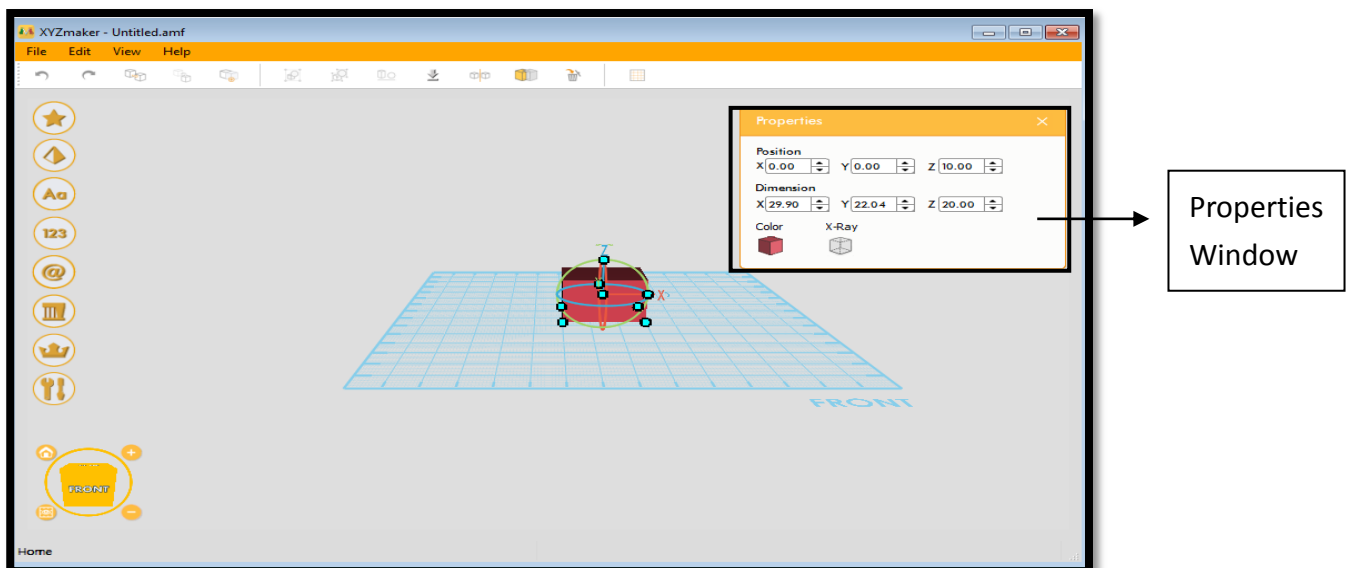
THE MODEL BAR

The **Model Bar** located at the left corner will surely help you how to start creating a project by putting an object on the grid as it is. You can choose in the model bar which object will be needed in your project, it maybe a Geometric Figure, a Letter, a Number etc.



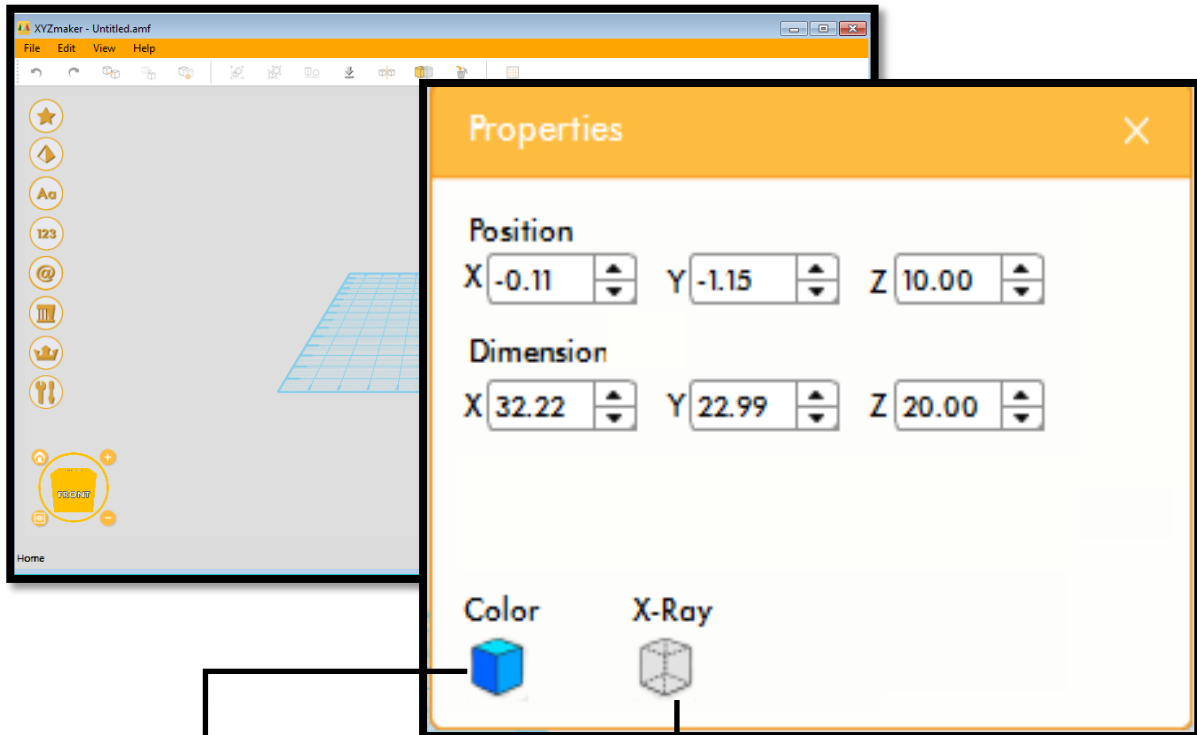
Fig.The Model Bar

To use the Model Bar, just double-click the button that you need on your project and it will automatically fall in the center of the Work plane. You can change the color and measurements of the figure that you chose just by changing it in the Properties Window on the right side that automatically appears as you click the figure.



THE PROPERTIES WINDOW

Let's roam around the Properties Window that will automatically pop up once you click an object in the work plane.



Color Box is located here wherein you can change the color of your object

X-ray Function is also available here to have a better glance on your object inside. Once you click this X-Ray Box, the object will automatically be a little transparent to make inserting other figures easier.

THE FUNCTIONS OF COMMANDS IN TOOL BAR



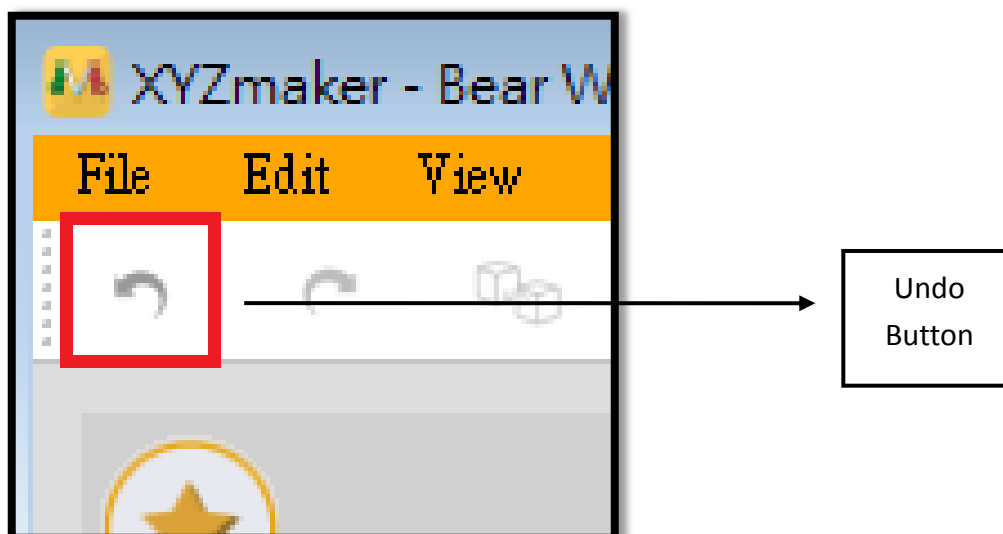
Fig. The Tool Bar

The Tool Bar is located below the Menu Bar and has different commands to help you with your project. These are the buttons that will serve as your shortcuts to much easier functions that you will need. This includes (from left to right): the Undo Button, Redo Button, Copy, Paste and Clone Button, Group and Ungroup Button, Align, Land, Mirror, Hole and Delete Button lastly with the Grid Button.

Let's figure out their every function.

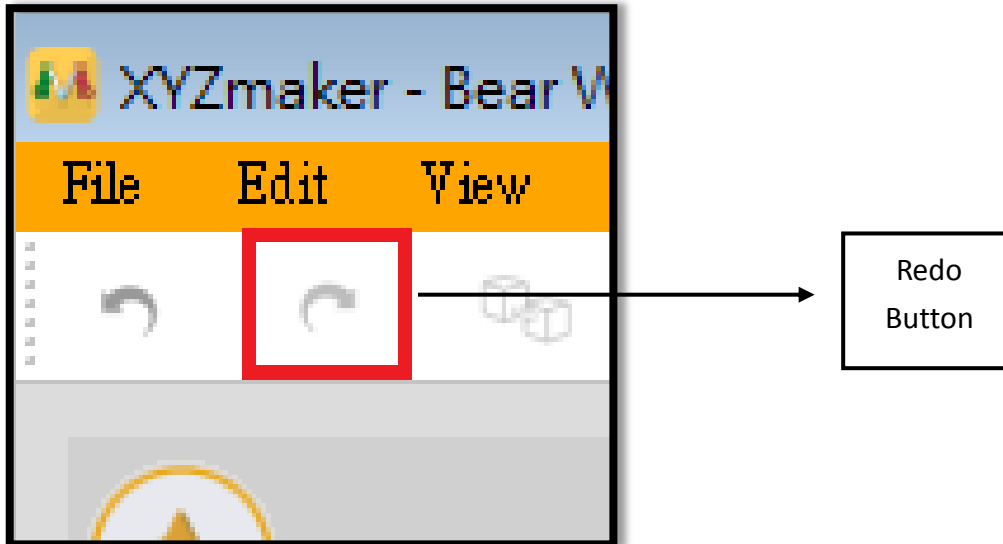
The Undo Button

Whether you feel like you want to change something in your draft, you can go back and Undo your last action. To reverse your last action, just click the Undo button or press CTRL+Z. You can reverse more than one action.



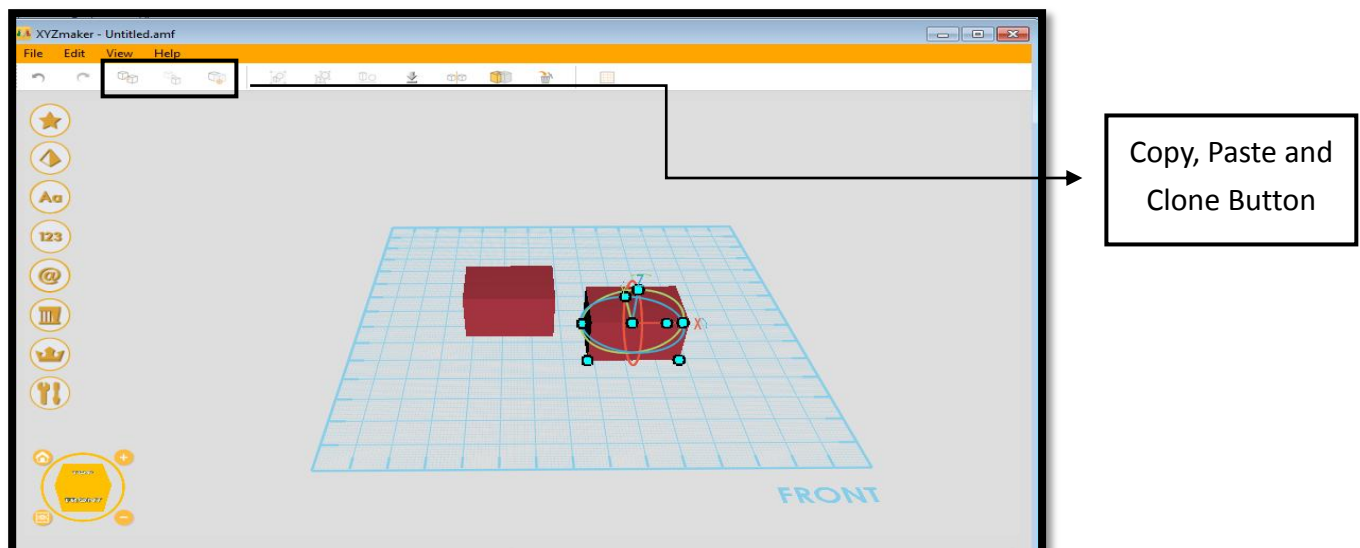
The Redo Button

To reverse your last Undo, press **CTRL+Y**. or click the Redo button. You can reverse more than one action that has been undone. You can use the Redo command only after an Undo command.



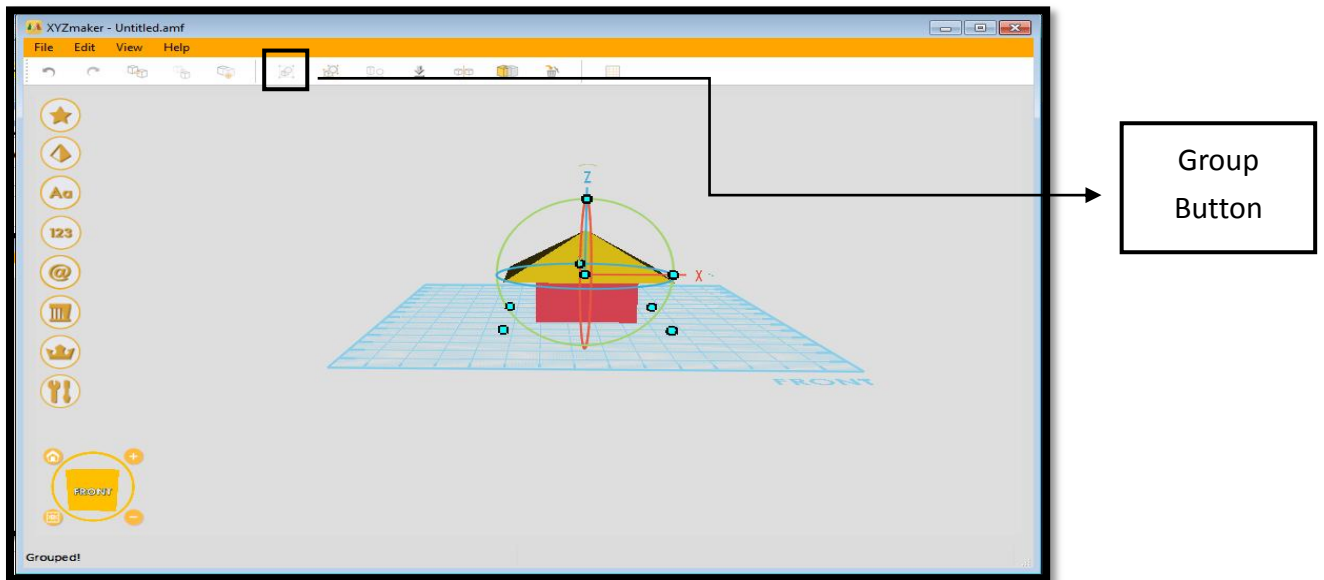
The Copy, Paste and Clone Button

If you want to copy a certain object in your draft, just select the object that you want to copy and click the Copy button on the tool bar. It will allow you to copy one or more object to an alternate location. Paste it in your desired location. Clone command on the other hand, has the same function as the Copy Command. You can also try to click the object and click **Shift+Ctrl+C** then the object will be cloned and copied just the way you need it.

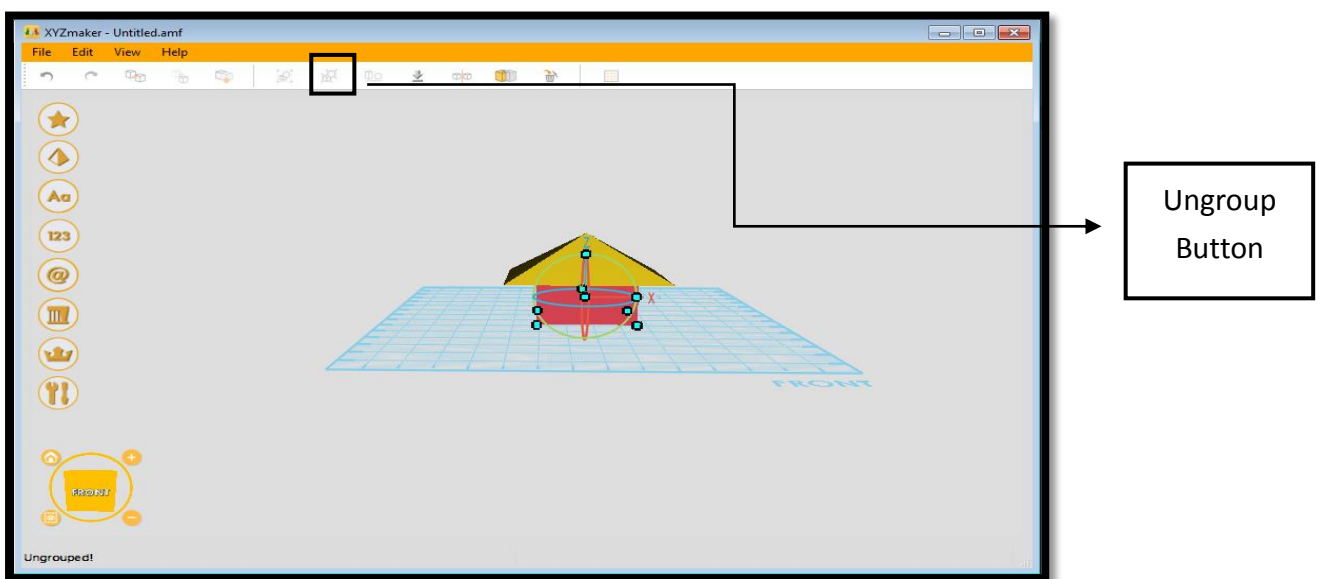


The Group and Ungroup Button

The Group Function instructs XYZmaker to combine two or more objects into a single object that can move as a single object. To group the objects, you must select two (2) or more objects using the Ctrl key then click the Group button or Ctrl + g.

