

POWER OF AR AND VR

PREPARATION TO WORK



**Co-funded by
the European Union**



2024-1-PL01-KA220-VET-000243150

JACEK KAWAŁEK

OUR MAIN PROGRAM WILL BE **BLENDER**



DURING THE IMPLEMENTATION OF THE PROJECT IT IS NECESSARY TO DETERMINE WHICH VERSION OF THE PROGRAM AND COMPONENTS WE WILL USE.

IT MAY BE THERE IF THE FILES WERE SAVED IN ONE VERSION OF THE PROGRAM DO NOT OPEN IN ANOTHER VERSION.

IN THIS TRAINING, I WILL EXPLAIN, AMONG OTHER THINGS, HOW TO DEAL IN SUCH SITUATIONS.



POWER OF AR AND VR

**FROM THIS PAGE YOU CAN DOWNLOAD
DIFFERENT VERSIONS
OF THE PROGRAM**

<https://download.blender.org/release>

Index of /release/

../	
Blender1.0/	11-Jul-2020 07:17
Blender1.60/	05-Jul-2020 16:22
Blender1.73/	20-Aug-2003 11:13
Blender1.80/	20-Aug-2003 11:13
Blender2.04/	20-Aug-2003 11:13
Blender2.26/	20-Aug-2003 11:13
Blender2.27/	20-Aug-2003 11:13



Blender3.5/	25-Apr-2023 11:41
Blender3.6/	15-Oct-2024 08:13
Blender4.0/	05-Dec-2023 14:19
Blender4.1/	16-Apr-2024 08:42
Blender4.2/	15-Oct-2024 08:16

PREPARATION TO WORK

IN OUR TRAINING WE WILL USE **BLENDER 3.0**

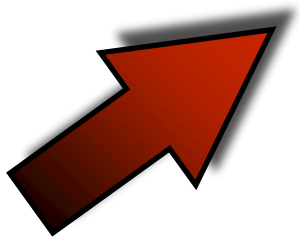
Index of /release/Blender3.0/

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blender-3.0.1.md5	26-Jan-2022 13:17	384
blender-3.0.1.sha256	26-Jan-2022 13:17	576



**TO CREATE INTERACTIONS IN
3D GLASSES WE WILL USE THE
APPROPRIATE **ADD-ON** FOR THIS
VERSION OF BLENDER**

Hubs Blender Addon 1.6.0





POWER OF AR AND VR



YOU CAN **DOWNLOAD** IT FROM THE WEBSITE

<https://github.com/Hubs-Foundation/hubs-blender-exporter/releases>

1.6.0

What's Changed

- Make avatar to viewport default to false by @keianhzo in #283
- Scene grabbables support by @keianhzo in #282
- Fix things related to scene-grabbables by @Exairnous in #285
- Prevent data corruption during a migration if components are removed. by @Exairnous in #286
- Improve debugger texts by @keianhzo in #287
- Update Readme by @keianhzo in #294
- Isolate dependencies from other add-ons by @keianhzo in #284
- Support for user components directories by @keianhzo in #290
- Append version to zip output by @keianhzo in #295
- Restore query docs by @keianhzo in #297
- Port to blender4 Merged with blender4-image-export by @Spiderguy-F in #296
- Support importing older scale audio feedback components. by @Exairnous in #298
- Add support for importing reflection probes. by @Exairnous in #299
- Add support for importing old Audio Target components. by @Exairnous in #301
- Fix the import for the Loop Animation component's startOffset property. by @Exairnous in #302
- Report import errors when calling delayed gathers. by @Exairnous in #303
- Don't attempt to assign glTF properties to non-existent Blender properties. by @Exairnous in #304
- Make Blender 4+ nodes default to moving when added. by @Exairnous in #306
- [Mozilla Branding Removal] Remove branding references, URLs, images, etc. by @Exairnous in #305

Full Changelog: [1.5.0...1.6.0](#)

Contributors

keianhzo, Spiderguy-F, and Exairnous

Assets

io_hubs_addon.zip	475 KB	Jul 28
Source code (zip)		Jul 26
Source code (tar.gz)		Jul 26

👍 1 🗨️ 1 2 people reacted

PREPARATION TO WORK

**ADDITIONALLY,
WE NEED TO COPY
A PYTHON SCRIPT FILE
INTO THE RIGHT PLACE
AS A REGULAR TEXT FILE**

moveable.py

WINDOWS PATH

C:\Users\...USER...\AppData\Roaming\Blender Foundation\Blender\3.0\scripts\addons\io_hubs_addon\components\definitions\moveable.py



APPLE PATH

/Users/...USER.../Library/Application Support/Blender/3.0/scripts/addons/io_hubs_addon/components/definitions/moveable.py



INSTEAD OF

...USER...

ENTER YOUR

SYSTEM ACCOUNT NAME

```
from bpy.props import BoolProperty
from ..hubs_component import HubsComponent
from ..types import NodeType, PanelType, Category
from ..utils import remove_component, add_component
from .networked_transform import NetworkedTransform
```

```
class Moveable(HubsComponent):
```

```
    _definition = {
```

```
        'name': 'moveable',
        'display_name': 'Moveable',
        'category': Category.OBJECT,
        'node_type': NodeType.NODE,
        'panel_type': [PanelType.OBJECT],
        'icon': 'VIEW_PAN',
        'deps': ['rigidbody', 'networked-transform'],
        'version': (1, 0, 1)
```

```
    }
```

```
    cursor: BoolProperty(
        name="By Cursor", description="Can be grabbed by a cursor", default=True)
```

```
    hand: BoolProperty(
        name="By Hand", description="Can be grabbed by VR hands", default=True)
```

```
@classmethod
```

```
def init(cls, obj):
    obj.hubs_component_list.items.get('rigidbody').isDependency = True
```

```
def migrate(self, migration_type, panel_type, instance_version, host, migration_report, ob=None):
```

```
    migration_occurred = False
    if instance_version <= (1, 0, 0):
        migration_occurred = True
```

```
    # This was a component that has disappeared but it was usually added together with grabbable so we try to remove those instances.
```

```
    if "capturable" in host.hubs_component_list.items:
        remove_component(host, "capturable")
```

```
    if "networked-object-properties" in host.hubs_component_list.items:
        remove_component(host, "networked-object-properties")
```

```
    add_component(host, NetworkedTransform.get_name())
```

```
    return migration_occurred
```

FILE

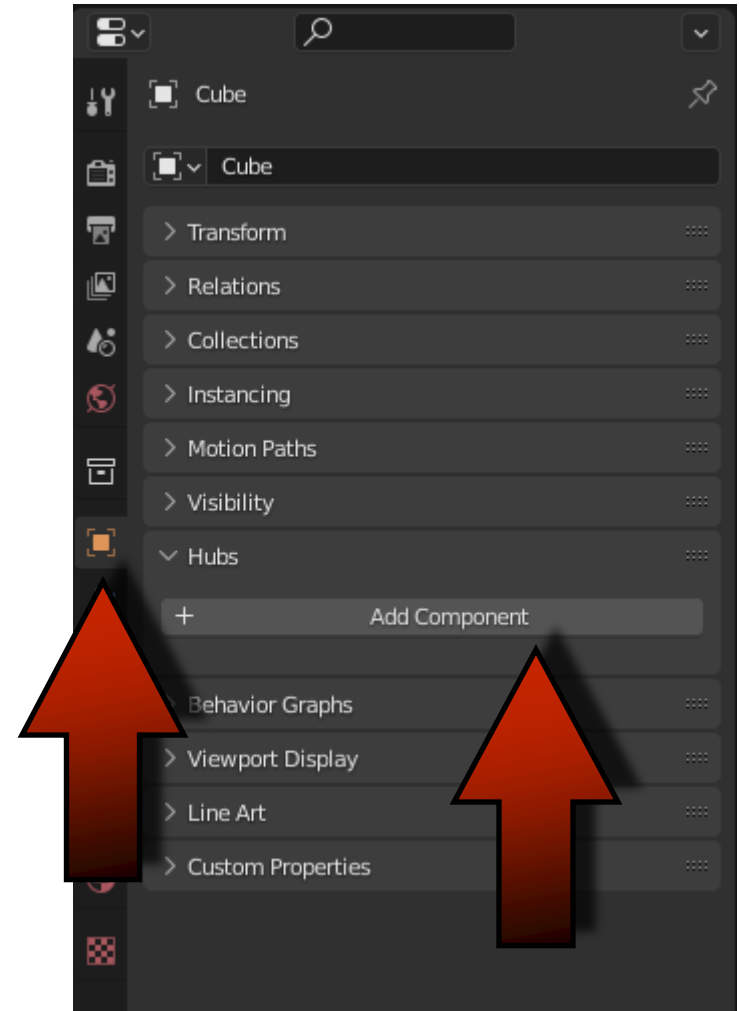
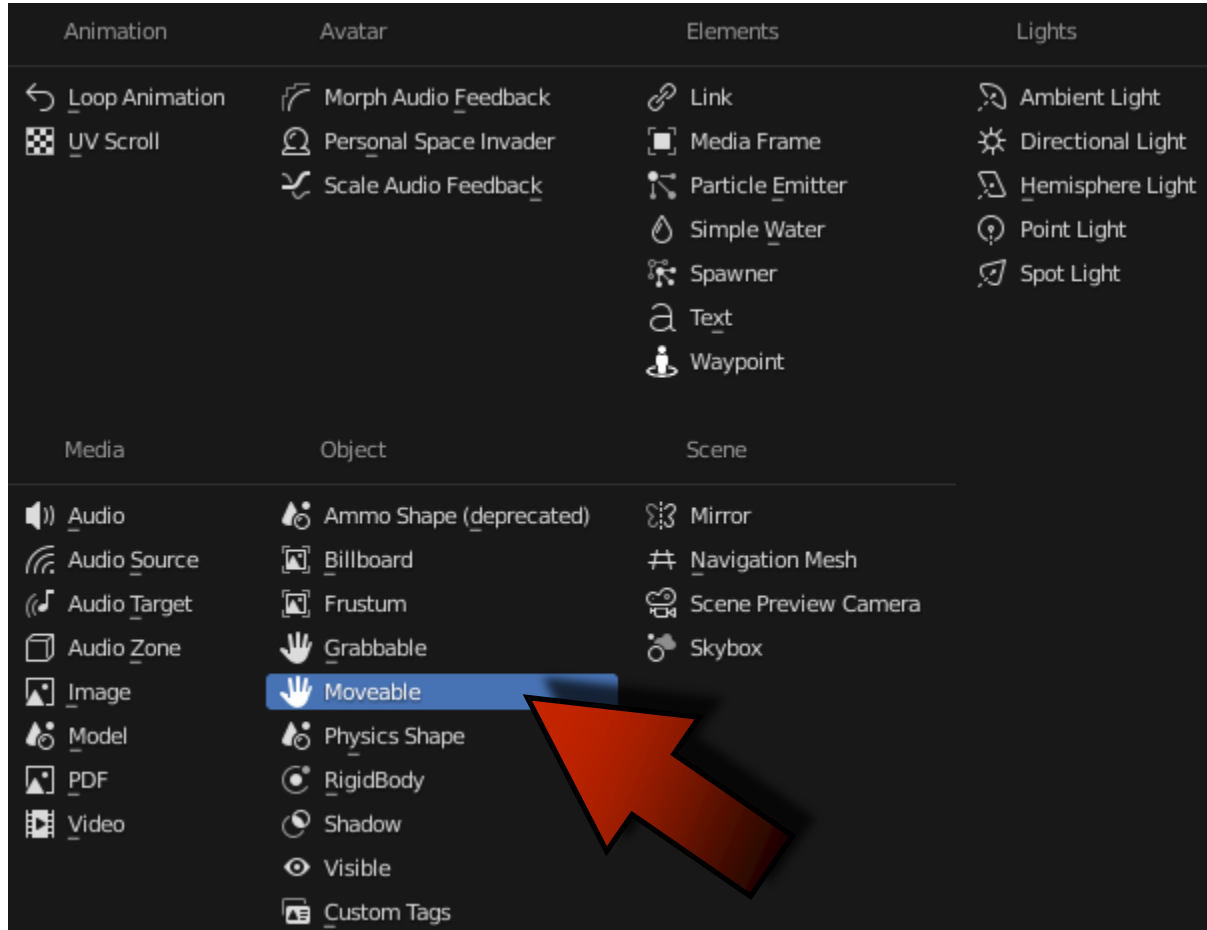
moveable.py