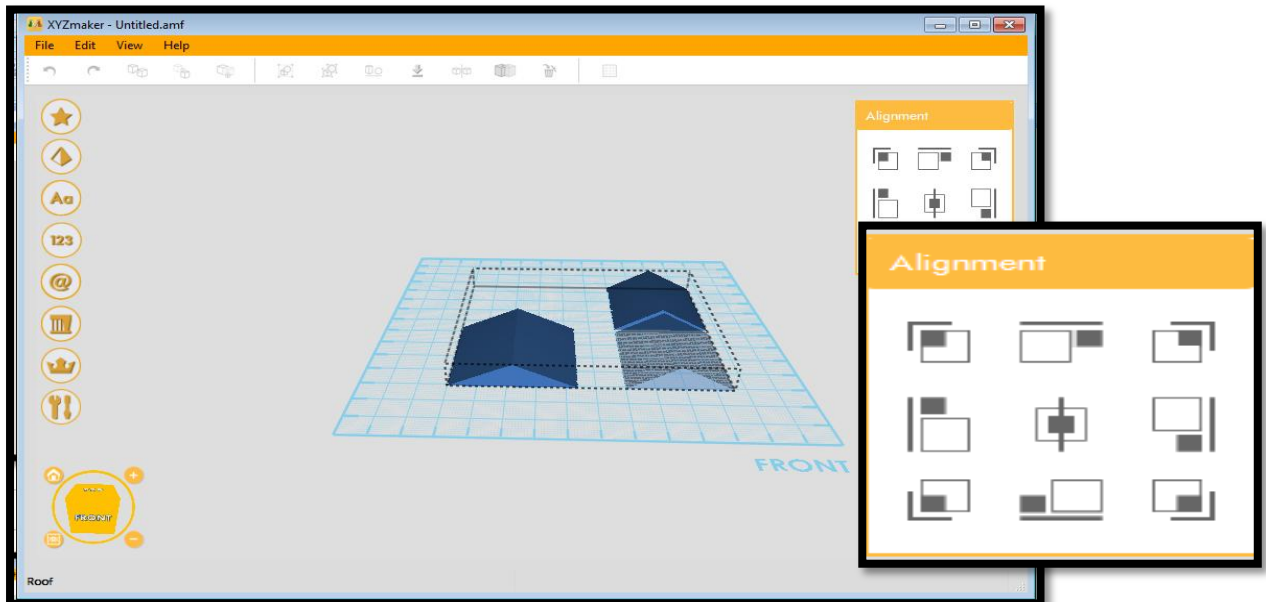
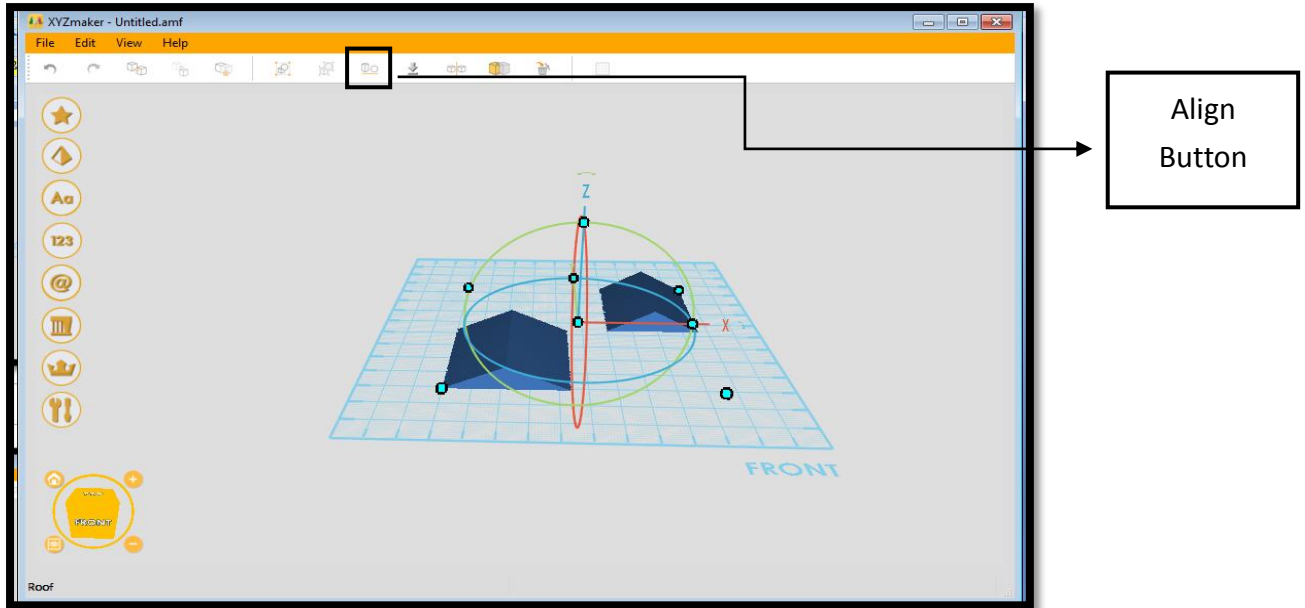


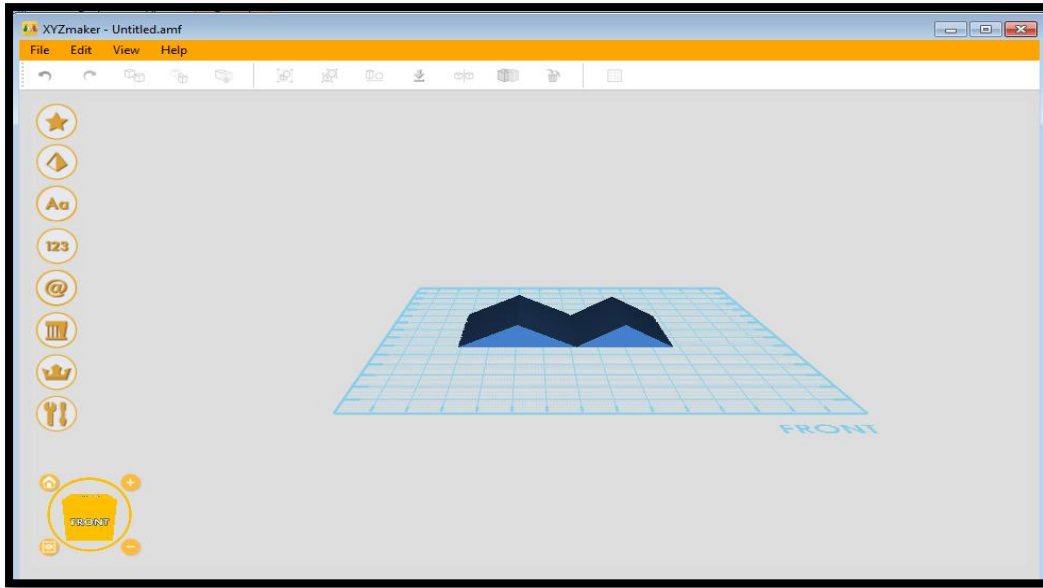
If you want to ungroup objects, you can click the Ungroup Button or try to click Ctrl+U.



The Align Button

If you ever want to move and align objects in one command that is exactly what the align command does, and it can optionally scale the objects too with the use of a bounding box that will appear. Select the objects that you want to align and click the Align button on the Toolbar.

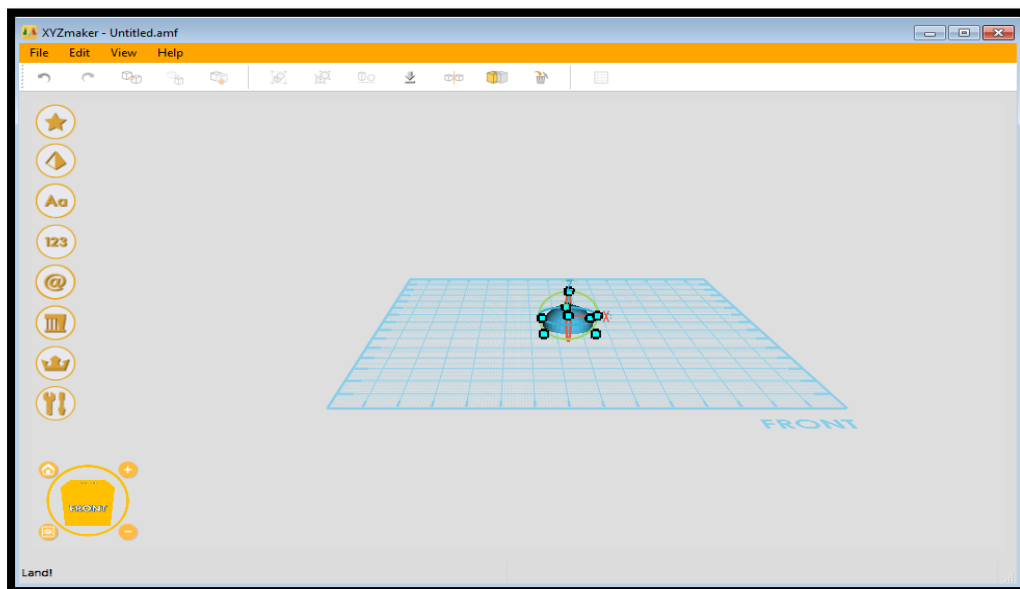
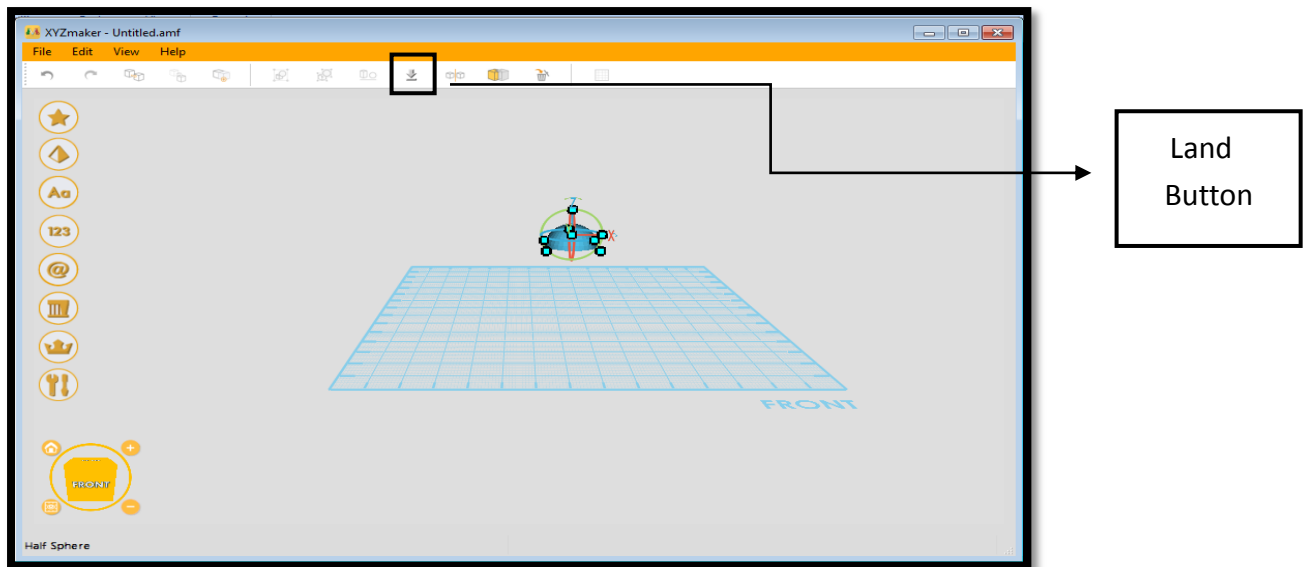




The result of Aligning Objects

The Land Button

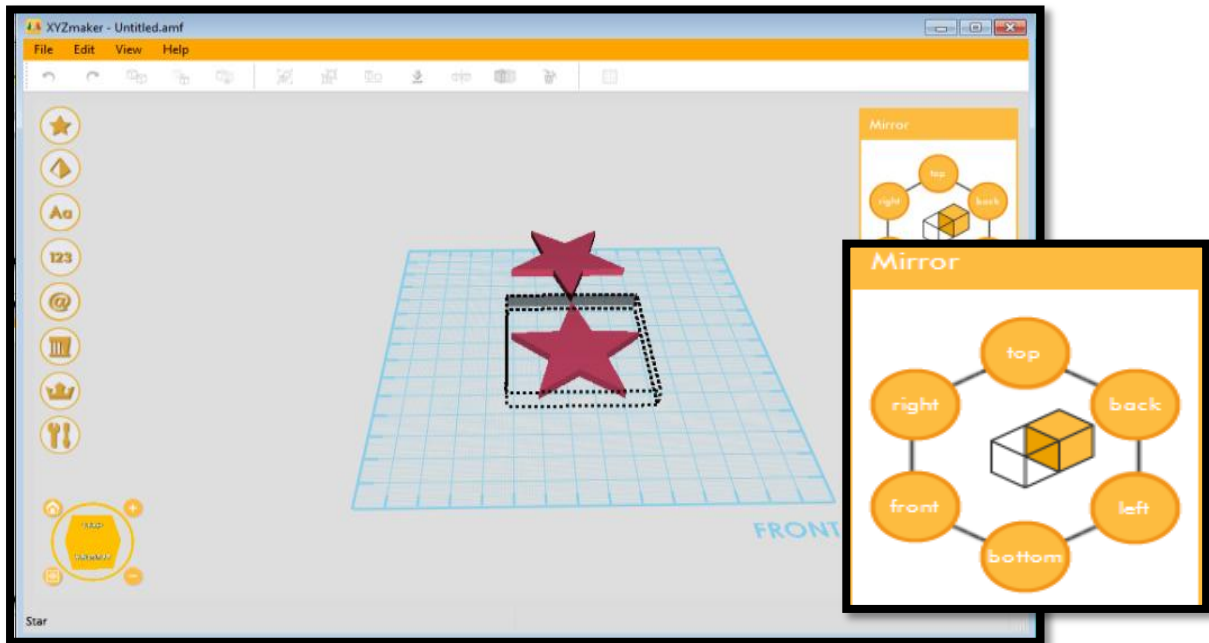
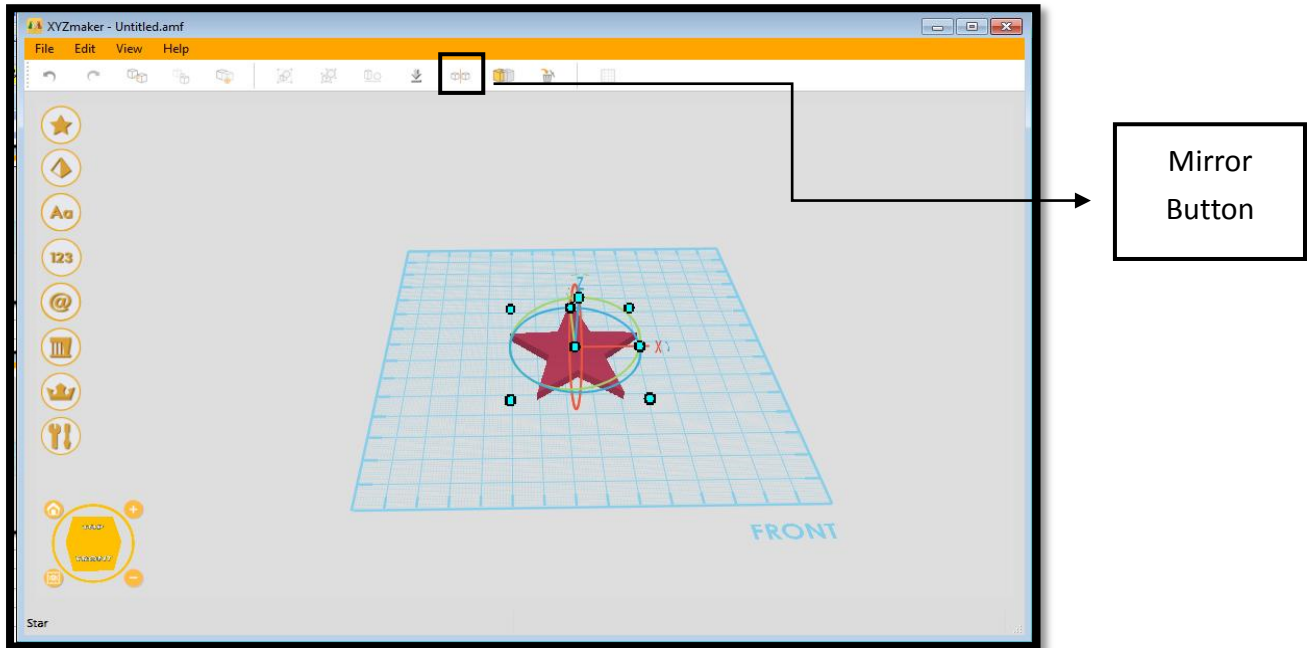
This function is used if your selected object (z axis) is not aligned with the grid. The z axis of the object will revert to 0. Select the object and click the Land button on the tool bar and it will be aligned to the grid.