POWER OF AR AND VR



ADD-ON CORRECTLY INSTALLED



PREPARATION TO WORK

**WE INSTALL IT AS OTHER
ADD-ONS
IN BLENDER**

**WE WILL GIVE EXAMPLES
IN THE NEXT EXERCISES**

POWER OF AR AND VR

**ADDITIONALLY,
I WILL PRESENT
THE BASICS OF **UPBGE****

**BLENDER WITH
A GAME ENGINE**



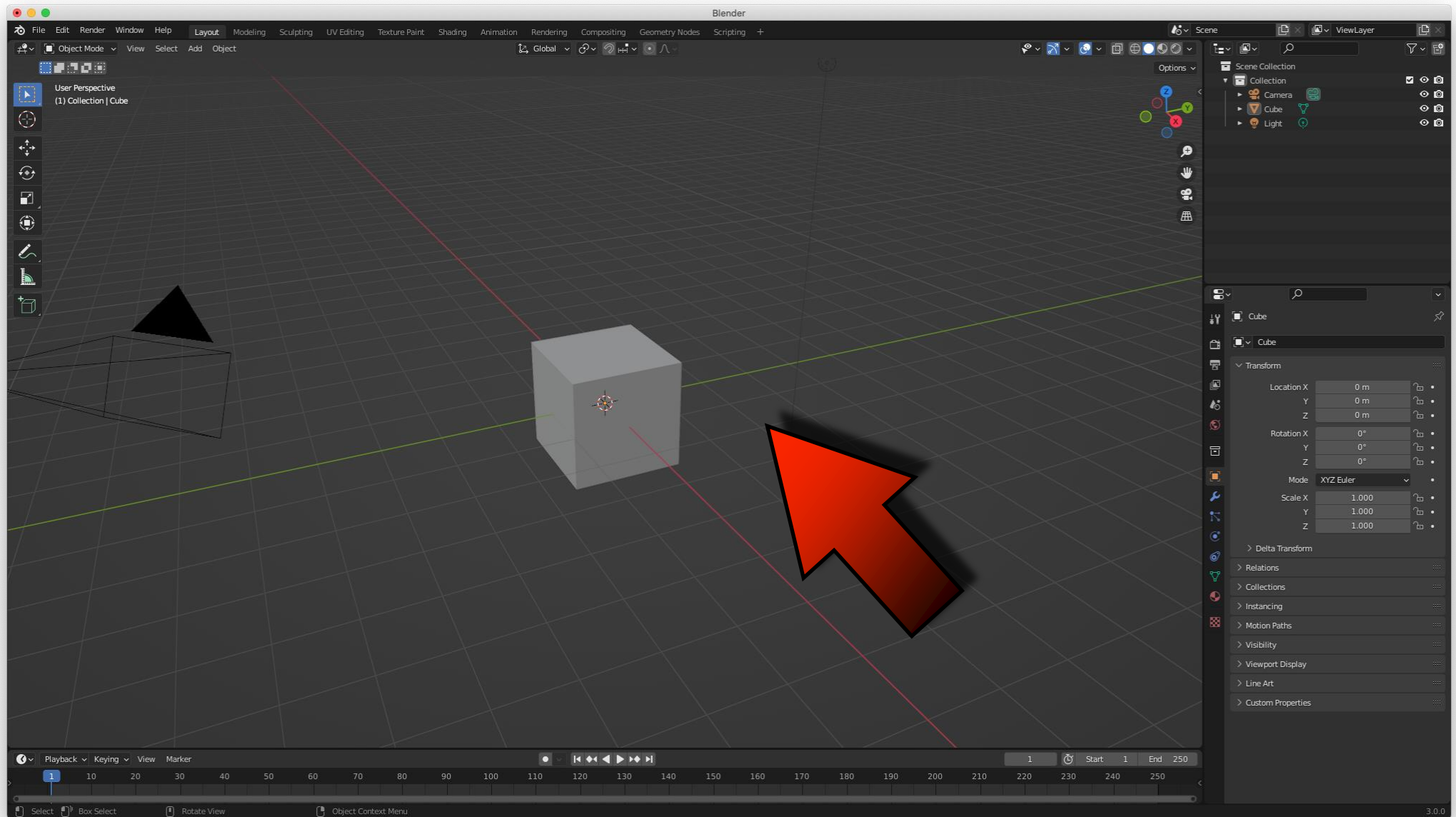
<https://upbge.org>

PREPARATION TO WORK

RUN
THE BLENDER
PROGRAM

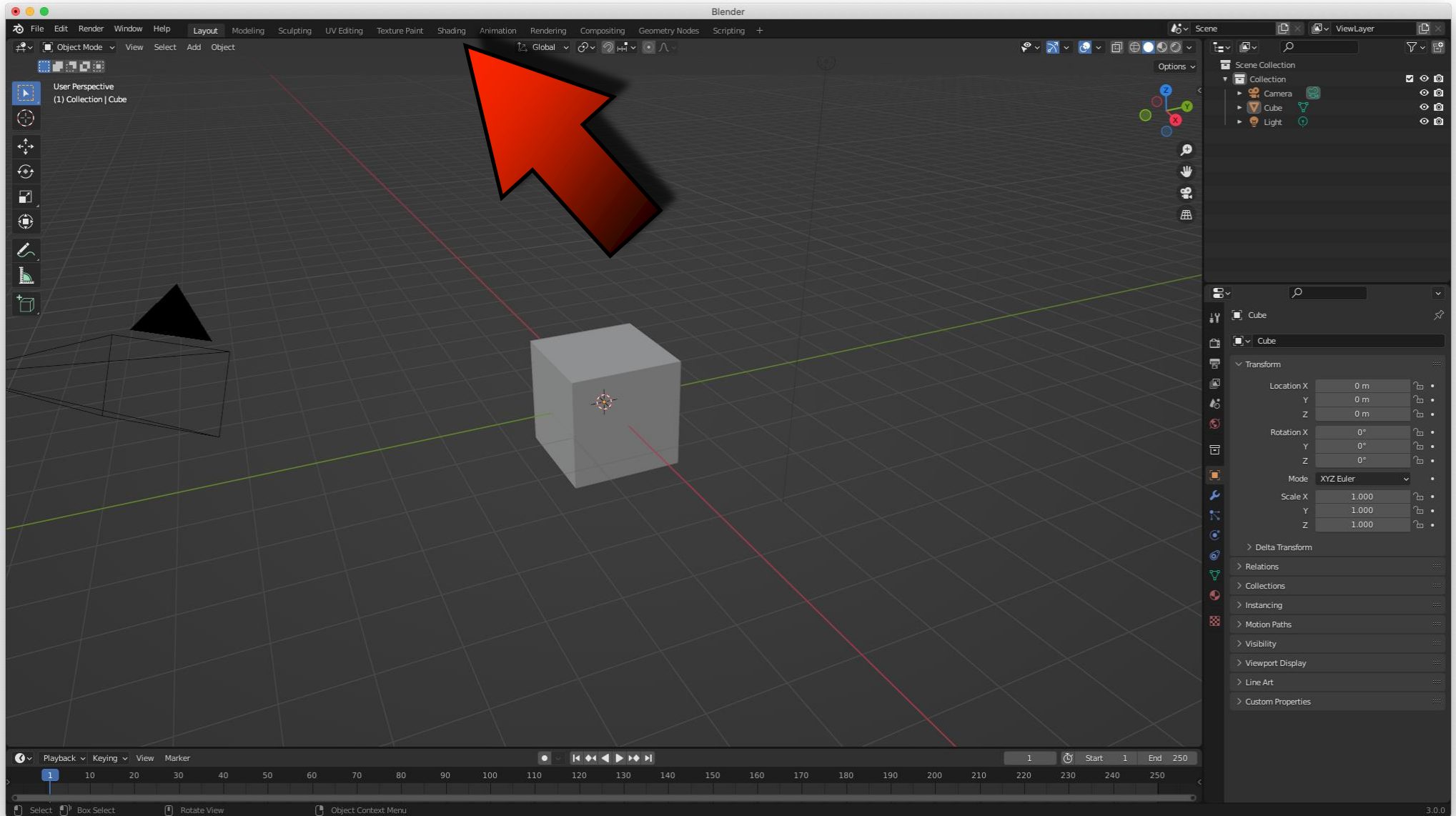


3D VIEW

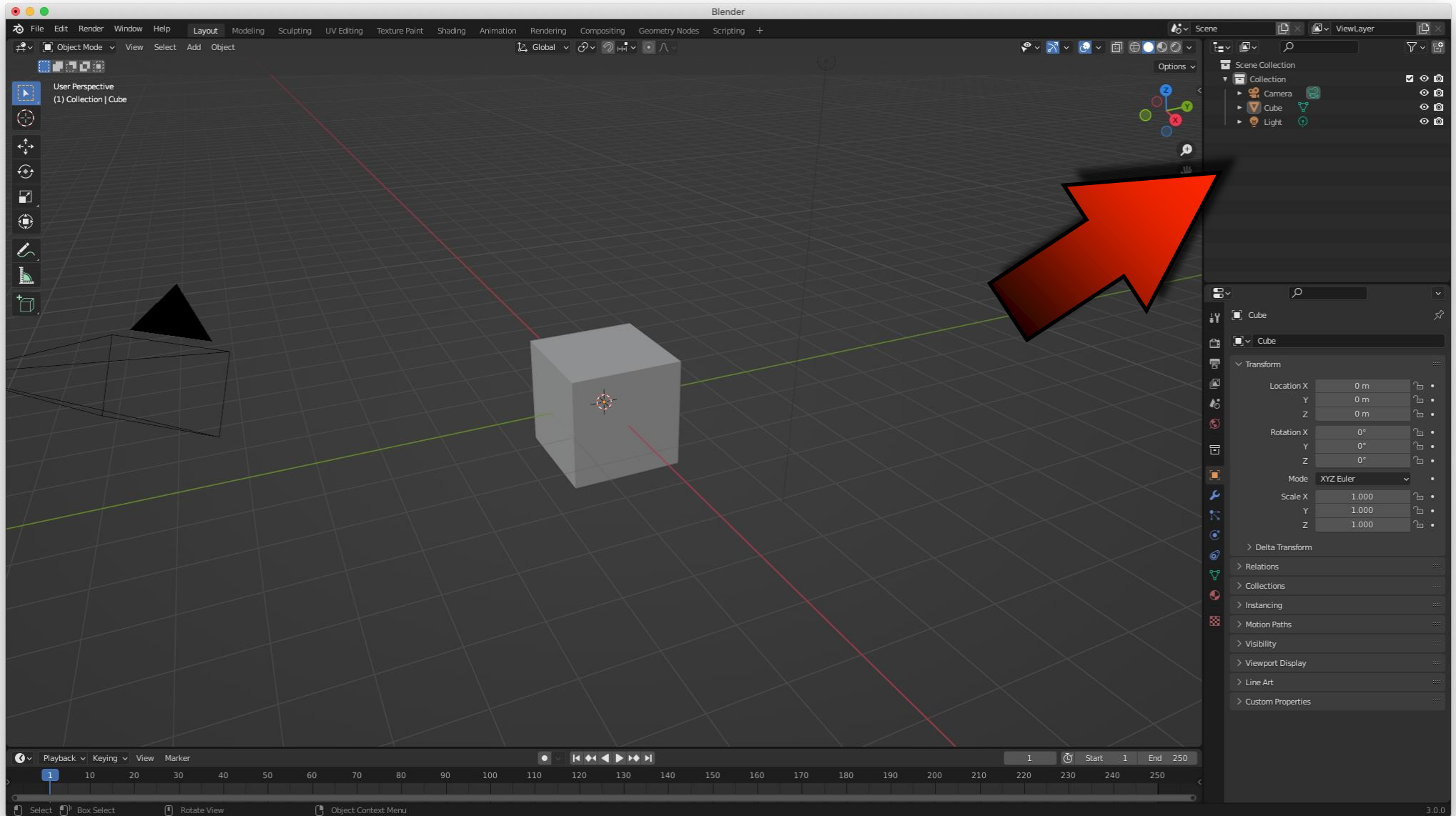


PREPARATION TO WORK

MENU



OUTLINER

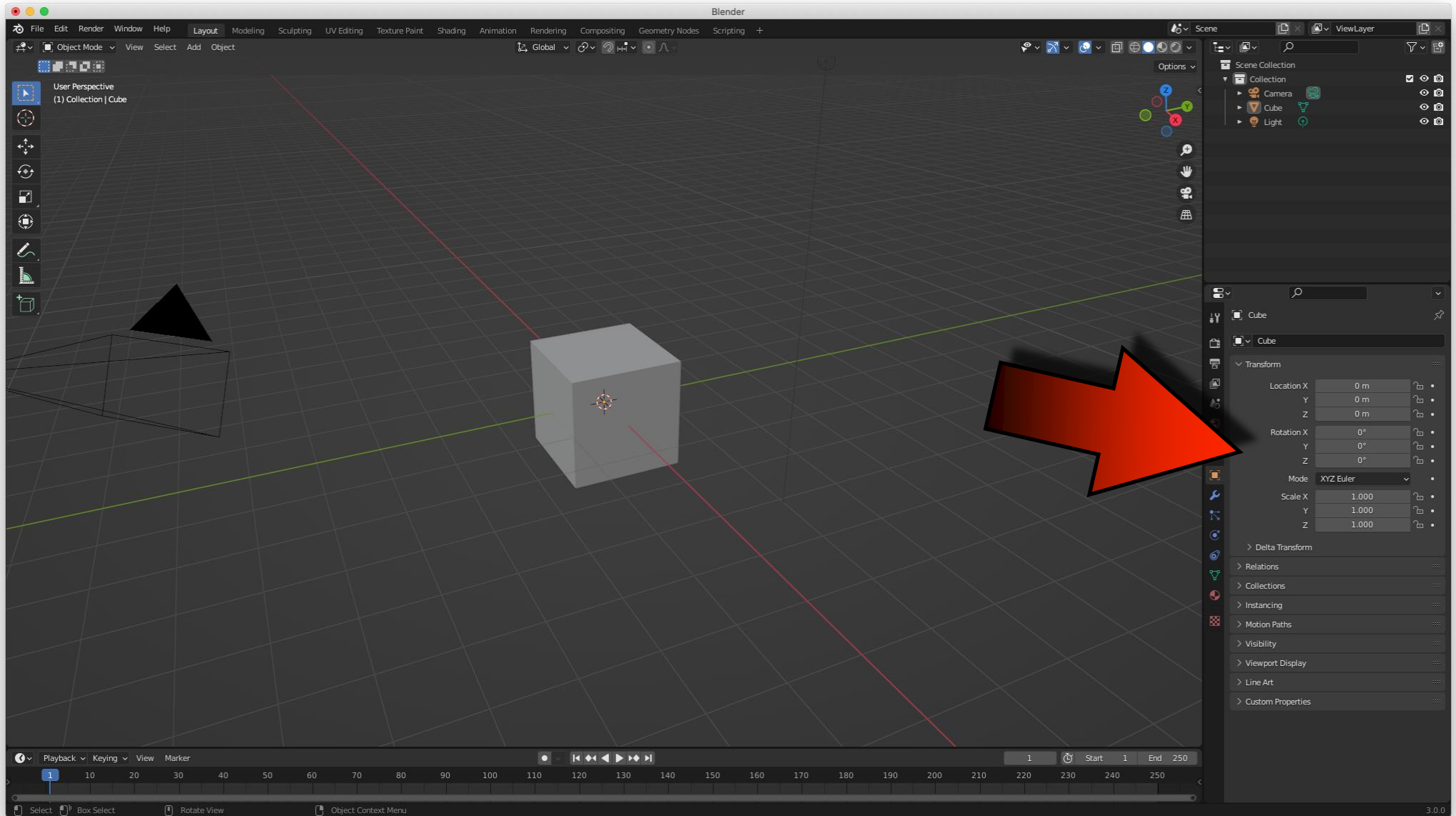




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PROPERTIES