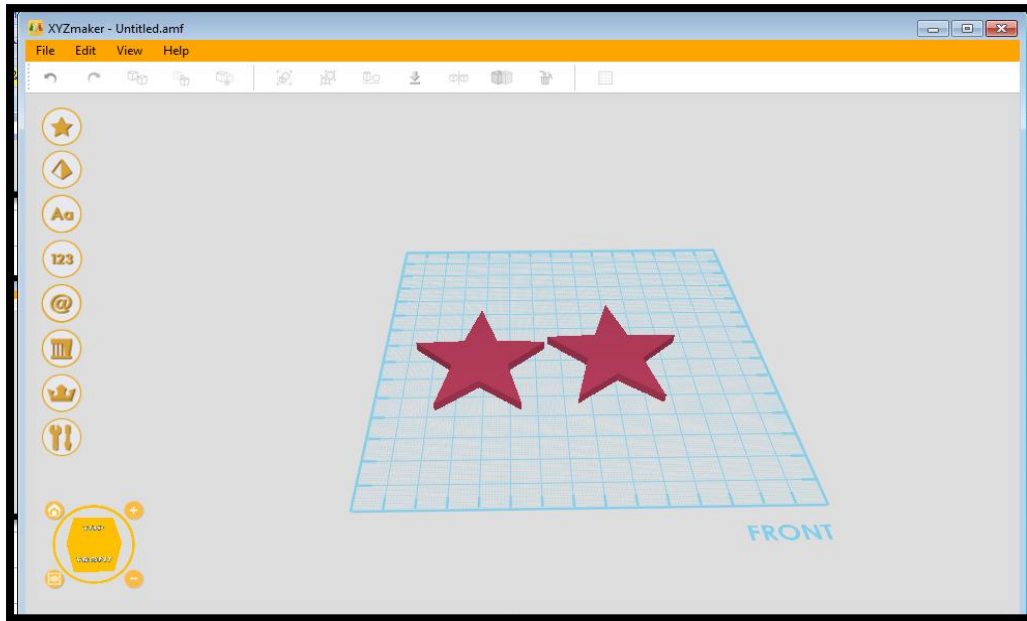


The result of Landing Object

The Mirror Button

This function creates a duplicate of your desired object, a reflection of your object in a reversed position. Select the object that you want to duplicate and click the Mirror button in the tool bar. A bounding box will appear for the options of the mirror.

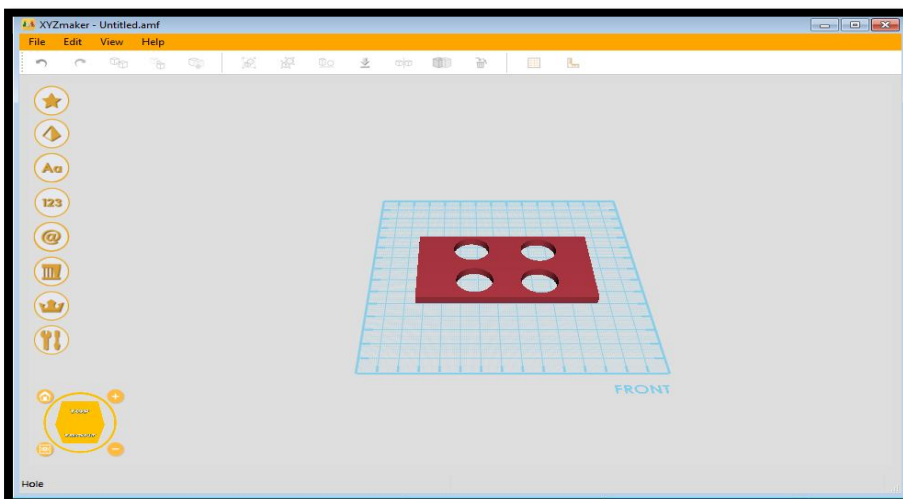
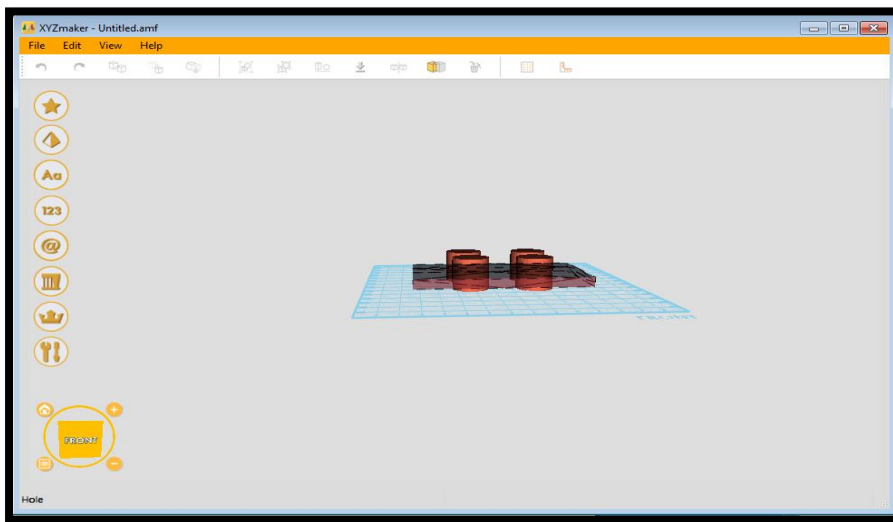
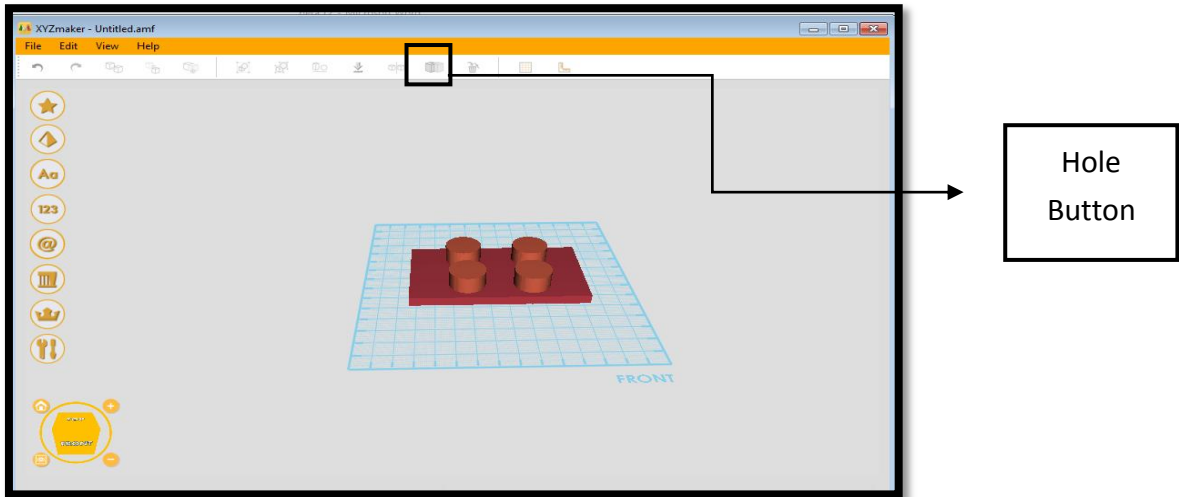




The result of using the Mirror Button

The Hole Button

The Hole Function instructs you to remove/subtract parts in your object and make a hole out of it. You can do it in single and Grouped objects. Select the base that you wanted to holed, click H and its properties in the X-ray form will appear, and then click the object that you want to remove in the base and click H also. Or you can click the Hole button in the Tool Bar.

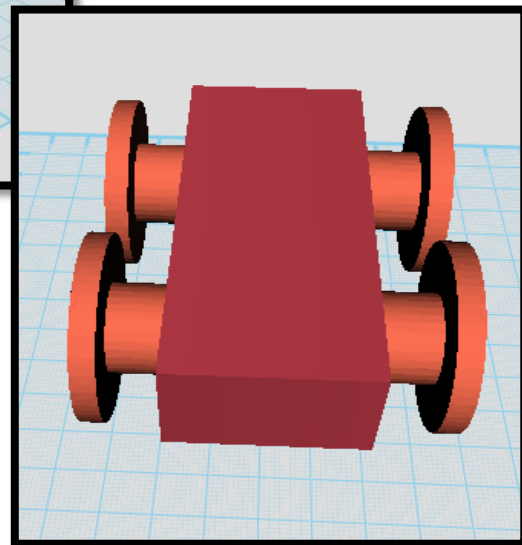
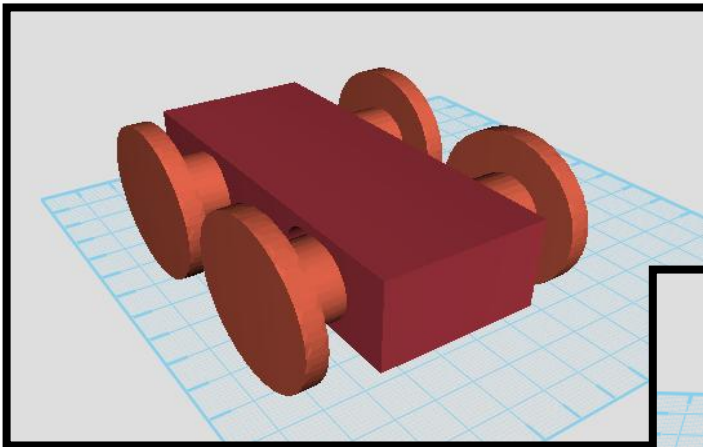


TAKING LITTLE STEPS TO BASIC 3D MODELLING

I didn't want to keep you waiting for too long, so in this chapter you'll print your first 3D model using XYZmaker. Since you were able to understand all the basic functions of XYZmaker, we will be trying to make a simple and basic 3D model out of shapes in the Model Bar. What I prepared here is a 3D mini car. The first thing you will do is to just sit back and follow the steps I prepared for you! Second is to have fun!

NOTE:

This 3D mini car can be printed not only in a boring 2D sheet of paper but it can be printed as an actual object that you can hold with your hand and play with!

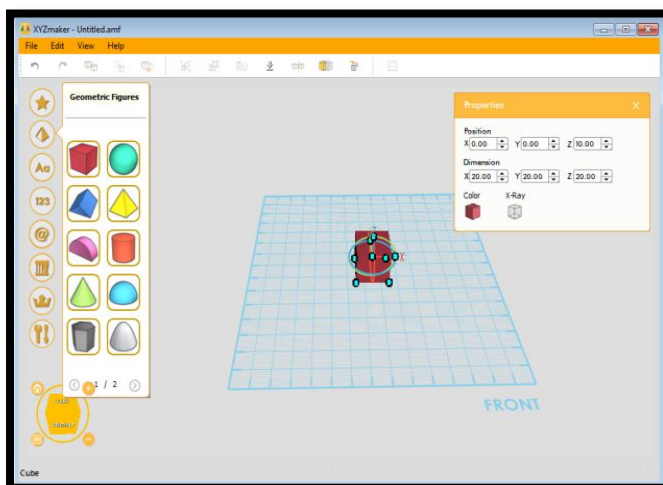
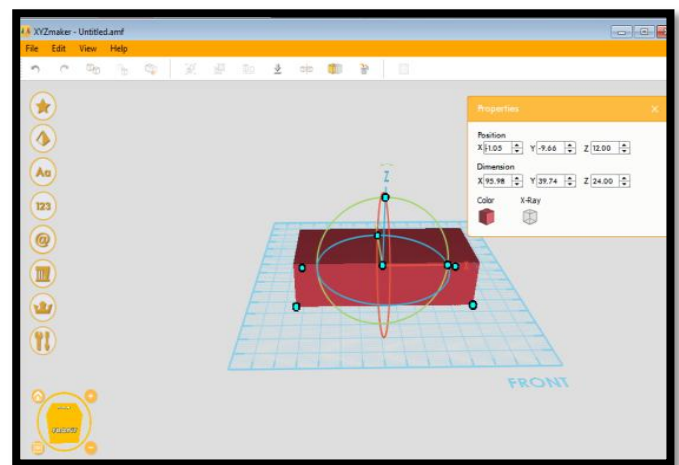


THE BODY OF THE CAR

What we're going to do first is the base that will serve as the body of the car.

1. Select a cube inside the model bar. You know what? You can choose any shapes or letters or numbers you like inside this model bar! Double click the cube and it will fall in the center of the work plane!

2. Resize this cube into:
(X)=95.98mm
(Y)=39.74mm
(Z)=24mm



NOTE:

(To rotate, resize or move an object, just select the object and the Properties Window will display and you can modify your project. By changing the colors, smaller parts can be more easily distinguished.

THE WHEELS OF THE CAR

We're done now with the body of the car. Let's move on with the making of the wheels. This will be a more detailed job, so I'll assist you step by step. Just follow the steps and we'll be get close to the final output.

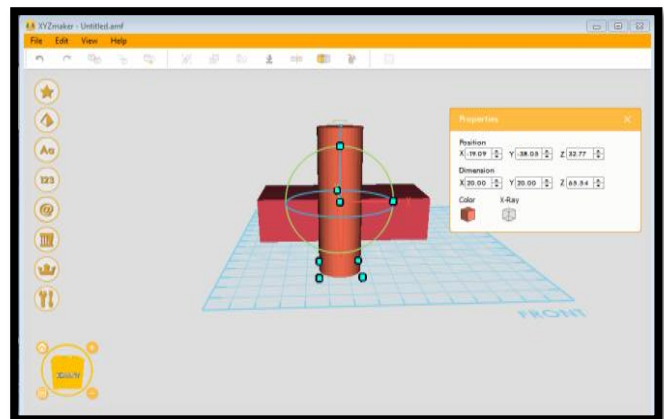
1. Place a cylinder in the work plane.

Resize the cylinder to:

(X)=20mm

(Y)=20mm

(Z)=65.54mm



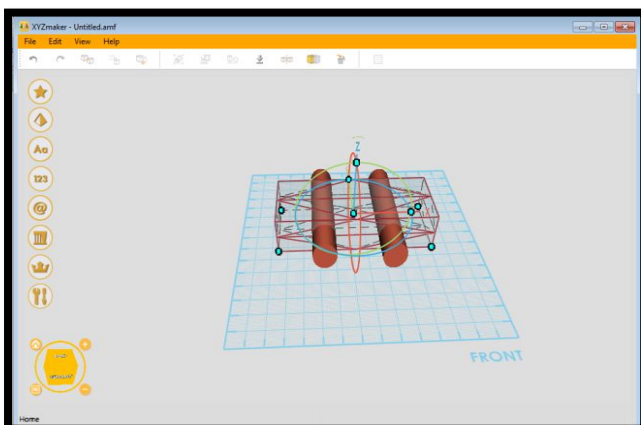
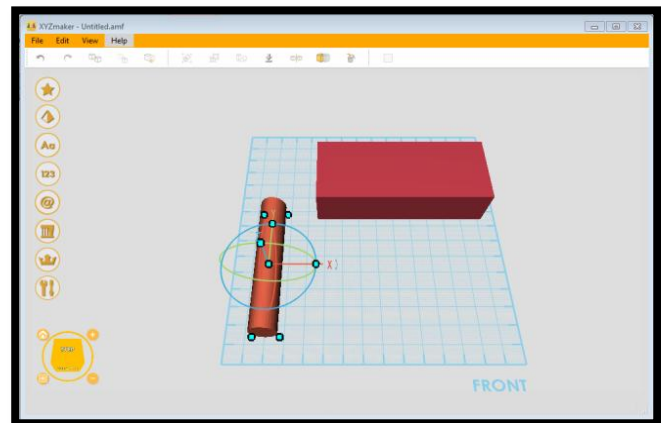
2. Rotate the resized cylinder to (Y) 270 degrees.