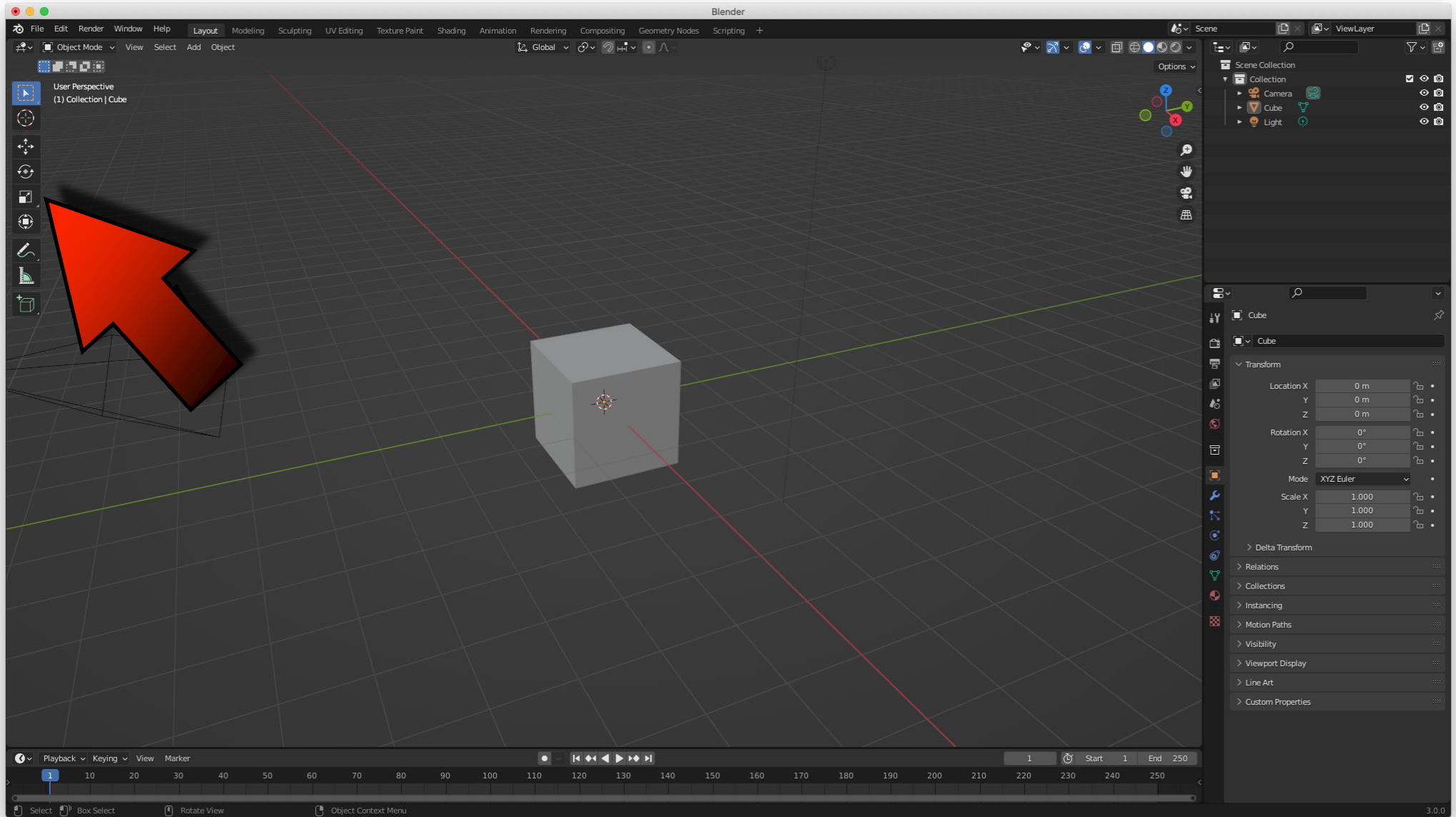
PREPARATION TO WORK



POWER OF AR AND VR



TOOLS



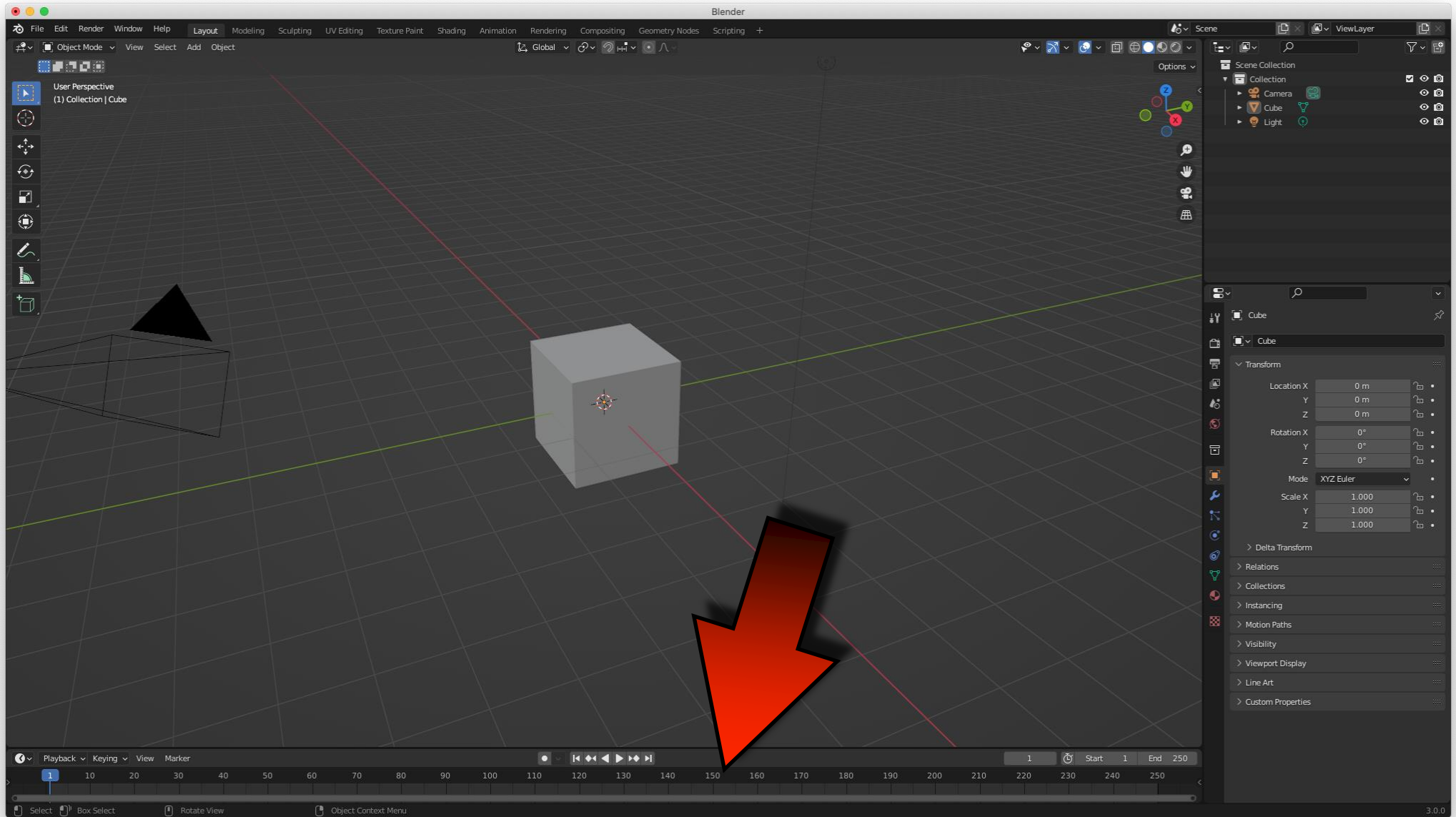
PREPARATION TO WORK



POWER OF AR AND VR

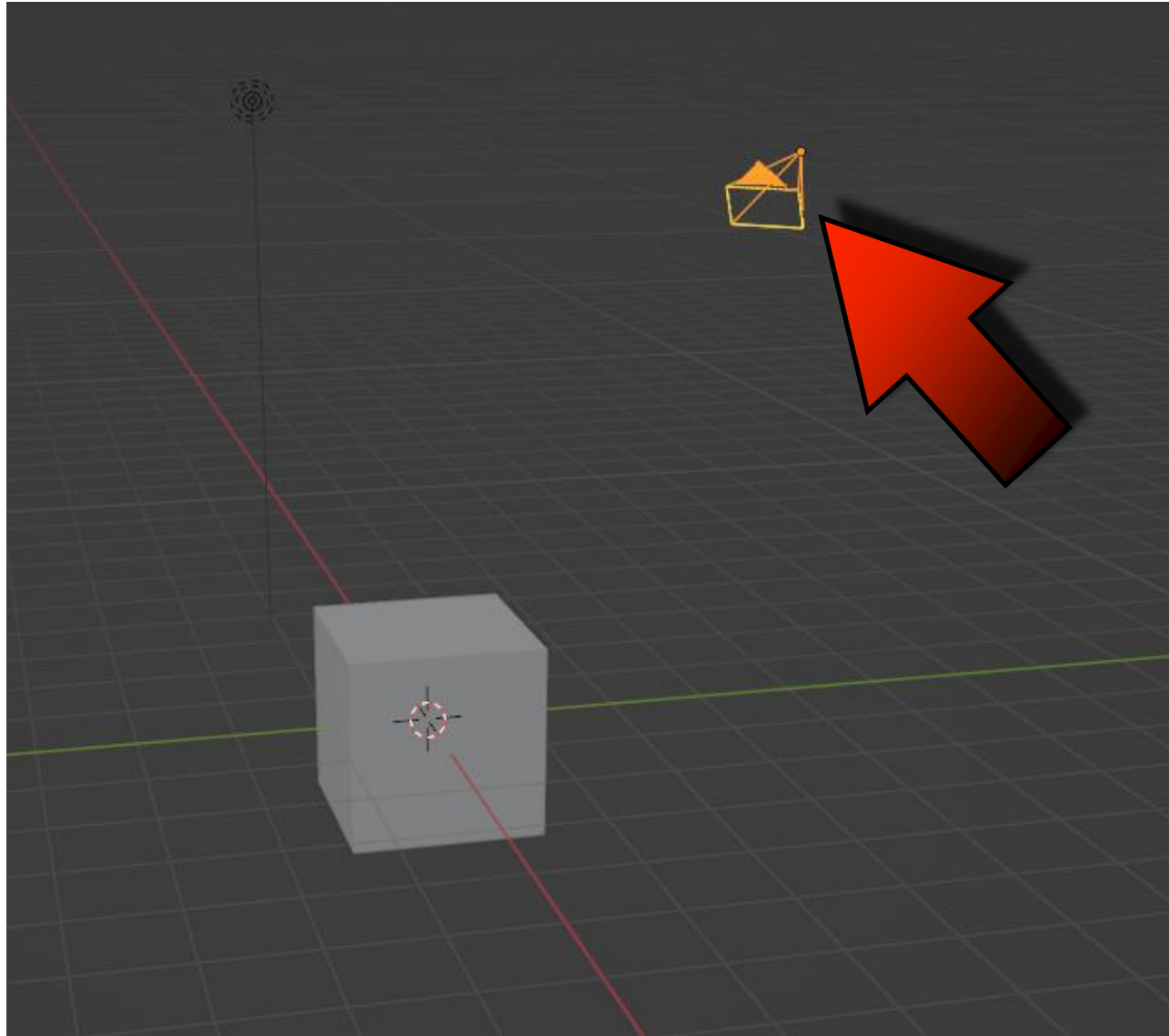


TIMELINE



PREPARATION TO WORK

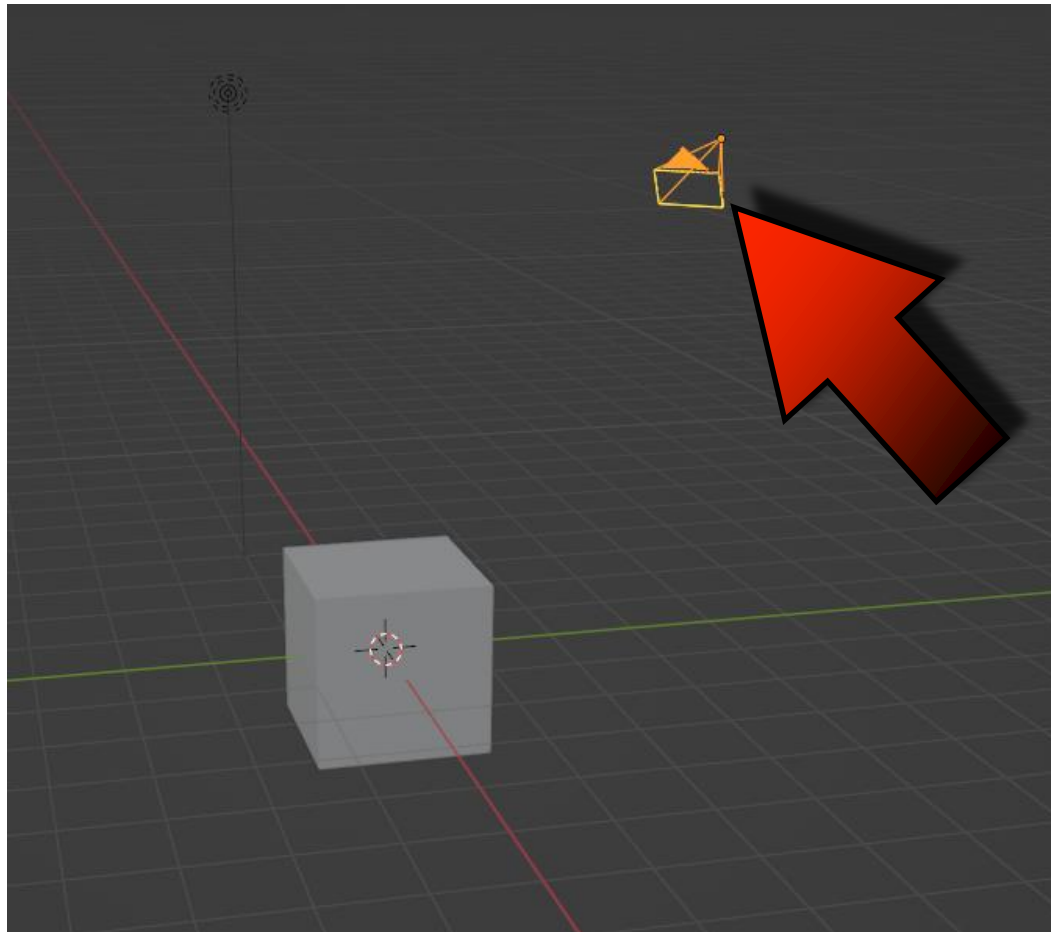
CAMERA



PREPARATION TO WORK

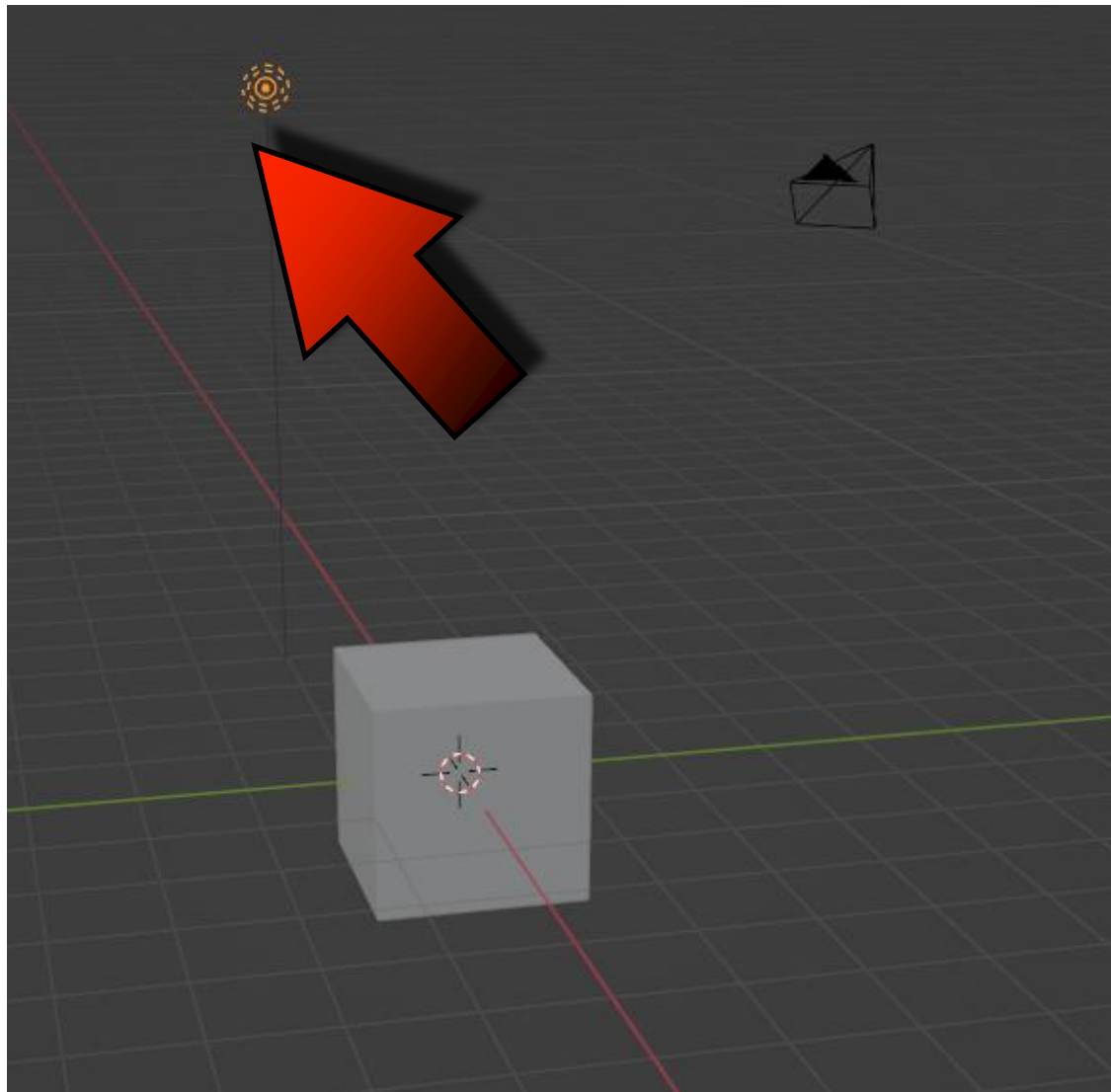
POWER OF AR AND VR

**AFTER CLICKING WITH
THE LEFT MOUSE BUTTON,
WE SELECT AN OBJECT.**

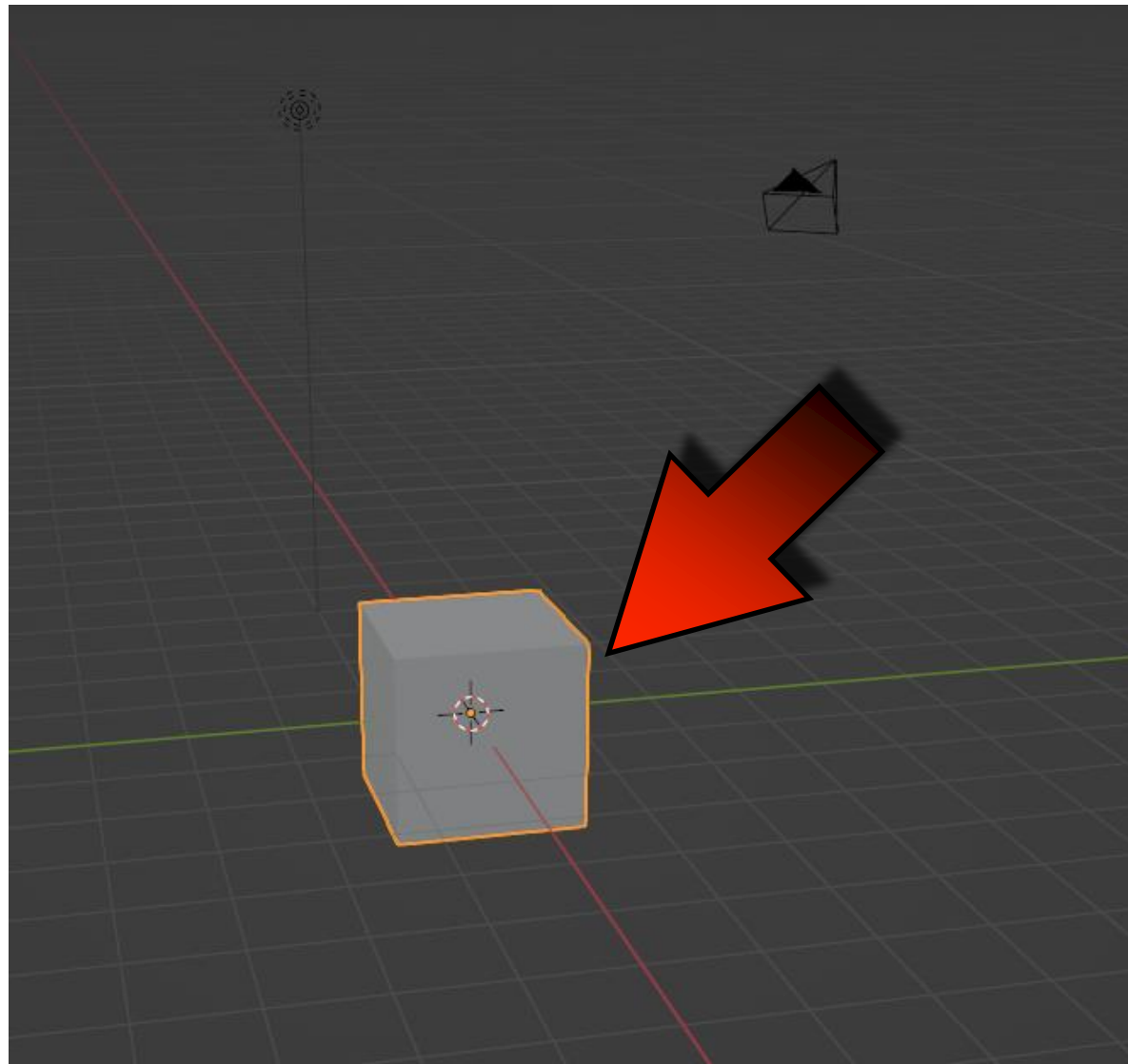


PREPARATION TO WORK

LIGHT

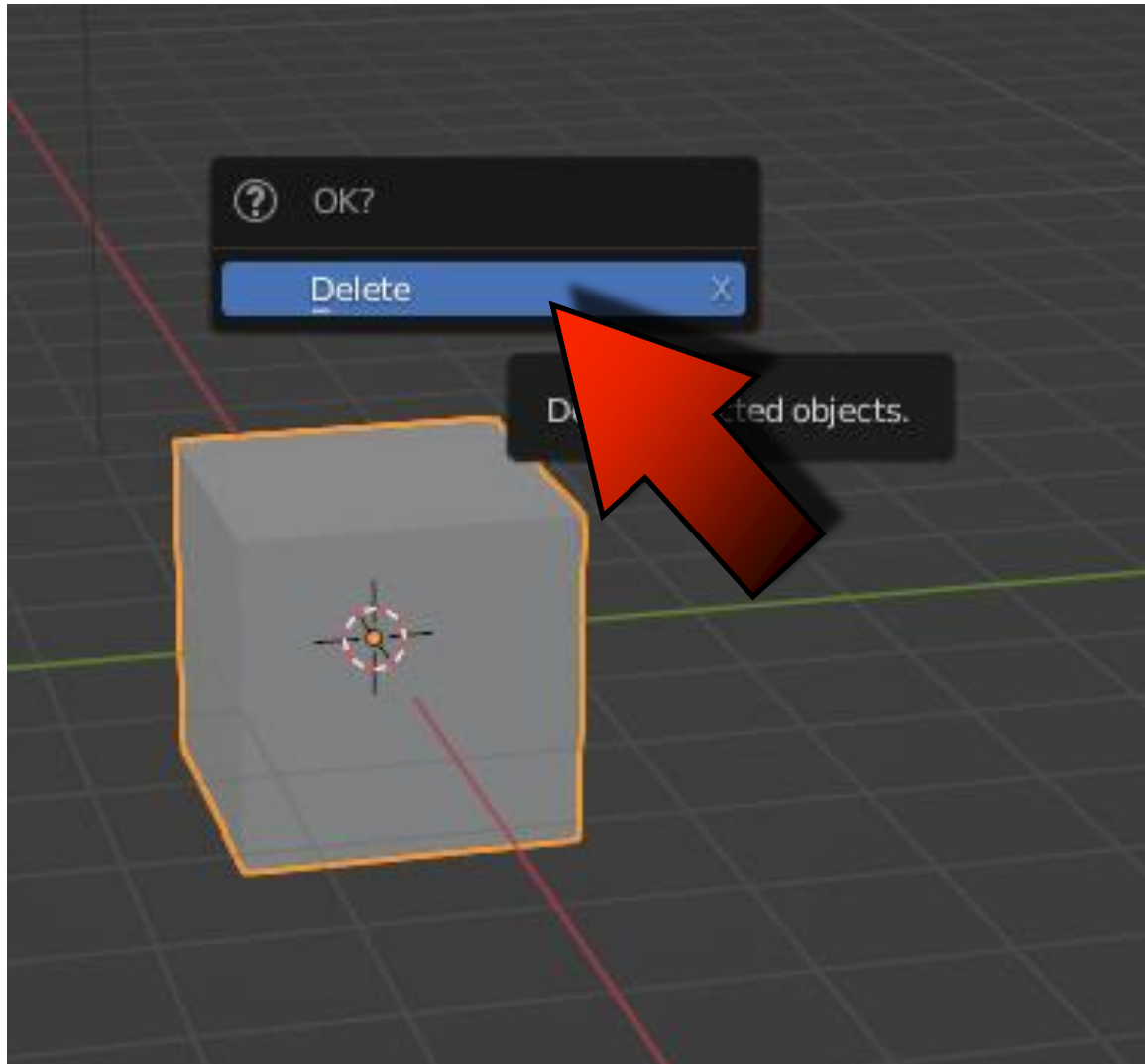


3D OBJECT - CUBE



PREPARATION TO WORK

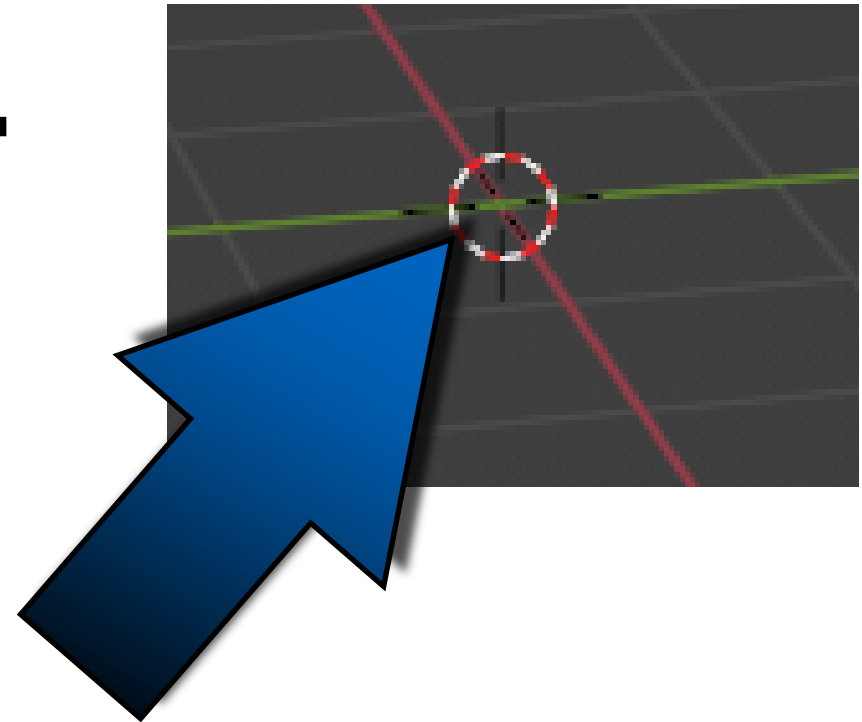