Then resize again:

(X)= 14.31mm

(Y)=74.09mm

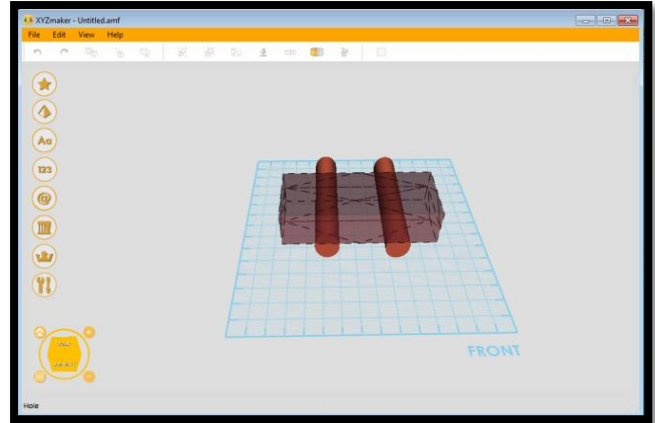
(Z)=19.37mm



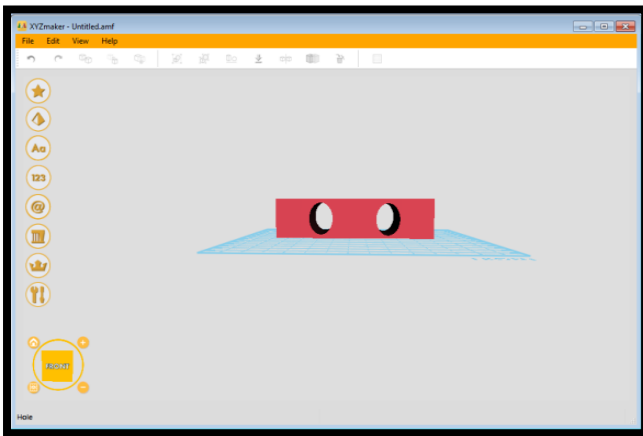
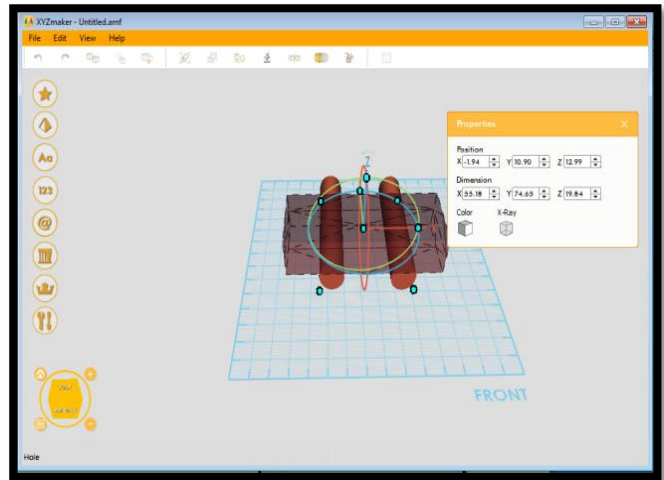
3. Click the cylinder and insert it on the body of the car.

4. Click the cylinder again and click the Clone button, then drag to make another cylinder.

5. For the hole making, click the body of the car then click the Hole Icon in the Tool Bar.



6. Then click the cylinders by Clicking Ctrl. And click the Hole Icon again.

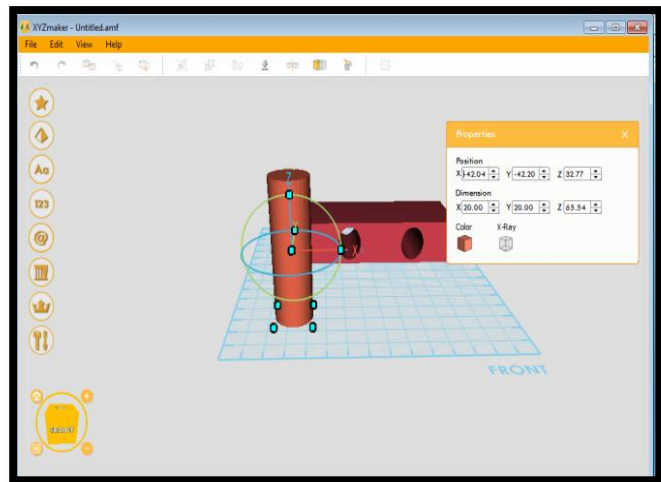


NOTE:
 To make a hole, you must first decide what kind of hole you want to make. By clicking the Hole icon, the base will automatically be holed and the chosen form will disappear.
 Just click H on the keyboard for the shortcut.

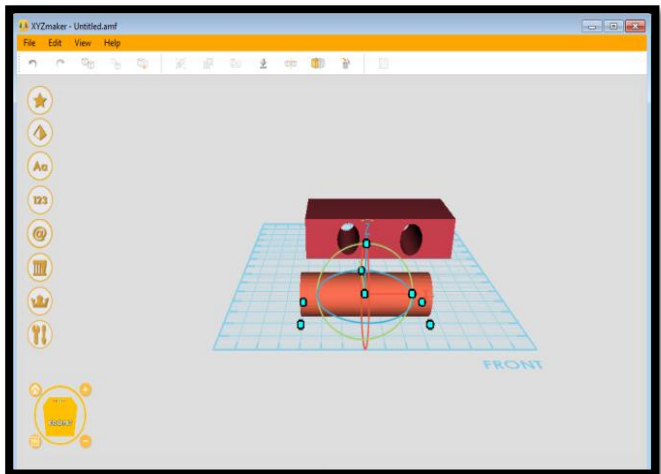
FINISHING TOUCH: MAKING THE WHEELS

1. Place a cylinder into the work plane.
Resize it to:

(X)=20mm
(Y)=20mm
(Z)=65.54mm

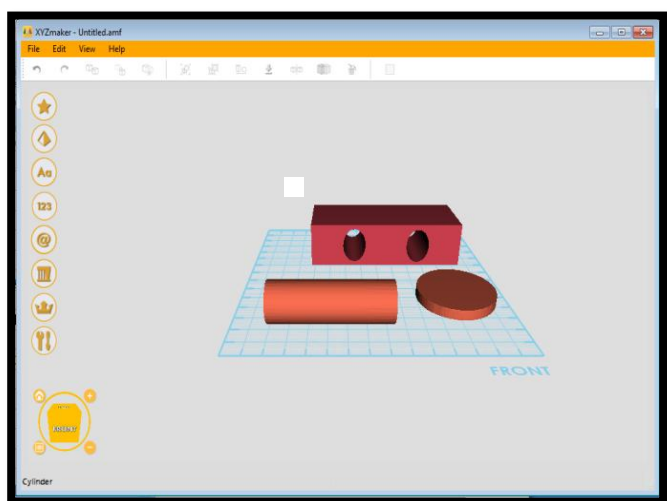


2. Rotate to (Z) 90 degrees
and Click Ctrl=L

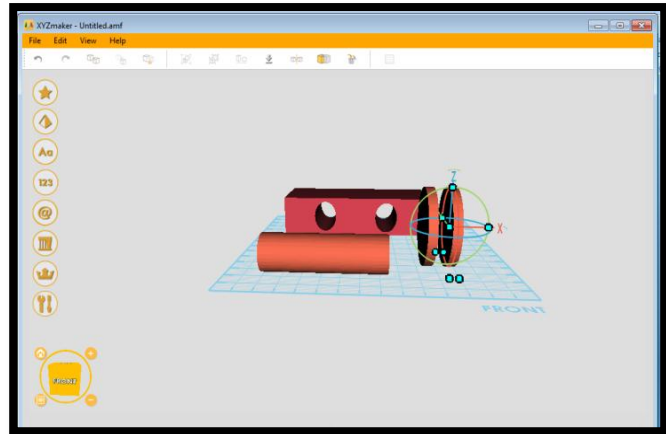


3. Place another cylinder in the work plane.
Then resize it to:

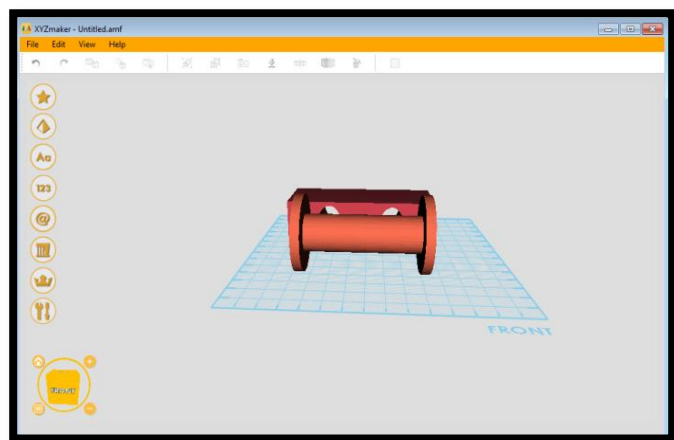
(X)=41.16mm
(Y)=42.11mm
(Z)=4.81mm



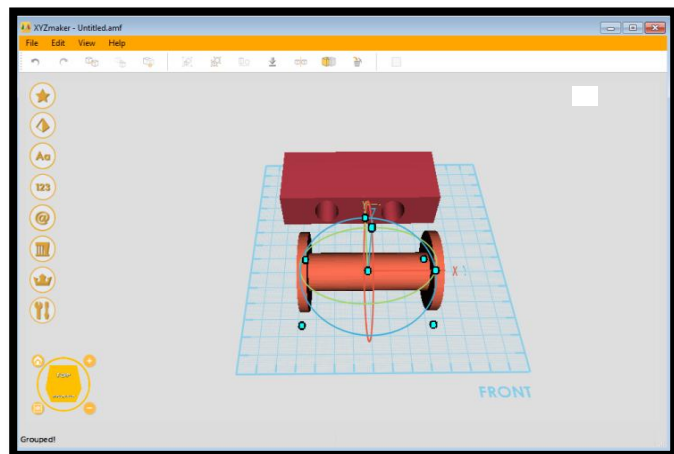
4. Rotate the round one (Y) 270 degrees and click Mirror.



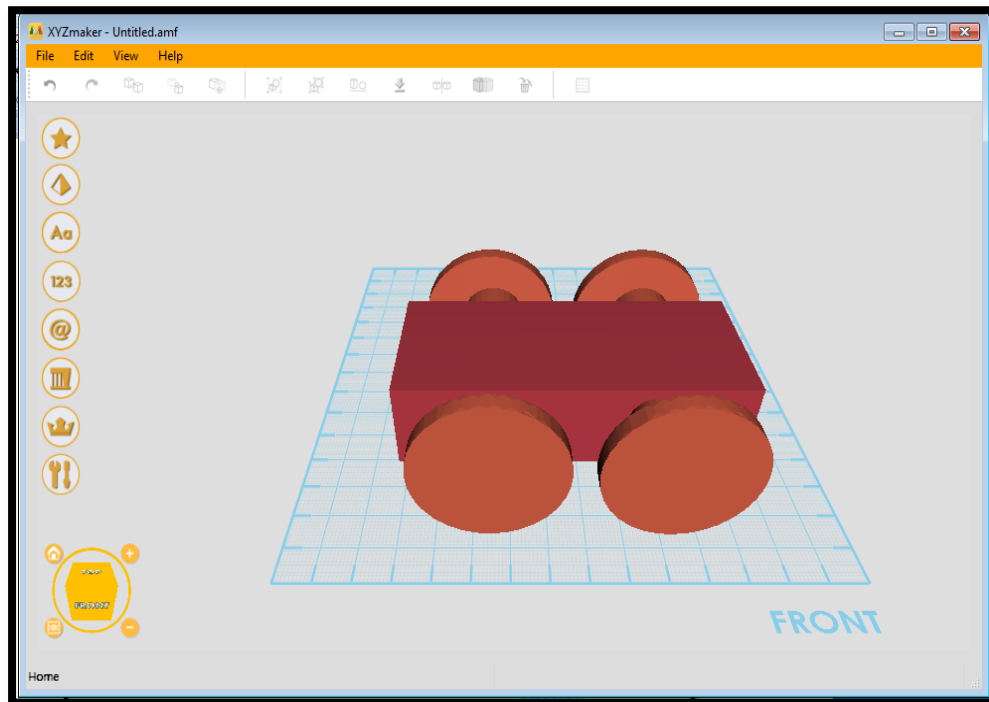
5. Then put the two round shapes on the end of the long cylinder. They will serve as the wheels of your car. Align them by clicking Align on the Tool Bar.



6. After aligning the wheels, Group them by clicking the red figures and click Group in the Edit Menu.



7. Rotate it by (Z) 90 degrees. Place them inside the holes and Click Clone again for the other wheel. Lift the body of the car by pressing the ALT key.
8. For the last one, Group everything and your mini car is done and ready to be printed!



BEFORE YOU LEAVE THIS CHAPTER:

Think about some of the new skills you have acquired in XYZmaker.

- The different functions of XYZmaker.
- Some terms needed when you create 3D models.
- Resizing objects- By using the Properties Window, you learned how to modify an object's width, length and height.
- Changing color- by changing color, smaller details and other figures can be more easily distinguished.
- The function of Hole- this is to remove material from a solid object.
- Copy, Paste and Clone have the same functions, so you can use anything in making another same figure.

You'll be learning many more XYZmaker skills in the chapter to come, but as of now, you can study and have fun playing with other shapes and forms available in the *Geometric* section. Take some time to experiment and use the skills you've learned in this chapter.

Chapter 2

Exploring Beyond XYZmaker

It's nice to see you here in this chapter! This chapter is another way to go, meaning, you can learn new basic skills and knowledge in 3D modeling using XYZmaker! The secret to getting good at XYZmaker is to keep creating and experiment skills that you learned and will be learnt in the future. Let's get it on!

PRACTICE MAKES PERFECT!

It's time to bring the ideas you've learned in the first chapter and develop another model in XYZmaker for 3D printing. The goal of this chapter is to get you acquainted with all the basic steps of developing a model for 3D printing just like the mini car that we made in the previous chapter.

What I prepared for you on this chapter is How to make a 3D Bee

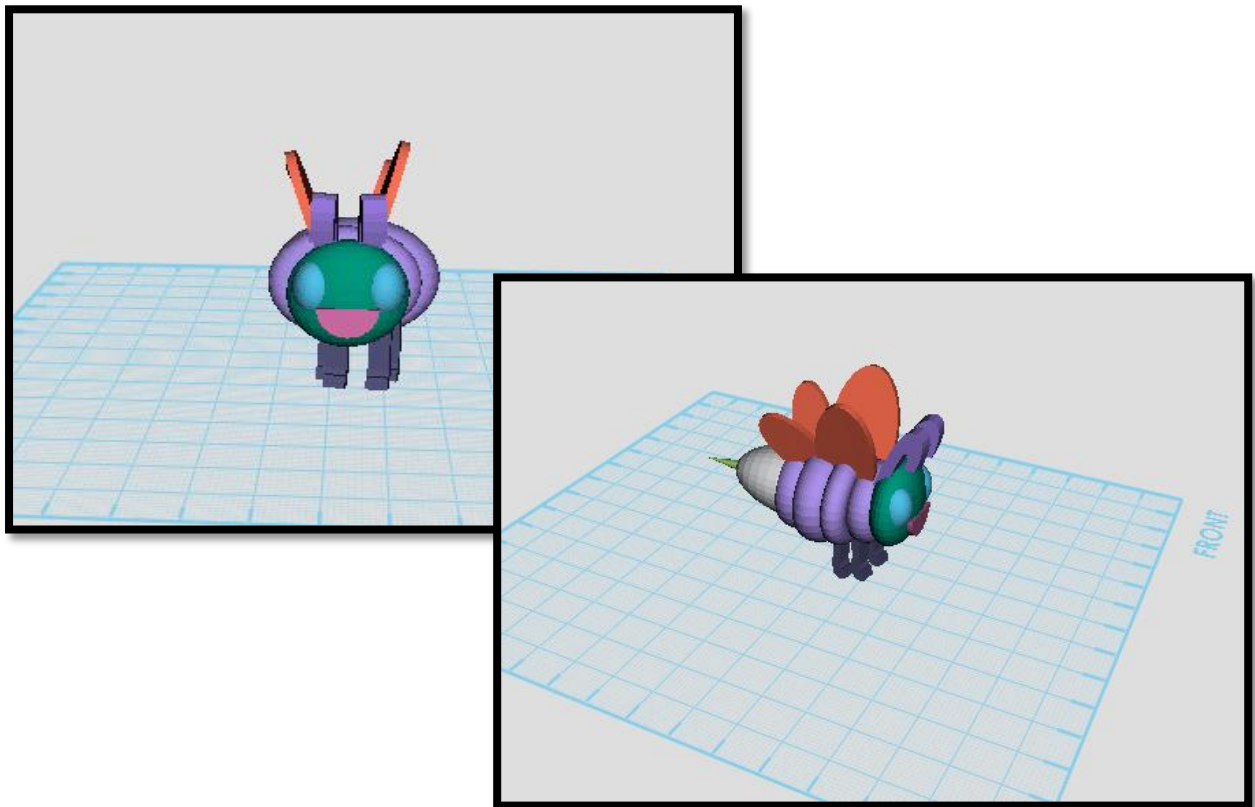


Fig. 3D Bee

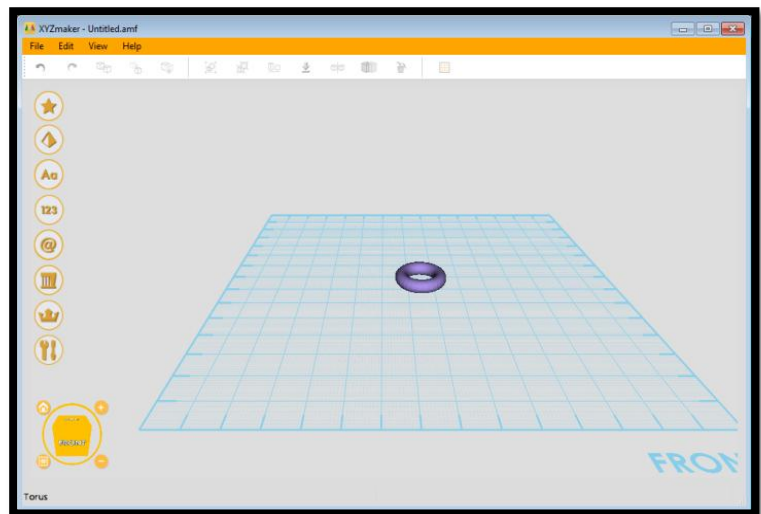
HOW TO MAKE A 3D BEE

THE BODY OF THE BEE:

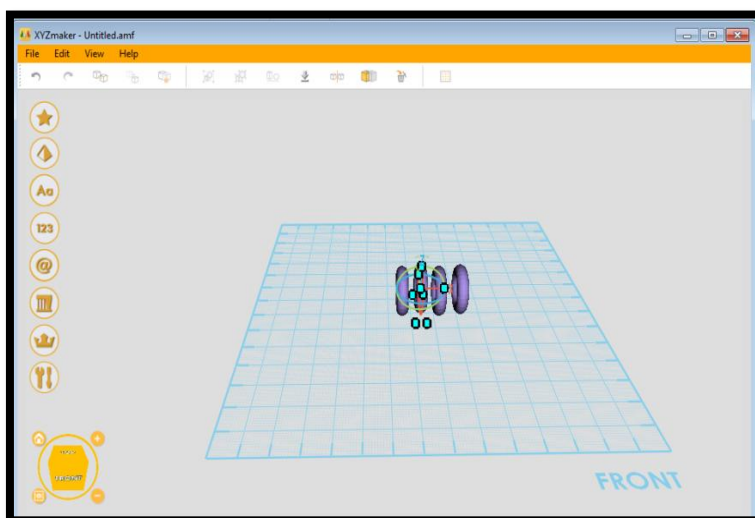
1. Select Torus Figure inside the model bar on the second page of it.