X KEY – DELETE OBJECTS



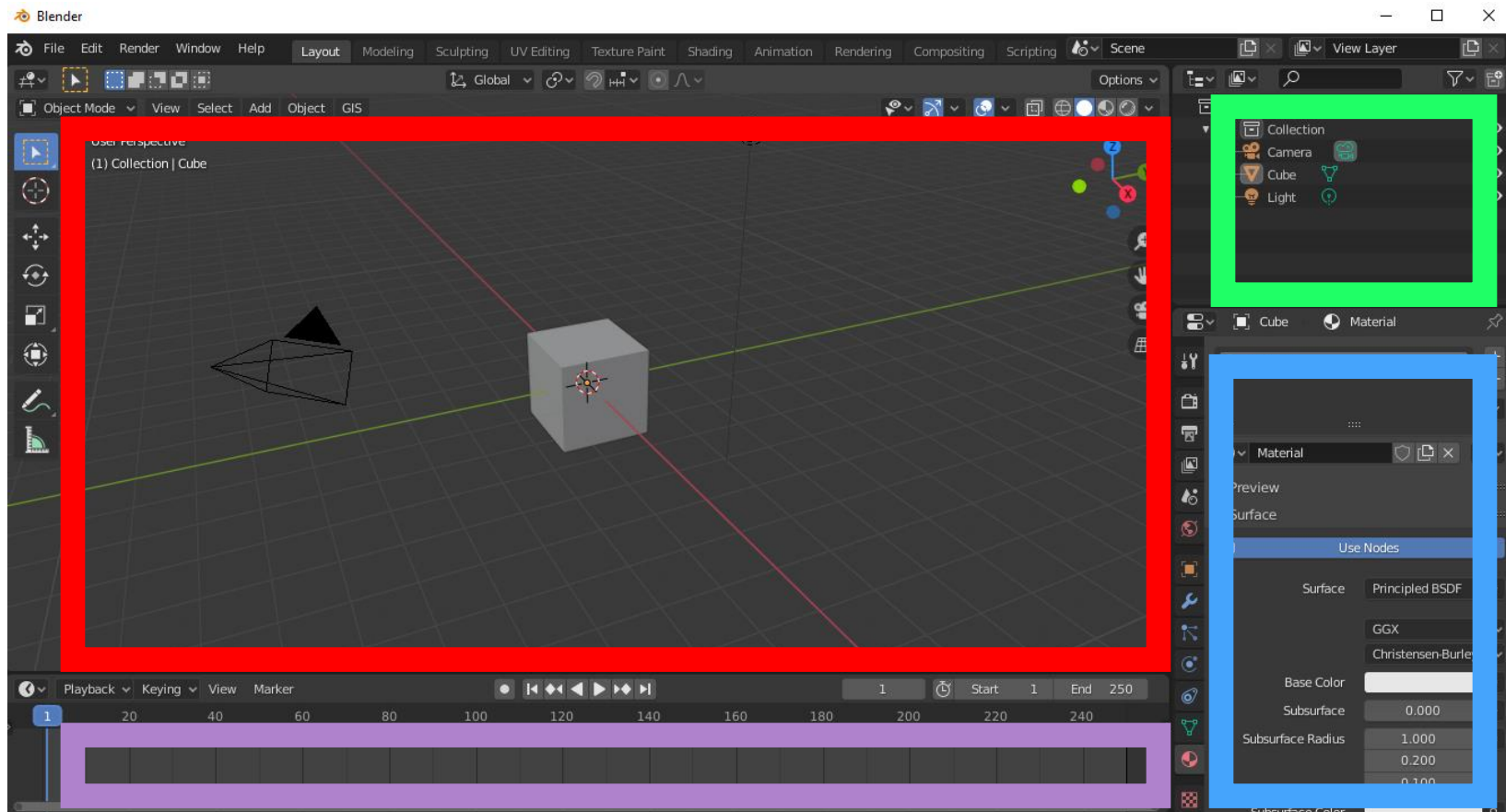
3D CURSOR

**DEFINES WHERE
THE NEW OBJECT
WILL BE INSERT**

**NOW IT IS IN
THE CENTER OF
THE COORDINATE
SYSTEM**



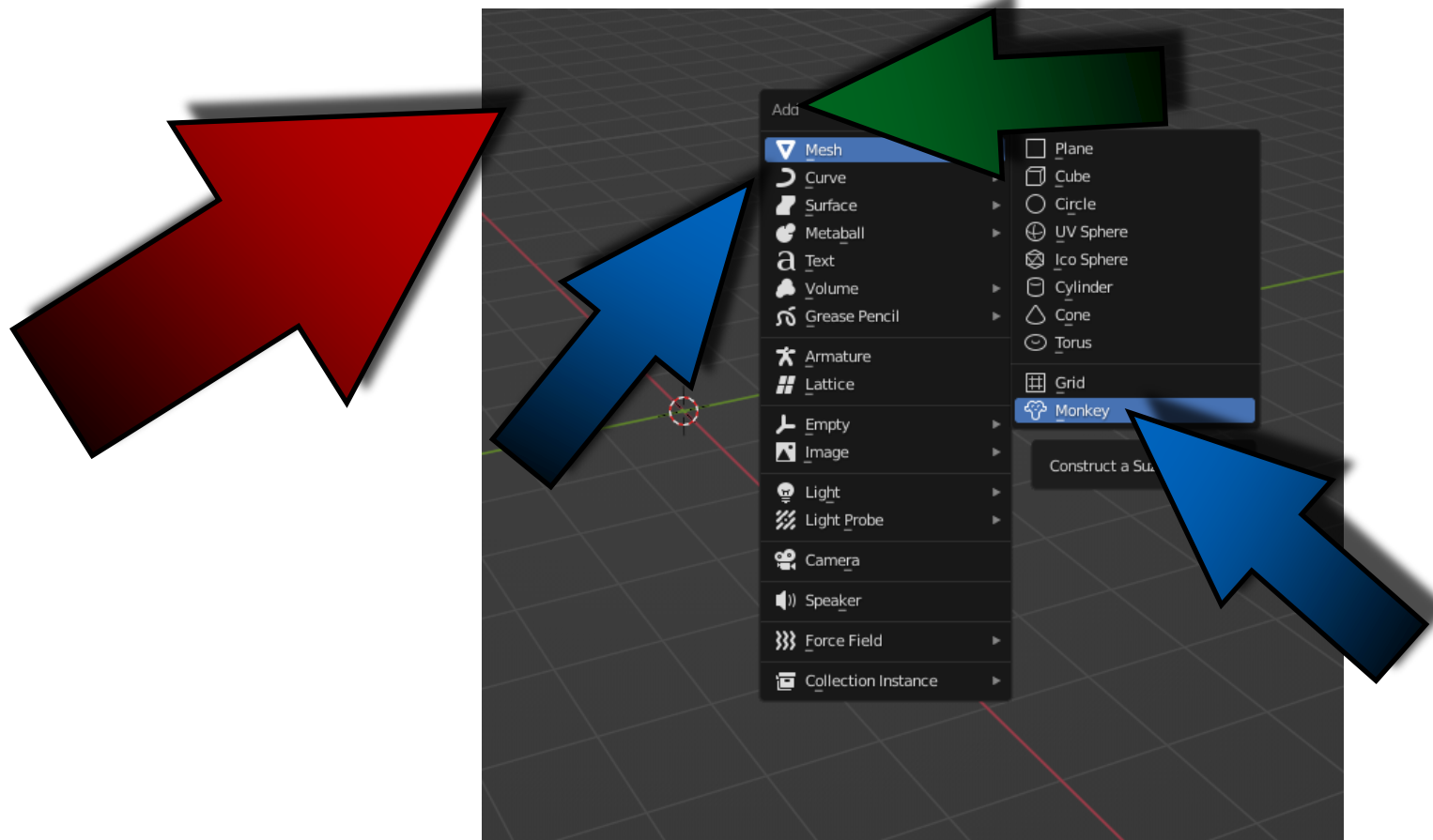
**PAY ATTENTION TO
THE WINDOW THAT YOUR MOUSE CURSOR IS OVER.
IT DEPENDS ON
WHICH KEYBOARD SHORTCUTS WORK.**