NOTE:

You can select different figures in different colors.



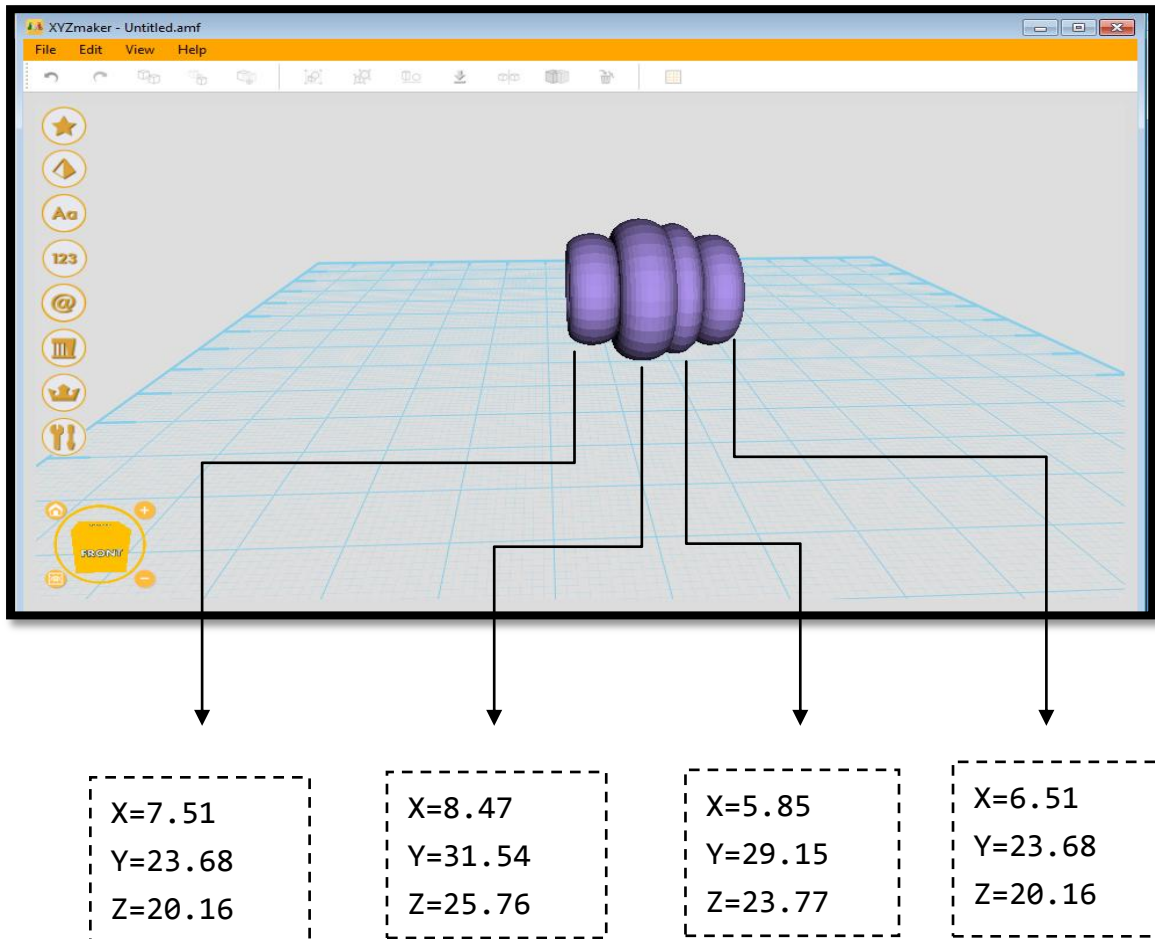
2. Rotate it to Y= 90 degrees and click the torus ("donut") figure and clone it until you got four torus in the work plane.



NOTE:

To save time, just click the object and the Clone button.

- This torus should have different sizes. The bottom torus in the left part of the work plane will serve as the back of the bee; while in the right part will serve as the head of the bee. Starting from the bottom, until right let's rescale their dimensions:

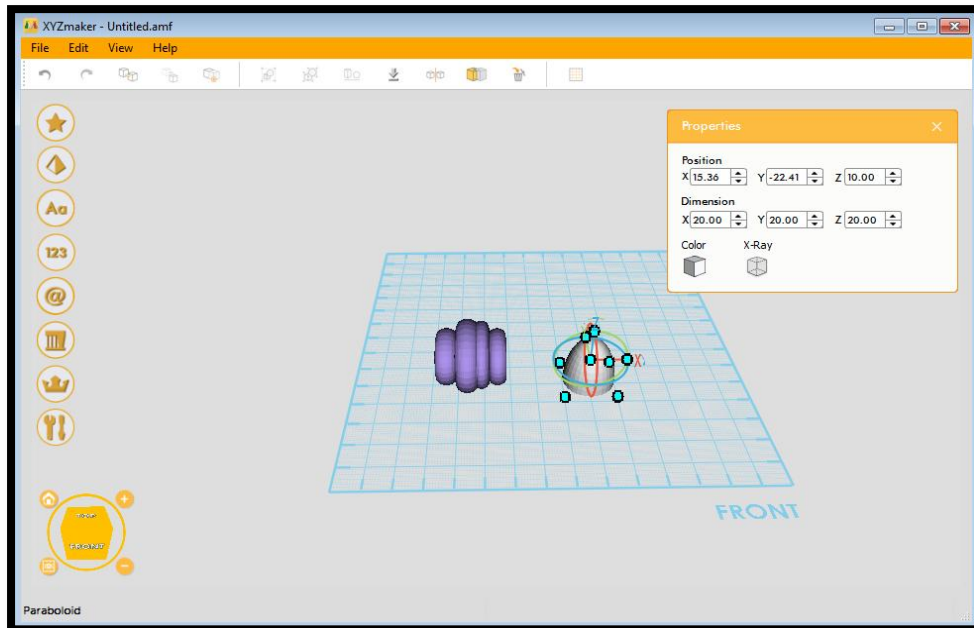


- After rescaling, click the torus and Group them by clicking Group Button in the Tool Bar.

NOTE:

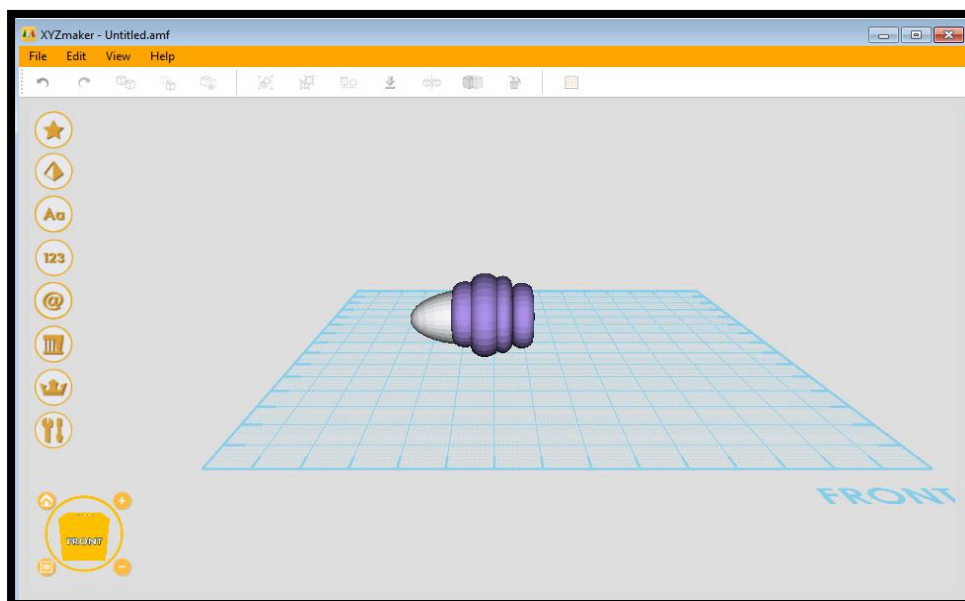
When you group everything, all of the objects will move as one and be rescaled as one.

5. Select Paraboloid in the Model Bar. Place it in the work plane.



6. Rotate the Paraboloid into Y= 90 degrees then rescale it to:
X= 20.00
Y=18.93
Z=18.11

Insert the paraboloid inside the torus in the left part. This will serve as the tail of the bee. Press Alt so you can lift the paraboloid then group everything.



7. Select cone from the Model Bar. This will serve as the sting of the bee.

Rescale it to:

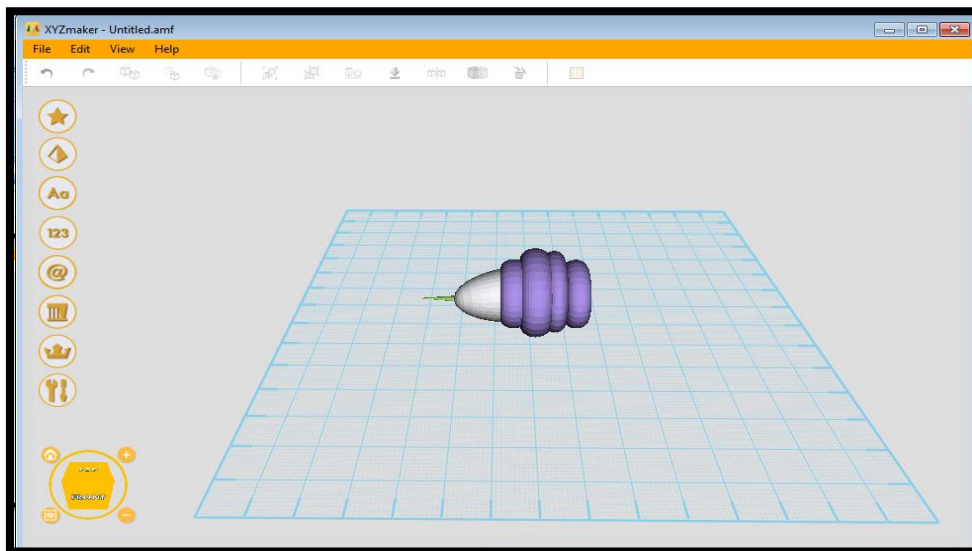
X= 5.38

Y=18.93

Z=20.00

Then rotate it to Y=270 degrees and insert it in the center of the paraboloid.

Group everything

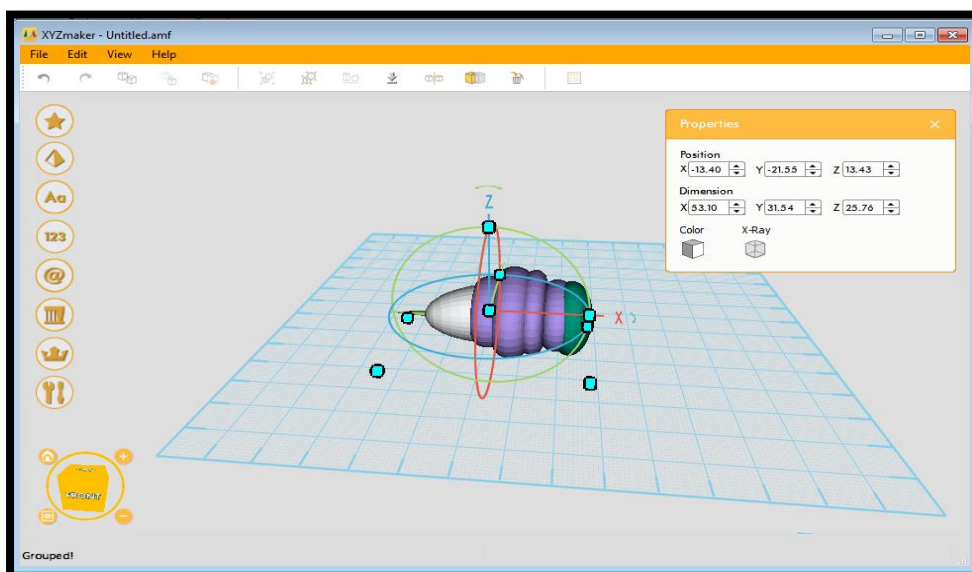


8. For the head of the bee, place a Sphere in the work plane. Rescale it to:

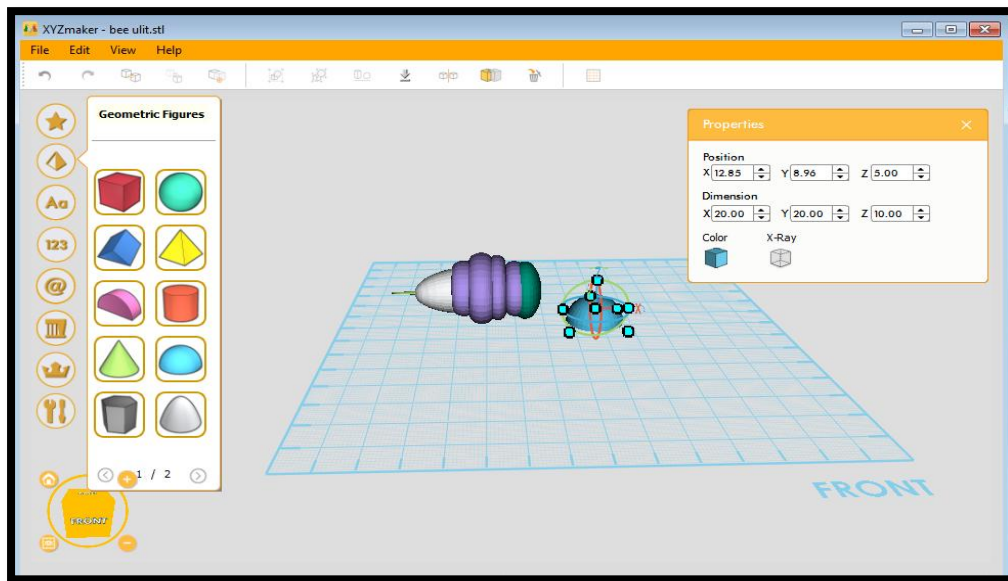
X=11.28

Y=21.54

Z=21.68



9. For the eyes of the bee, select the Half Sphere.



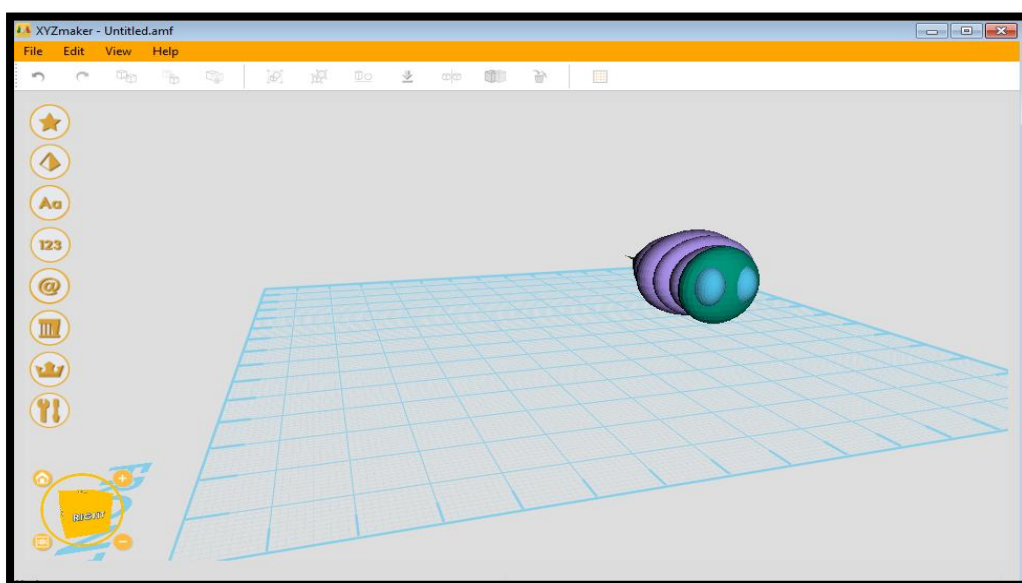
10. Rescale the Half Sphere to:

X=4.17

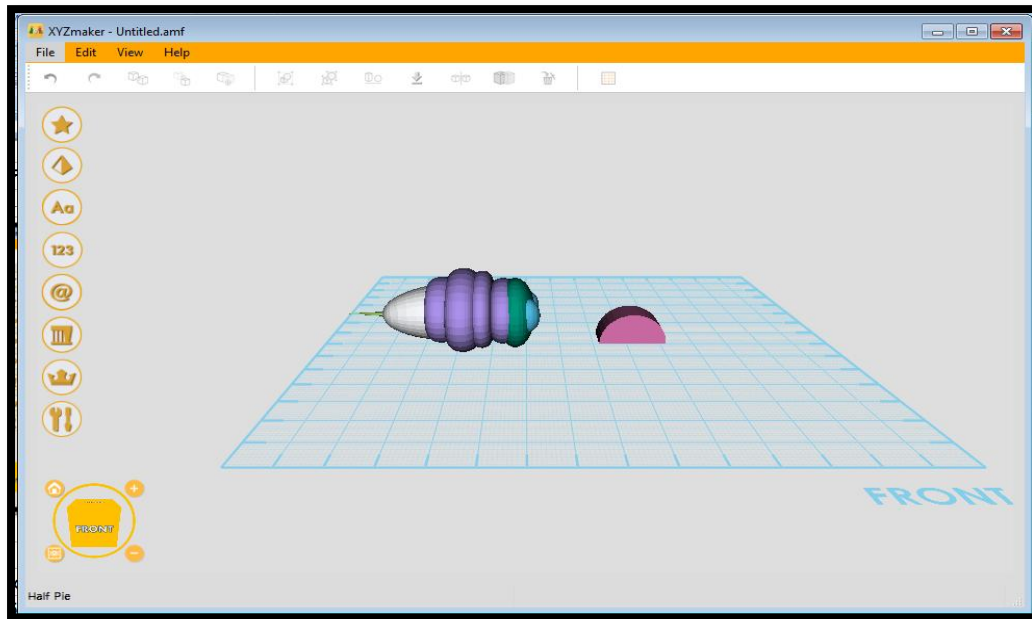
Y=7.91

Z=11.11

Rotate it to Y= 90 degrees and insert it to the sphere. Click Mirror Button so we can make another one. These will serve as the eyes of the bee.



11. For the mouth, select Half Pie.



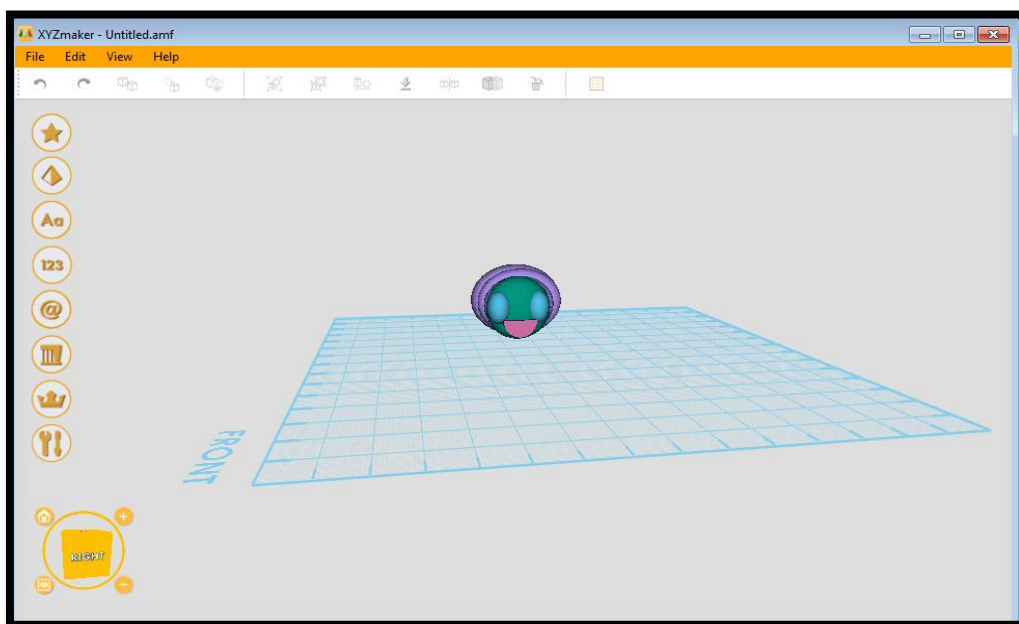
Rescale it to:

X=5.61

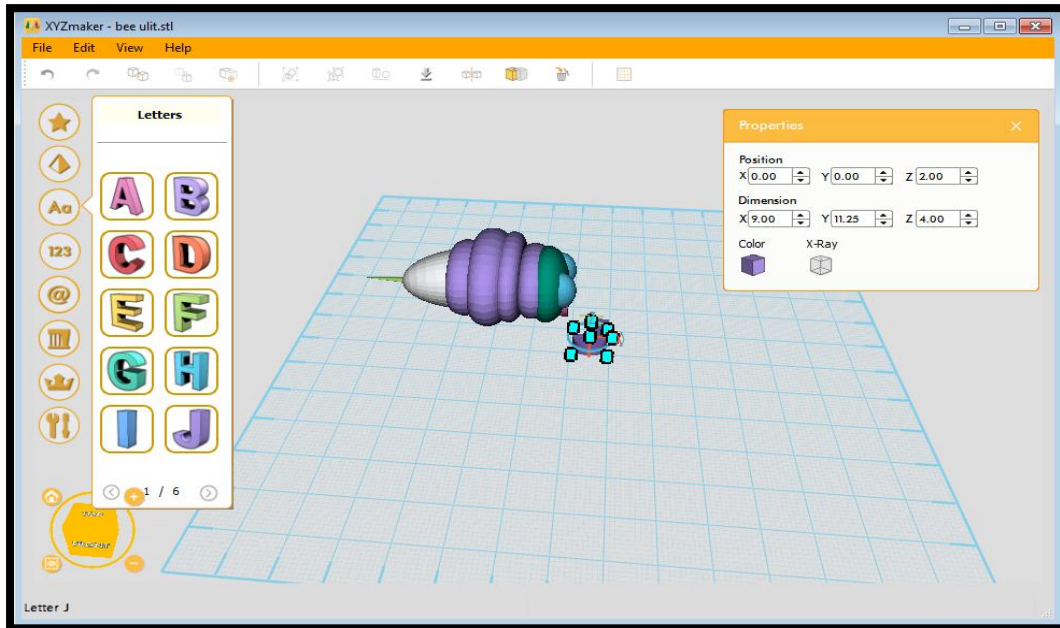
Y=10.88

Z=5.81

Then rotate it to Y= 180 degrees and Z= 90 degrees then insert it in the sphere.



12. For the antennae, select Capital letter J



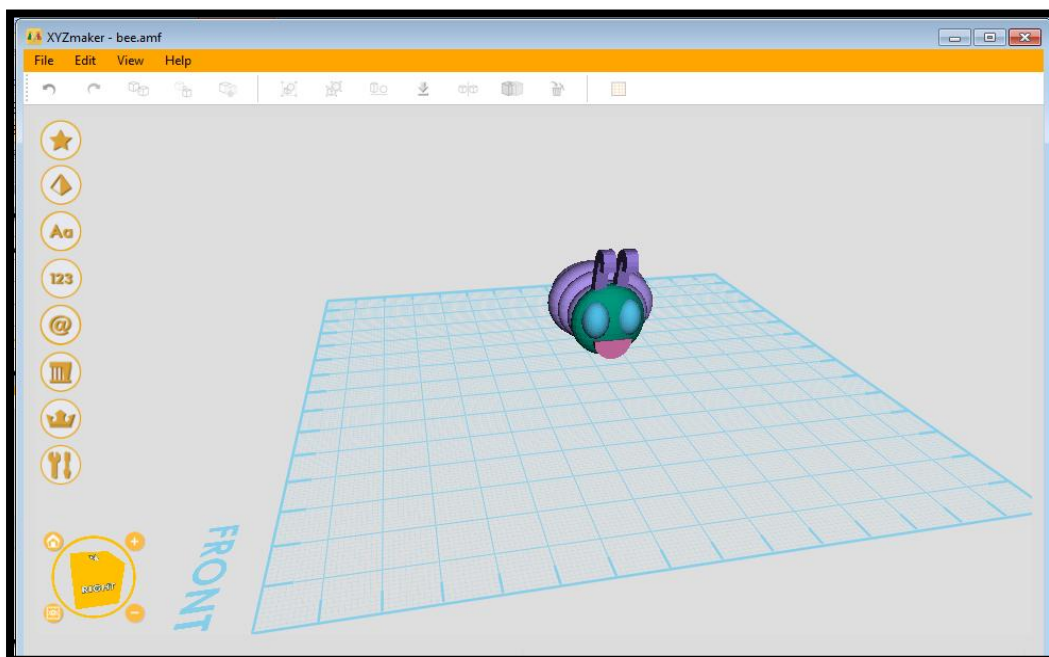
Rotate it to X=270 degrees and Z= 180 degrees and rescale to:

X=13.24

Y=4.77

Z=21.85

And rotate it to Y= 20 degrees



13. For the legs of the bee, select small letter j. Rescale to

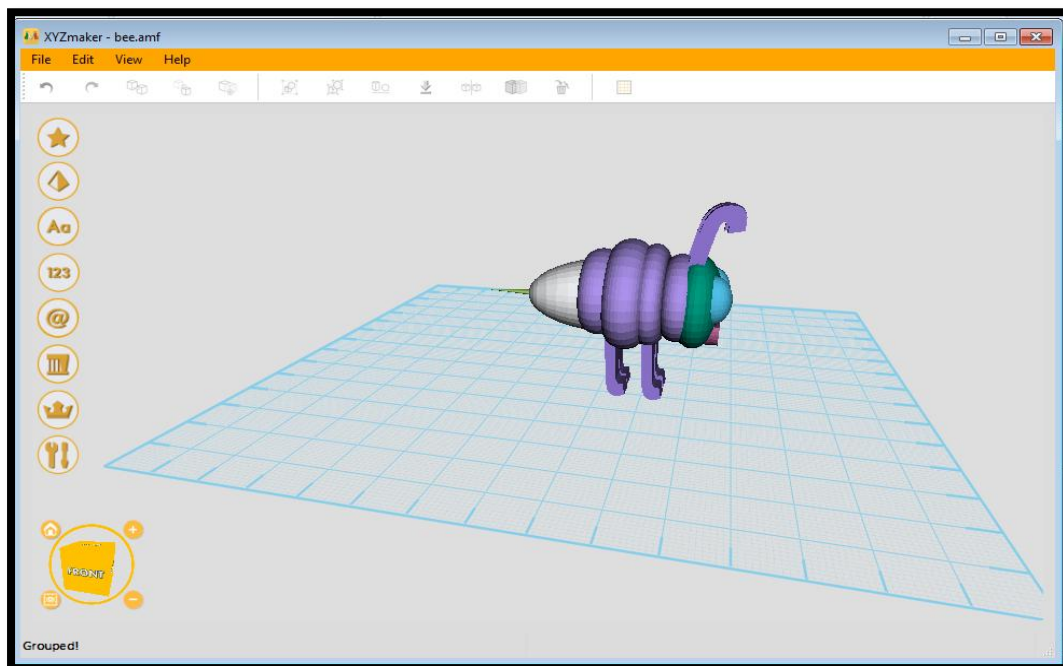
X=5.50

Y=5.11

Z=24.30

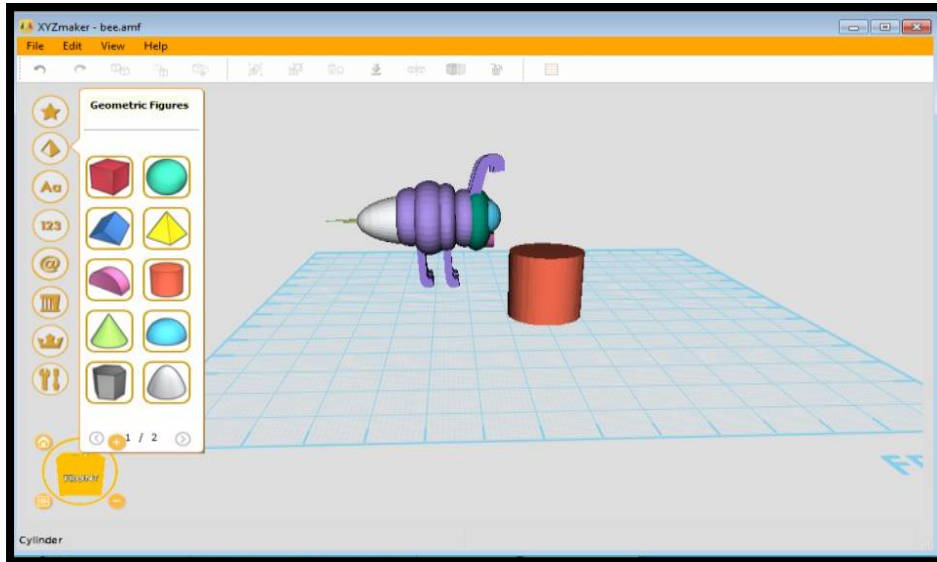
Rotate it to X= 90 degrees

Click the Clone button and make four legs and insert them at the bottom of the body of the bee.



14. For the wings

Select a cylinder inside the model bar.



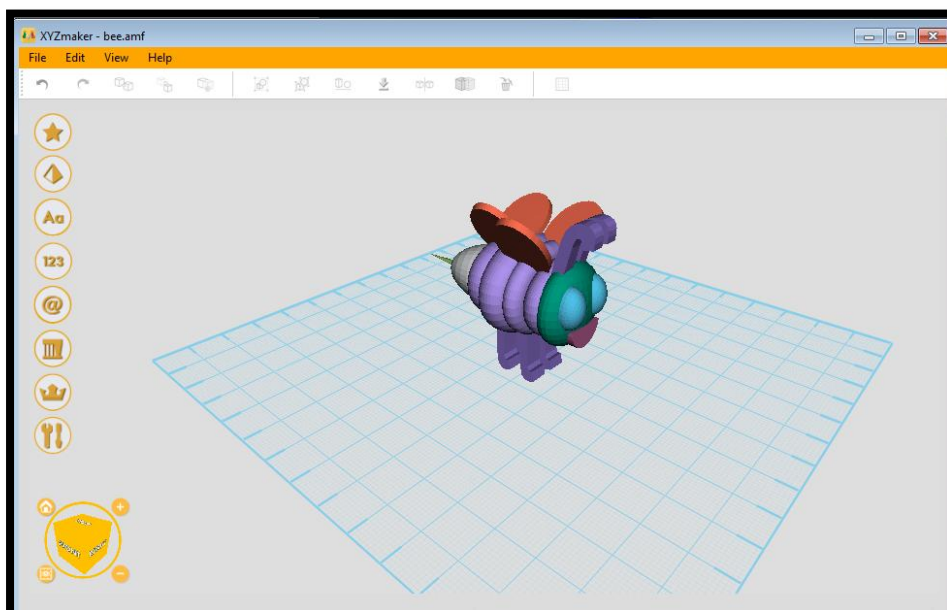
Rotate Y 270 degrees and rescale to

X= 14.81

Y=3.75

Z=28.09

Insert it at the top of the body of the bee and make another three. After making these wings, group everything and your 3D bee is done and ready to be printed! Congratulations!

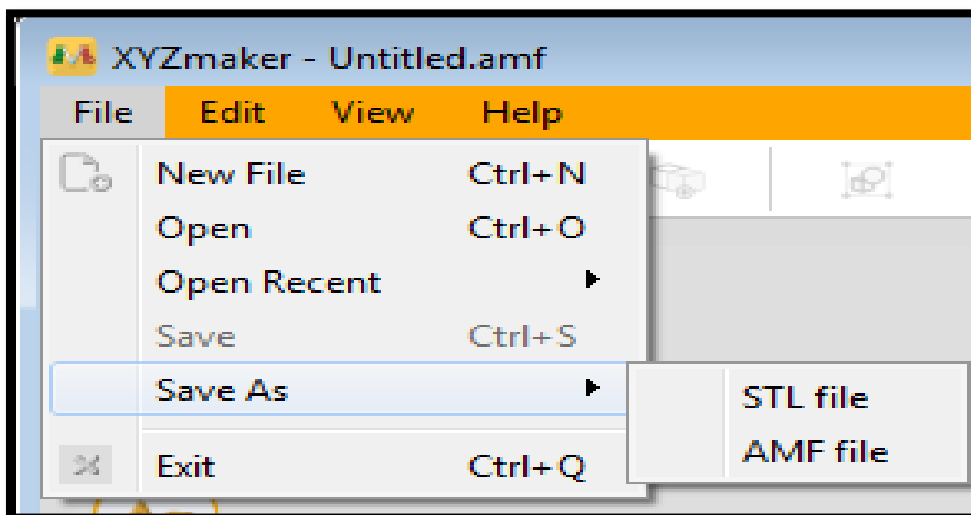


SAVING IS FUN!

After the tutorial of how to make a 3D bee, let's study how to save our projects if you wanted to save it for the mean time and for printing at a later point. Saving one's project is very easy to do, no worries.

XYZmaker allows the user to save the model using two different options: 1. Save As: STL File or AMF File 2) Save

1. Save as:



By clicking **Save as:** under File, there will be options for you on what format to use. It's either on .stl file and .amf file.