PREPARATION TO WORK

POWER OF AR AND VR

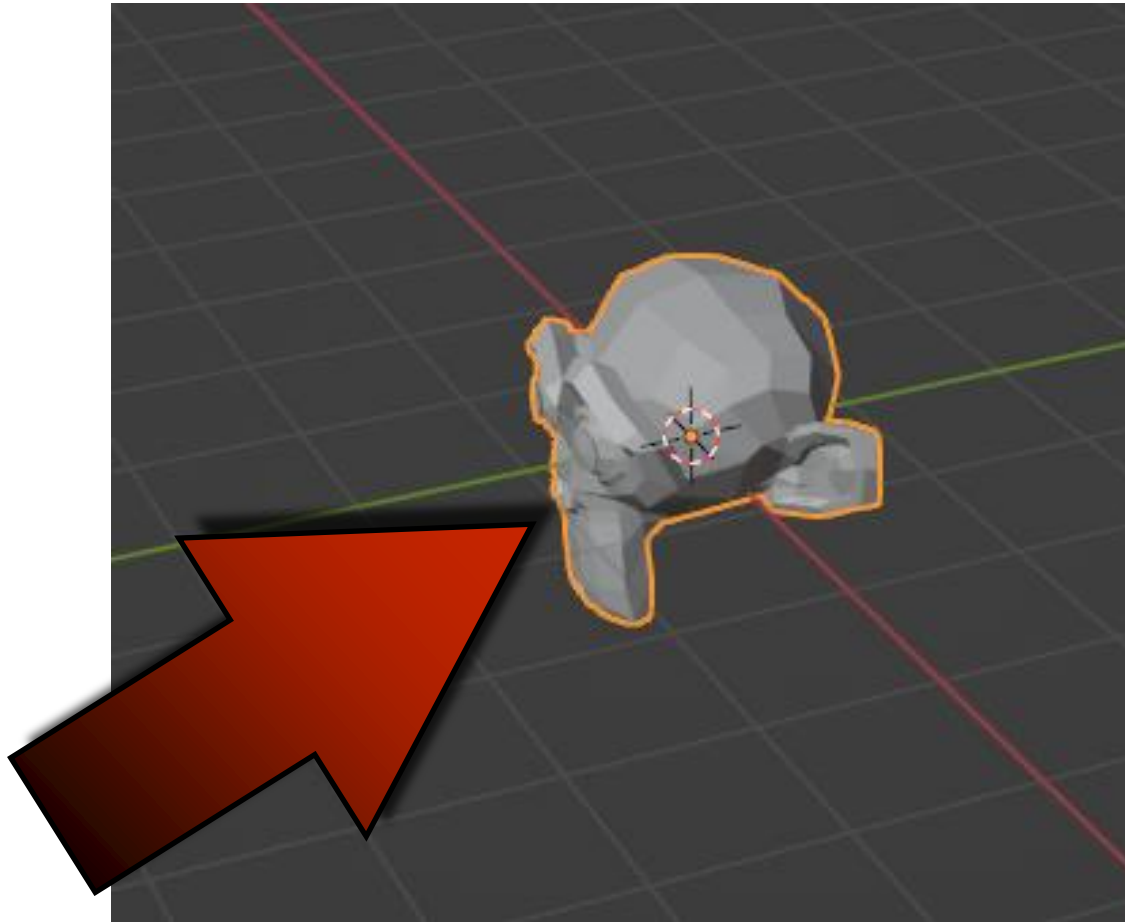
**MOVE YOUR MOUSE
OVER THE 3D VIEW WINDOW
AND PRESS **SHIFT+A** (ADD)
AND SELECT A **MESH/MONEY****



PREPARATION TO WORK

POWER OF AR AND VR

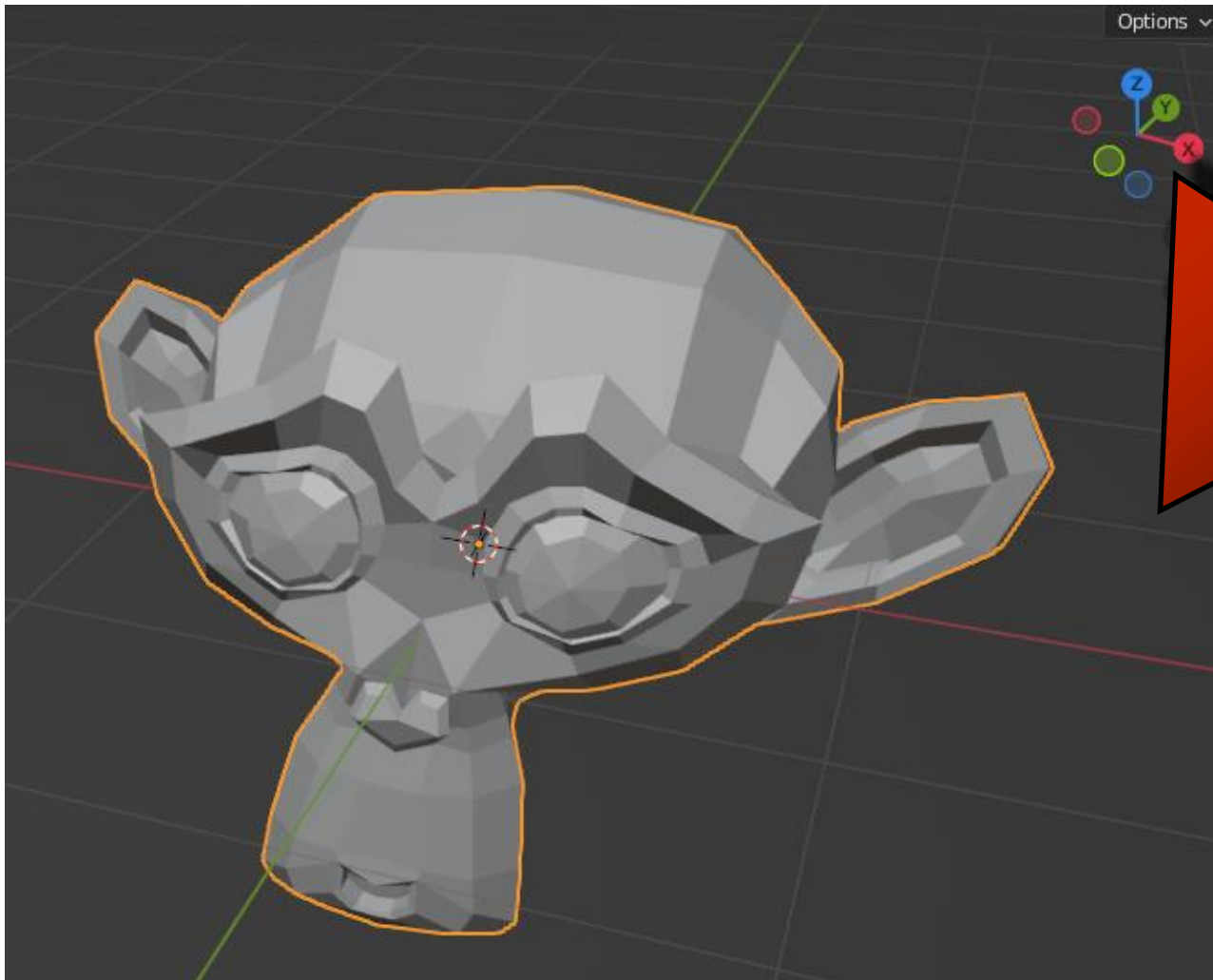
**YOU WILL SEE A NEW
3D OBJECT**



PREPARATION TO WORK

POWER OF AR AND VR

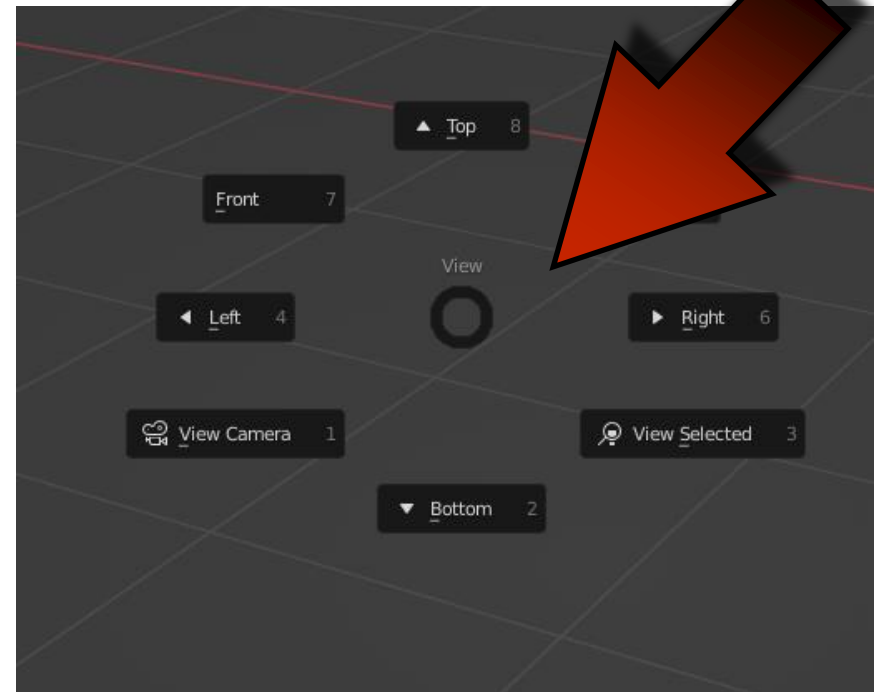
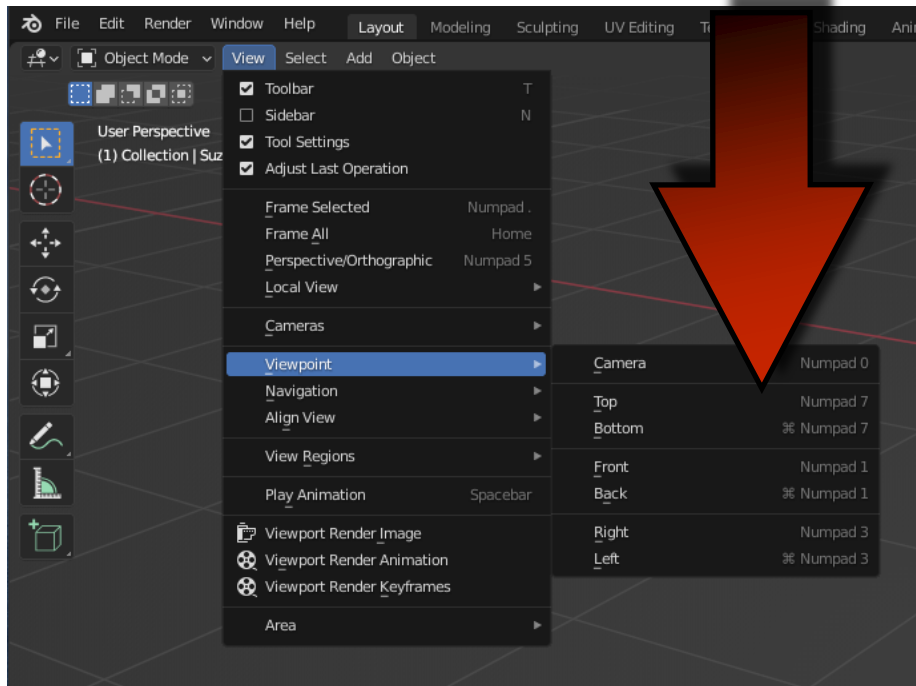
WITH **GIZMO** YOU CAN CHANGE THE VIEW