If your project was saved in an STL format, the project will be grouped and have one color only but still can be edited. If project will be saved on AMF format, it will open just the way you saved it. Editing is still enabled.

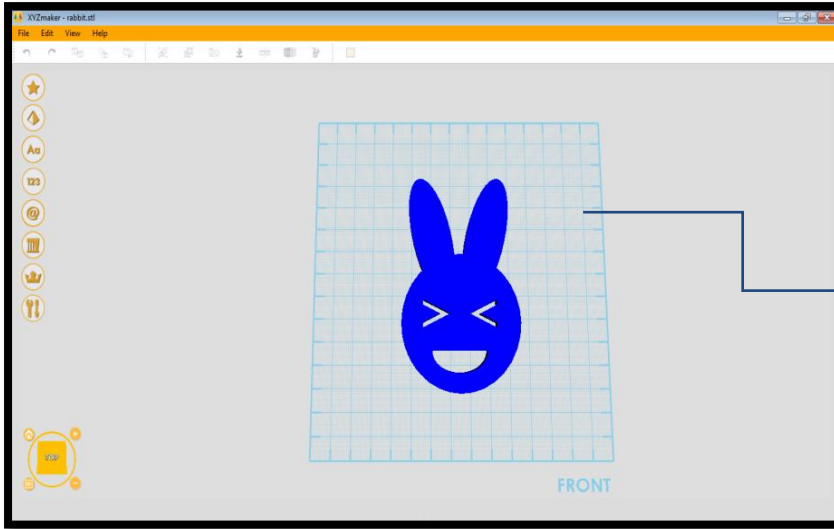


Fig. When saved as STL file and opened.

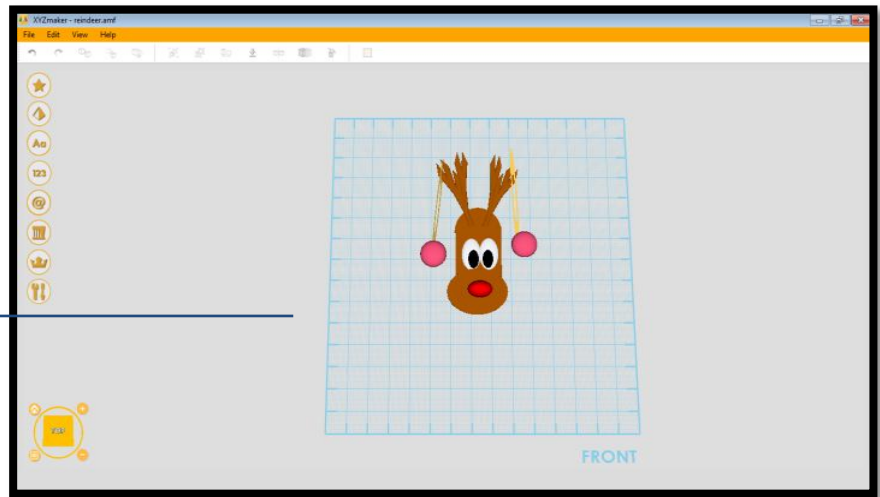
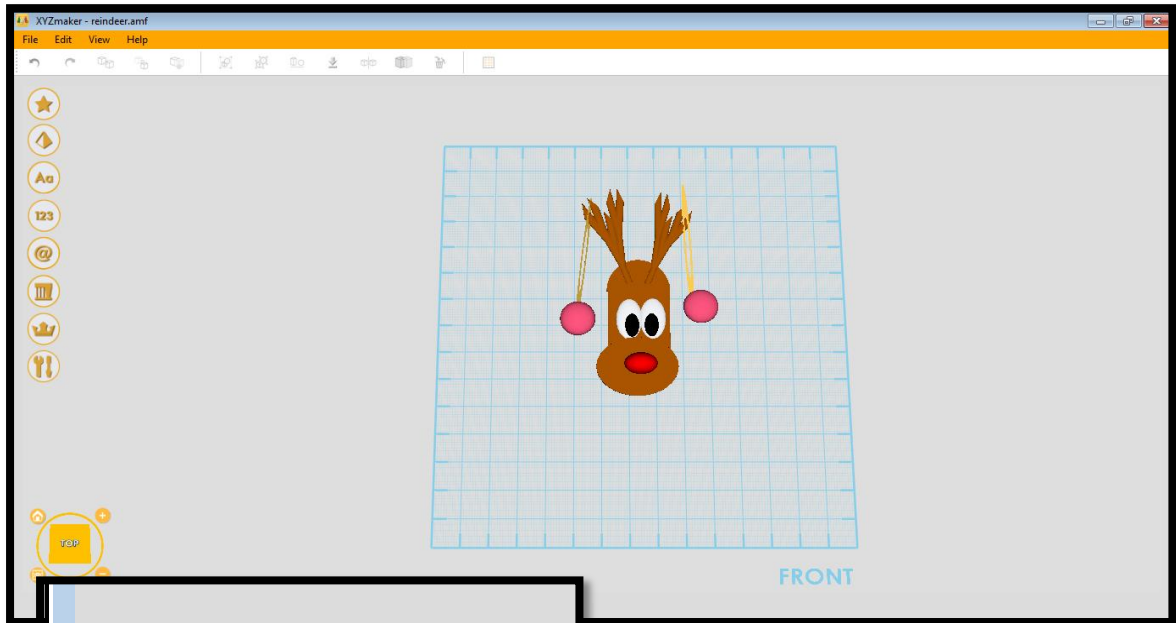


Fig. When saved as AMF file and opened.

2. Save

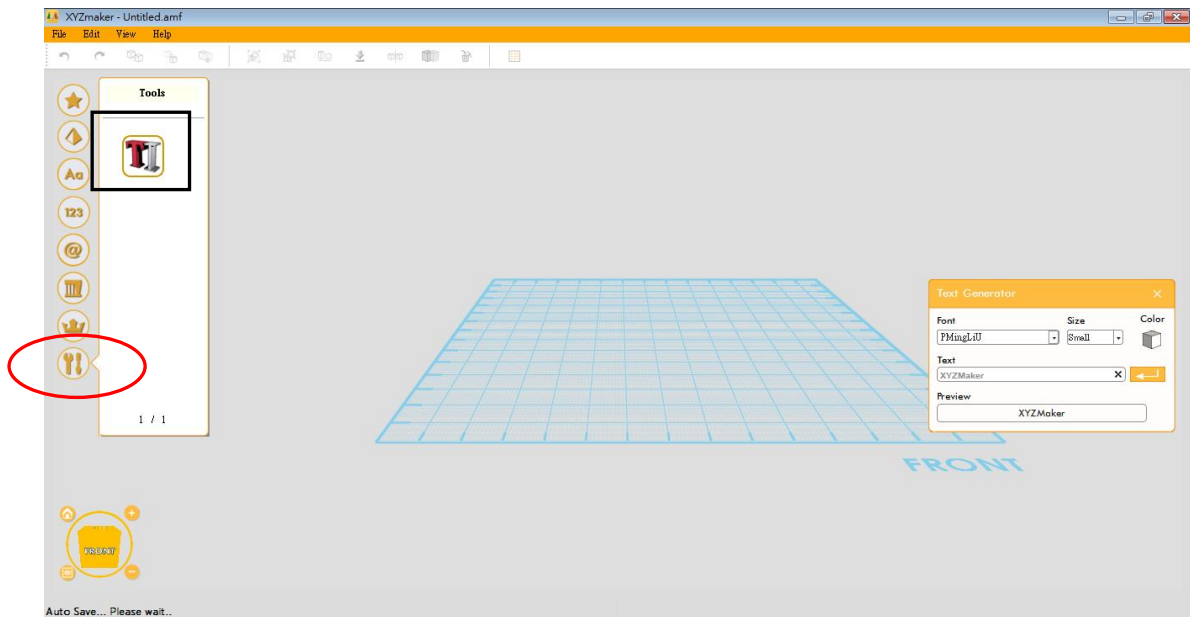
Save Function is used to update the project while working on it.



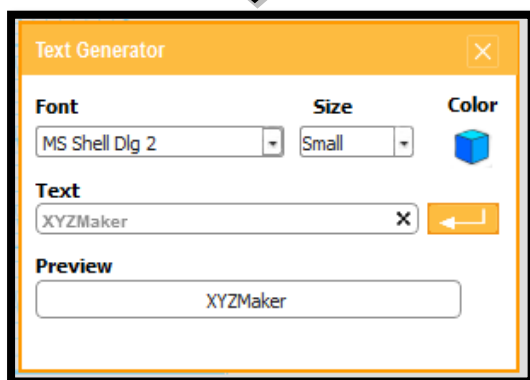
There will be a prompt message that the file was updated. The Save function will only be possible if the project has been already saved as STL or AMF.

USEFUL TRICKS TO REMEMBER

1. In XYZmaker, we can also use the TEXT GENERATOR. In this part, you are invited to enter a text itself; it has a series of fonts and an option for coloring the text. It is much simpler than adding letters one by one and aligning them. Click the Tools Icon in the left bottom part at the Model Bar and Click the Text Generator Icon and write text in your draft. Very handy if you want to make name tags. Try one!



Tools Icon



Text Generator Icon



Text Generator Property Window



BEFORE YOU LEAVE THIS CHAPTER

Think about some of the new skills you have acquired in XYZmaker.

- There are two ways of saving projects. The "Save" and "Save as " functions.
- You can use Text Generator instead of Selecting letters and numbers one by one.
- A Properties Window will appear when click an object. You can either rescale the objects directly or you can rescale them in the Properties Window.

Chapter 3

KEEPING THAT "P" ALIVE

Seeing you in this chapter is really amazing!

"P" in this chapter title means PASSION. It is a strong feeling of enthusiasm or excitement for something or about doing something and as you made it to this point, I believe that you have a passion for 3D and that's a very good thing. Thank you for keeping your interest alive and kicking until the next few chapters! Don't worry: I've prepared a lot of new stuff for you.

Professional 3D animators are people who never stop learning and creating. That's why in this chapter, we will create another 3D object and tutorial about XYZmaker and I will walk you through it.

In this chapter, we will learn how to make a basic and cute name tag.

Always keep the passion in 3D animation using XYZmaker alive and burning in your desire to create something new and modern. Have fun!

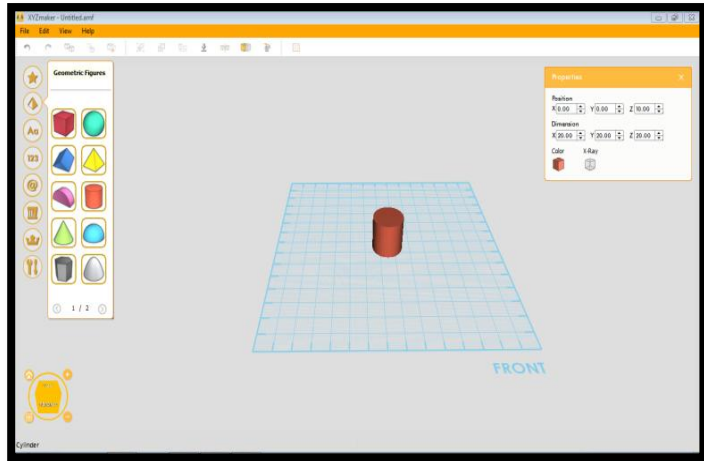
Personalize it!

How to Make a Cute Name Tag

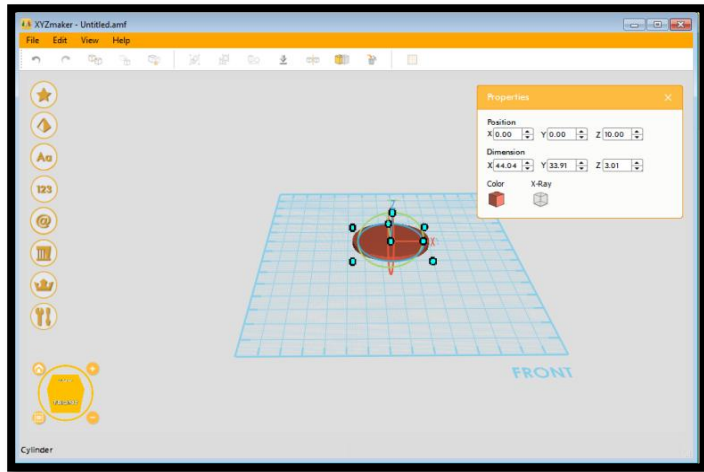
Do you remember the function of *Text Generator* in chapter 2? It was made for you to save time in selecting letters and numbers, right? So we will use *Text Generator* in this activity together with other figures. This will be a very easy activity to do. If you want to make something cute for yourself, or to create a personalized gift for your friends or family, this is something they will surely appreciate. ENJOY!



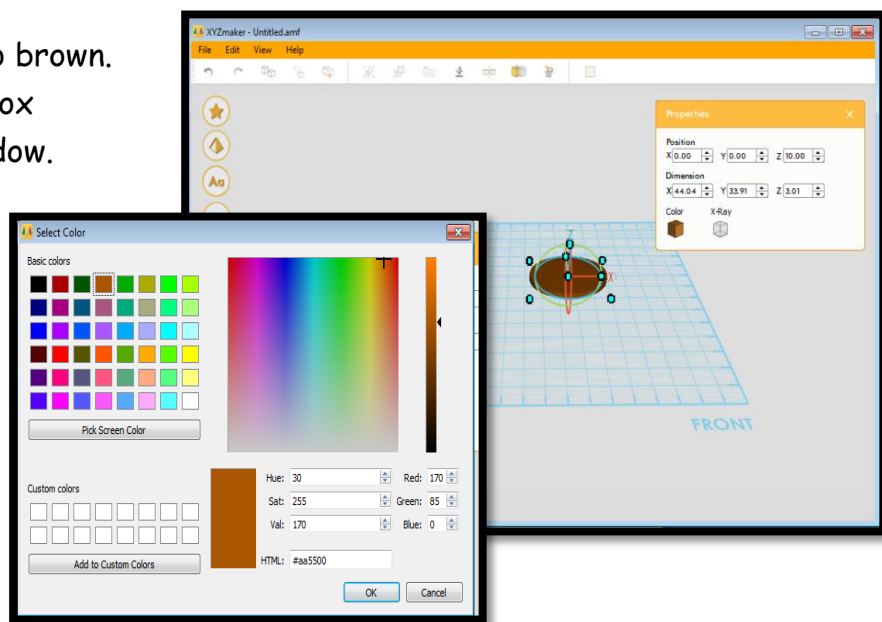
1. The first step is to select Cylinder in the Model Bar.



2. Rescale to:
X=44.04
Y=33.91
Z=3.01



3. Change its color to brown.
Just use the Color Box
in the Property Window.



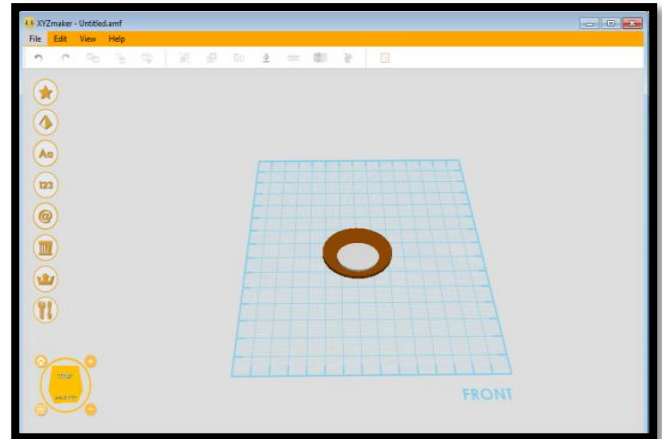
4. Place another Cylinder in the work plane and rescale it to:

X=26.23

Y=18.55

Z=3.00

Then change its color into white.
 This will serve as the place for the mouth of the bear.
 Put this white cylinder in the lower part of the brown cylinder.



NOTE:

If you want to land objects, onto other models' surface, just Hold Alt + left-click your mouse.

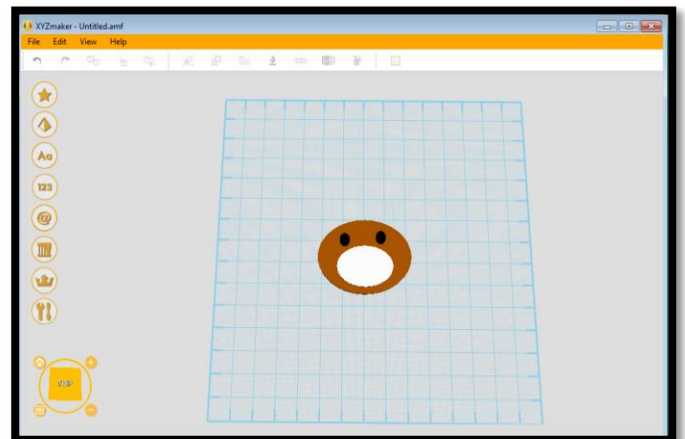
5. For its eyes, you can click the white cylinder and click the Clone button and rescale it.

X=4.73

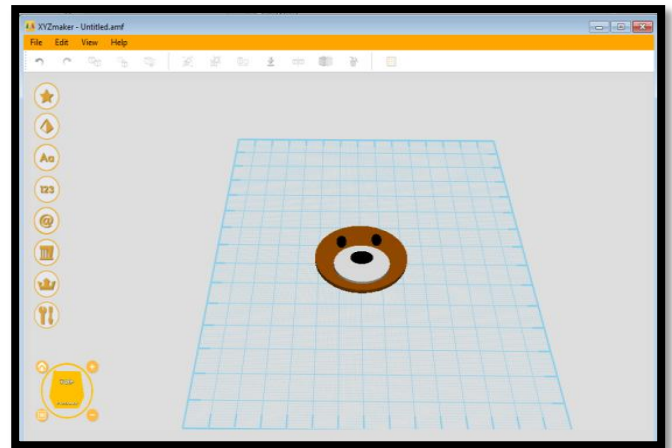
Y=6.03

Z=1.00

Then change its color into black.
 Click the Clone button again for another eye.

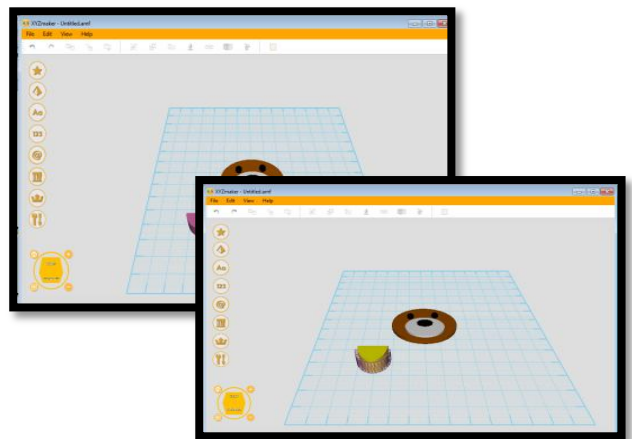


- For the nose of the bear, click the white cylinder and click clone button then rescale it.
 $X=10.46$
 $Y=6.03$
 $Z=1.00$



Change its color into black and place it in the center of the white cylinder. Group everything.

NOTE: Whenever you finished something in your project, try to group it. That way you can move without worrying about changing their scales and having to rescale every object all over again.



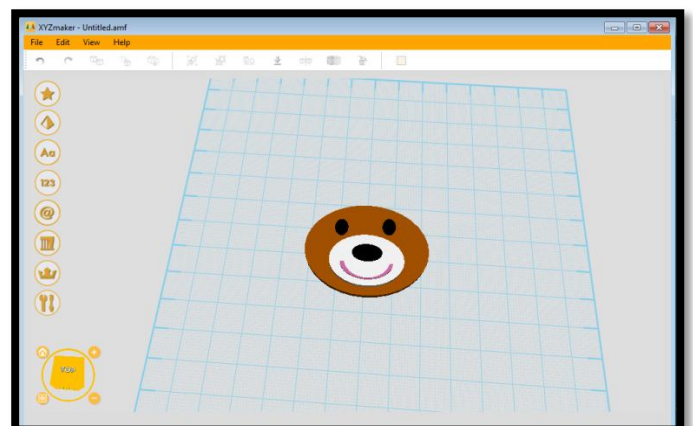
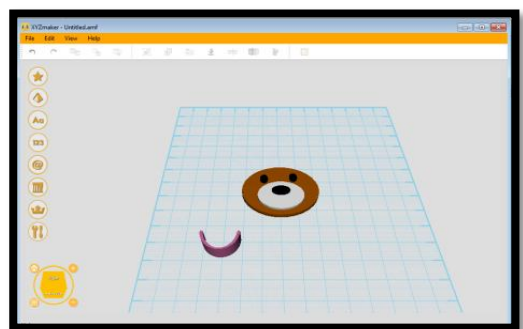
- For the mouth of the bear, select Half Pie in the Model Bar. Rotate it (X)= 90 degrees and clone it.

Make a hole in the corner of the pie that would look like a mouth. Change its color into black.

Rescale it and place it in the white cylinder.

$X=9.01$
 $Y=3.69$
 $Z=1.00$

Then put it in the center of the white cylinder.



Group everything.

8. For the ears, select Half Pie and rescale it to:

Dimension:

X=16.54

Y=10.53

Z=1.59

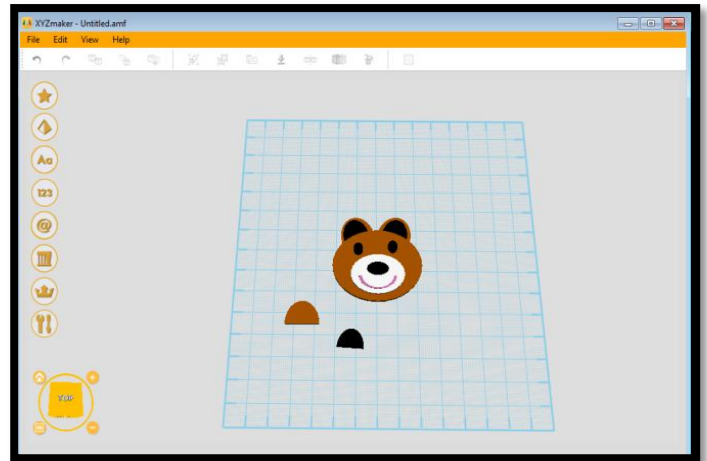
Change its color into brown.

And clone another one.

Next, clone again one ear and change its color black.

Rescale it.

Insert it into the ears .



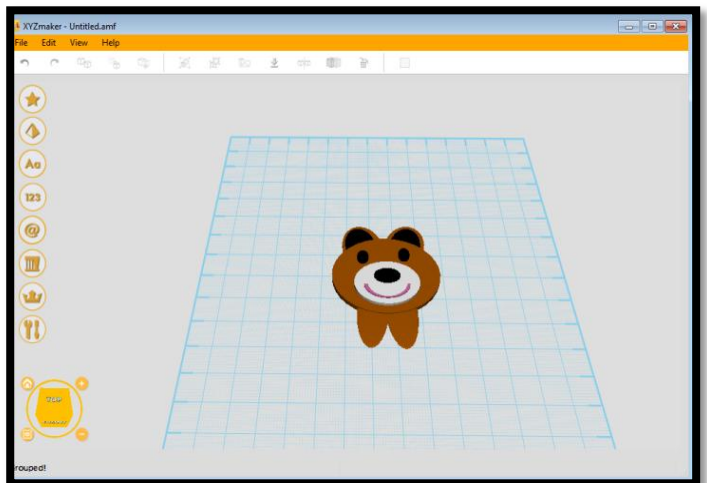
9. For the hands of the bear, Select Paraboloid and rotate it to X=90 degrees then rescale it.

X=12.74

Y=16.04

Z=1.22

Insert it to the bottom part of the head of the bear.



10. For the name plate, just select Cylinder in the Model Bar, and rescale it to :

X=69.53

Y=39.08

Z=2.00

Change the color into Yellow

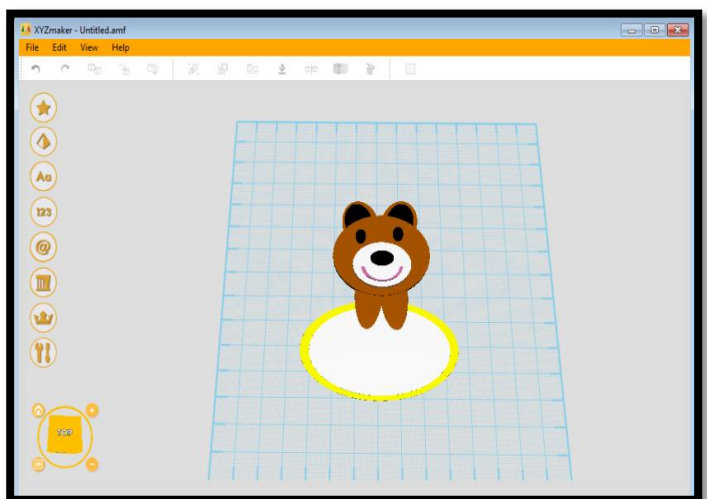
and clone one again, rescale it to:

X=61.54

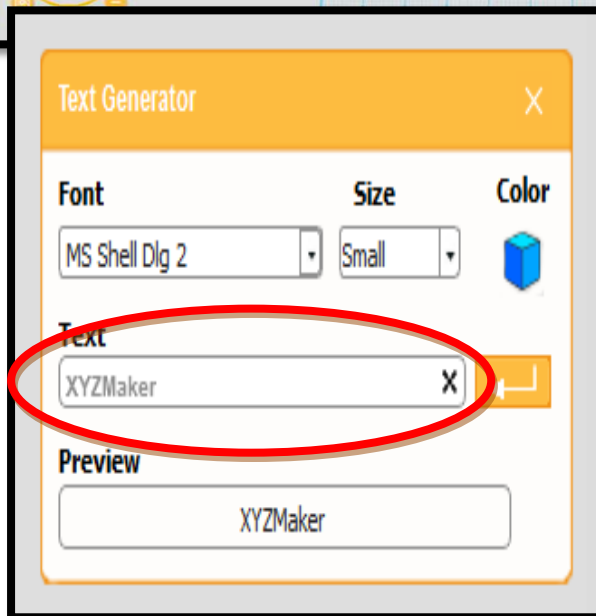
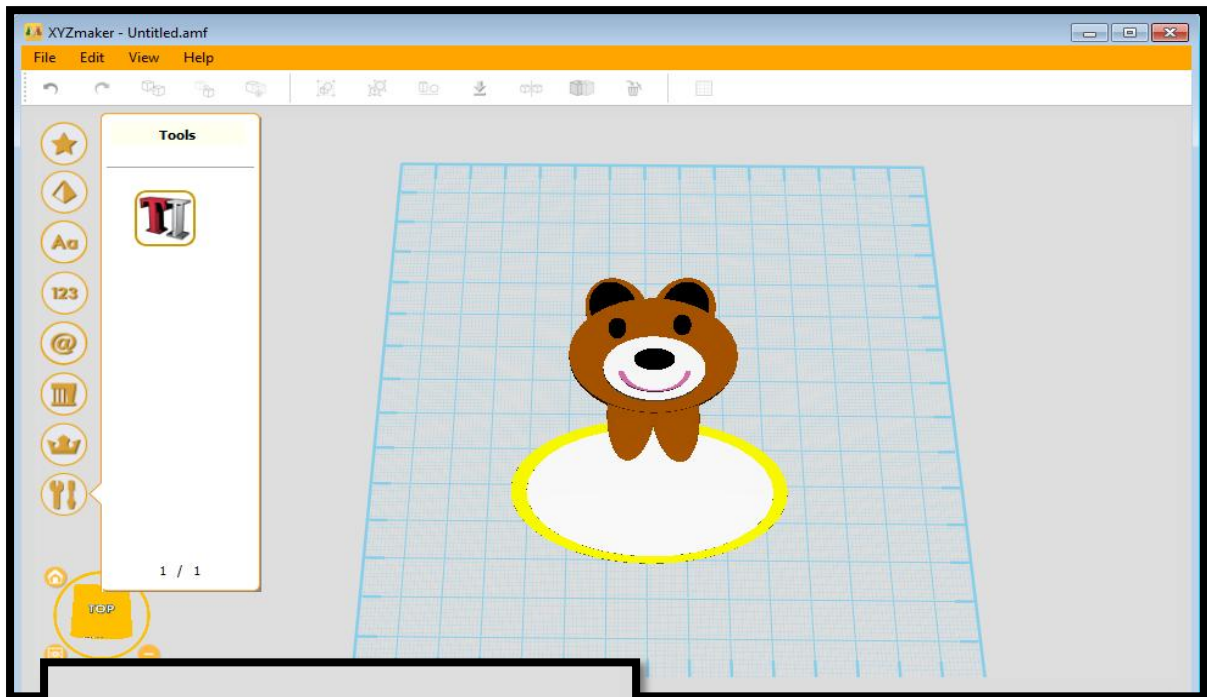
Y=34.49

Z=2.00

Change the color into white



11. You can now type your name or any name that you want. Just click the Text



Generator Icon and put it in the center of the white circle.

Type your text here

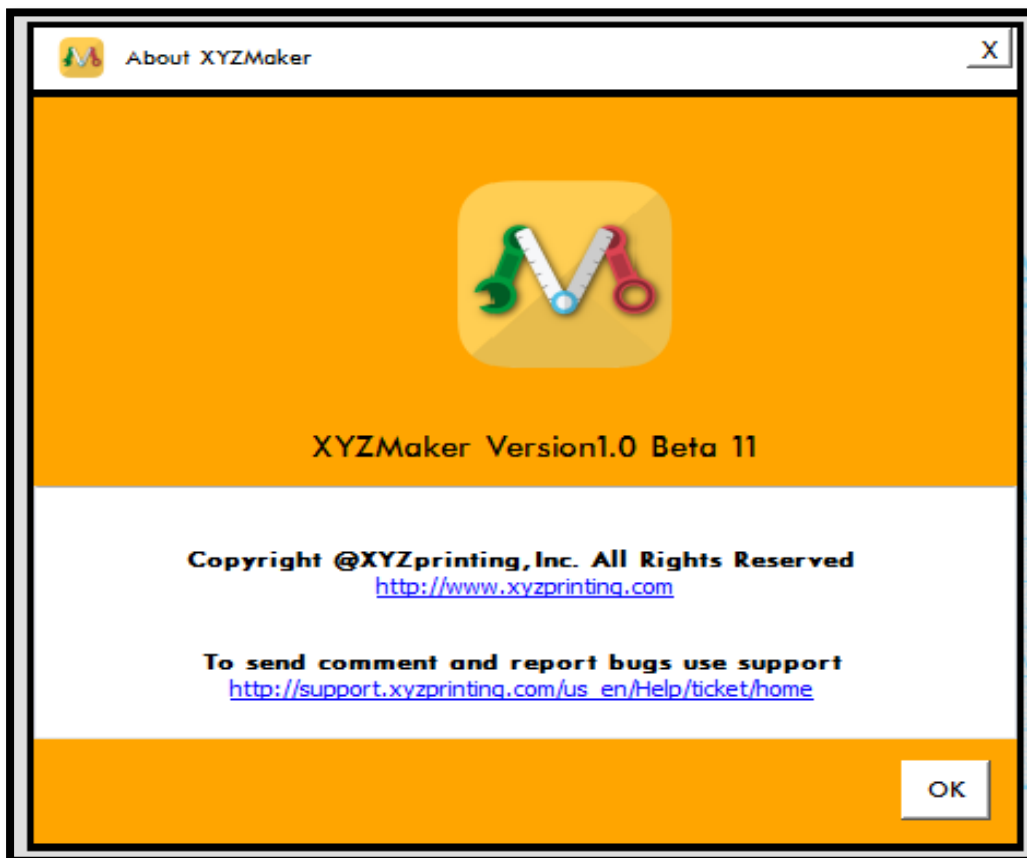
And your cute name tag is done and ready to be printed!

THE HELP FUNCTION

XYZmaker wants to make things easy for you. That's why you can check stuff through the Help function in the Menu bar.

If you clicked Help in the Menu Bar, a drop-down menu will appear, including: About XYZmaker which will give you information about XYZmaker; Online Help, giving you a URL where you can check our online help; and Shortcut Keys.

1. About XYZmaker- This function will help you learn something about XYZmaker. This will also include the URL in Online Help where you can check for further help!



2. Online Help- This function will enable the users to access the online site of XYZmaker thru xyzprinting.com
3. Shortcut Keys- enable you to see other shortcut keys either Keyboard Shortcuts and Mouse Shortcuts to simplify navigation within XYZmaker.

Shortcut Keys ✕

KEYBOARD SHORTCUTS

Hot Keys	Description
F1	Show Help
F6	Home
DELETE	Delete
CTRL + C	Copy Object
CTRL + V	Paste Object
CTRL + Z	Undo
CTRL + Y	Redo
CTRL + O	Open model file
CTRL + N	New model file
CTRL + S	Save File as amf
CTRL + A	Select all objects
CTRL + Q	Exit
CTRL + G	Group the objects
CTRL + U	Ungroup the objects
CTRL + L	Land the object
=	Zoom in the workspace for a better item detail
-	Zoom out the workspace to display a distant view
CTRL + "+, ="	Increase model size
CTRL + ", _ ="	Decrease model size
CTRL + SHIFT + S	Save File as stl
CTRL + SHIFT + C	Copy and Paste on the same plate (Duplicate)

KEYBOARD SHORTCUTS with MOUSE

Hot Keys	Description
Hold ALT + mouse left click	Move the object in z-axis
Hold mouse right click	Move the workplane
Move mouse wheel forward	Zoom in the workspace for a better item detail
Move mouse wheel backward	Zoom out the workspace to display a distant view

BEFORE YOU LEAVE THIS CHAPTER

Think about some of the new skills you have acquired in XYZmaker:

- 3 formats for saving processes that cannot be edited.
- The Help Function will help your navigation easier and will help you expand your skills in using XYZmaker.

3D modeling will be a great skill for a future job. But what can you do right now with 3D modeling software? With the proper 3D modeling application just like XYZmaker, you can do some amazing things:

Create a digital you— with the right software, you can model yourself.

Design your own games—advanced skills with 3D modeling software allow you to create your own characters and worlds.

Print a real-world object—As you have found out in this book, a 3D printer can turn a 3D model file that you create into a real plastic object that you can actually hold in your hand.

I hope that you have learned a lot by not only reading this book but by using this book as your guide. I believe that 3D printing is really as easy as this book. I encourage you to practice more of your skills so that one day you will be the next amazing 3D animator, and I'll proud to say that it began through this book. Take care and have a nice journey in the world of XYZmaker!

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