PREPARATION TO WORK

POWER OF AR AND VR

**IN THE BLENDER PROGRAM
THE SAME OPERATION CAN BE
PERFORMED IN MANY WAYS
EVERYONE CAN CHOOSE THE ONE
THAT SUITS THEM BEST.**



PREPARATION TO WORK

USING KEYBOARD SHORTCUTS WILL MUCH SPEED UP YOUR WORK

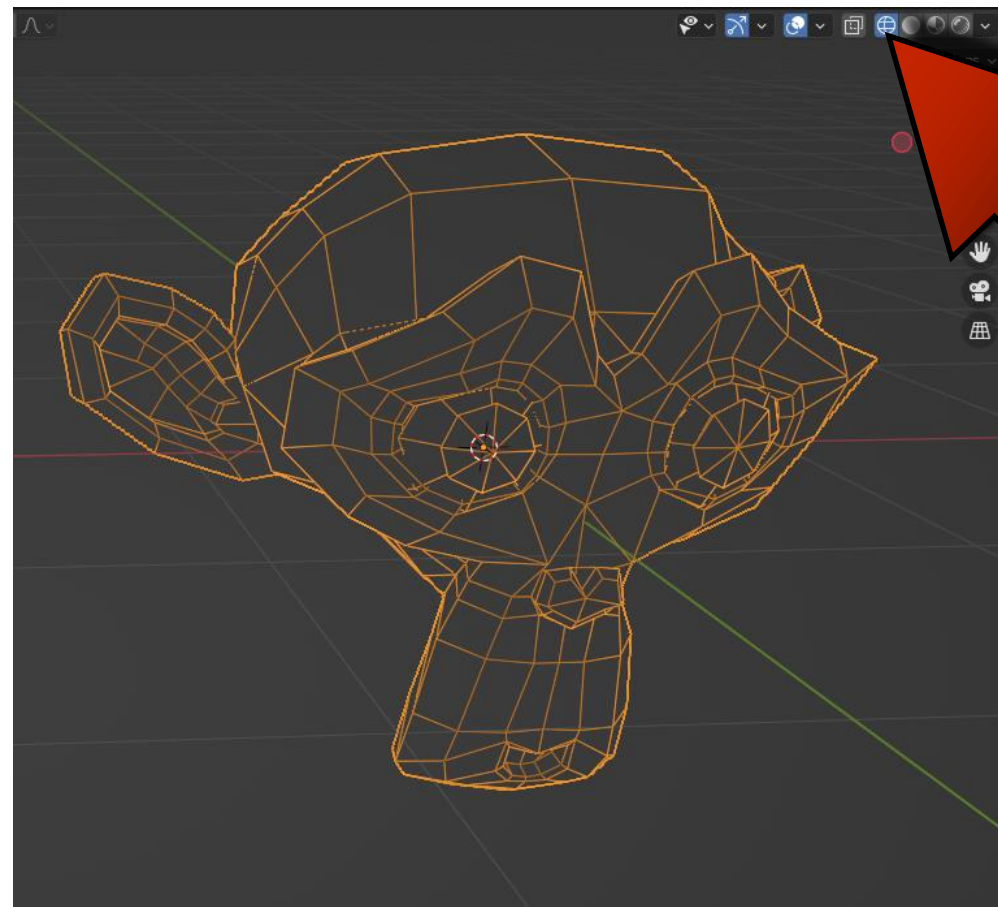


CTRL+ALT+Q

PREPARATION TO WORK

METHODS OF DISPLAYING OBJECTS

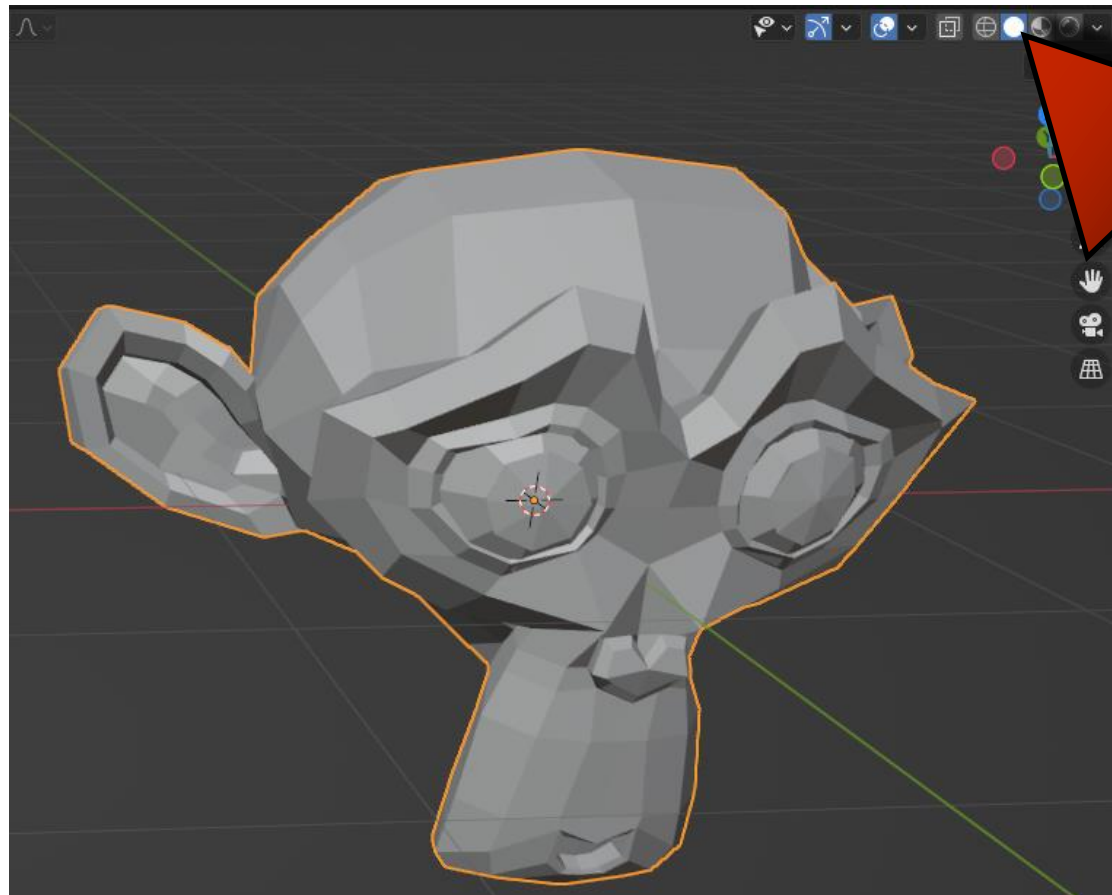
WIREFRAME



PREPARATION TO WORK

METHODS OF DISPLAYING OBJECTS

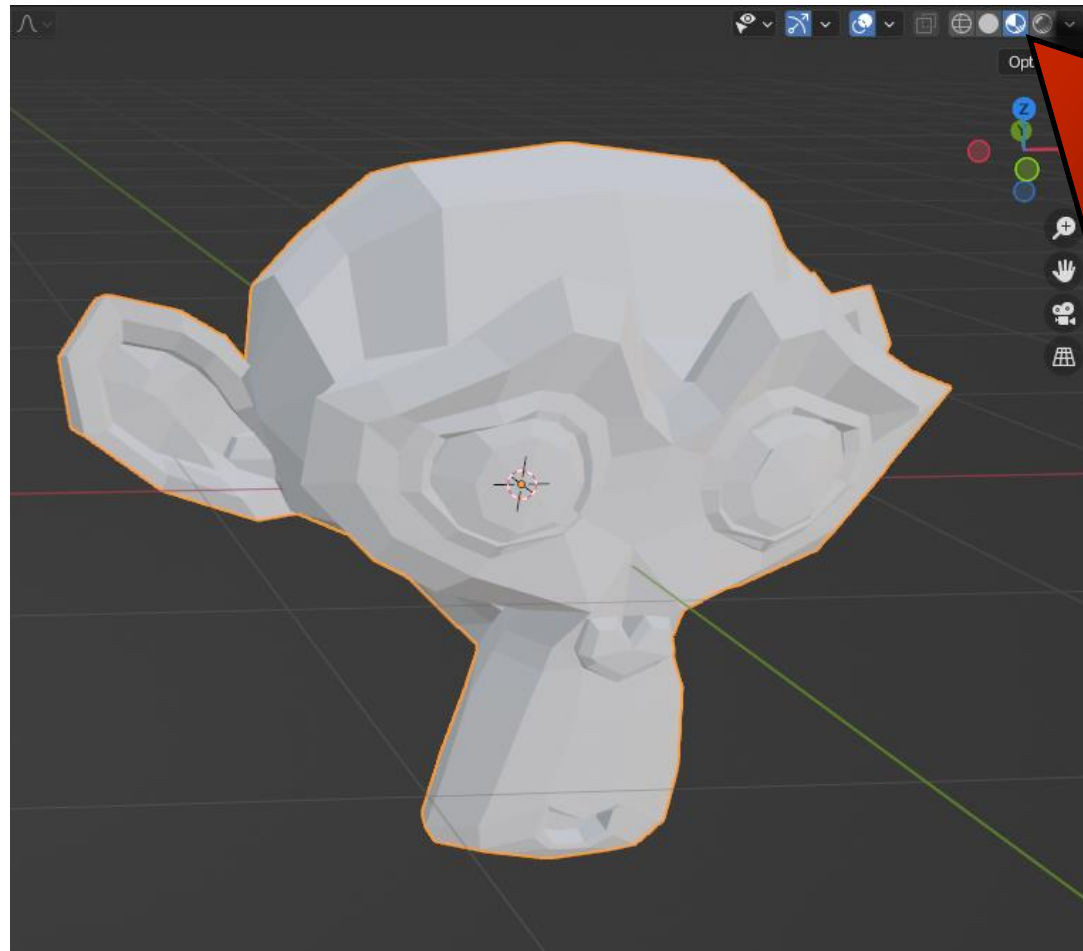
SOLID



PREPARATION TO WORK

METHODS OF DISPLAYING OBJECTS

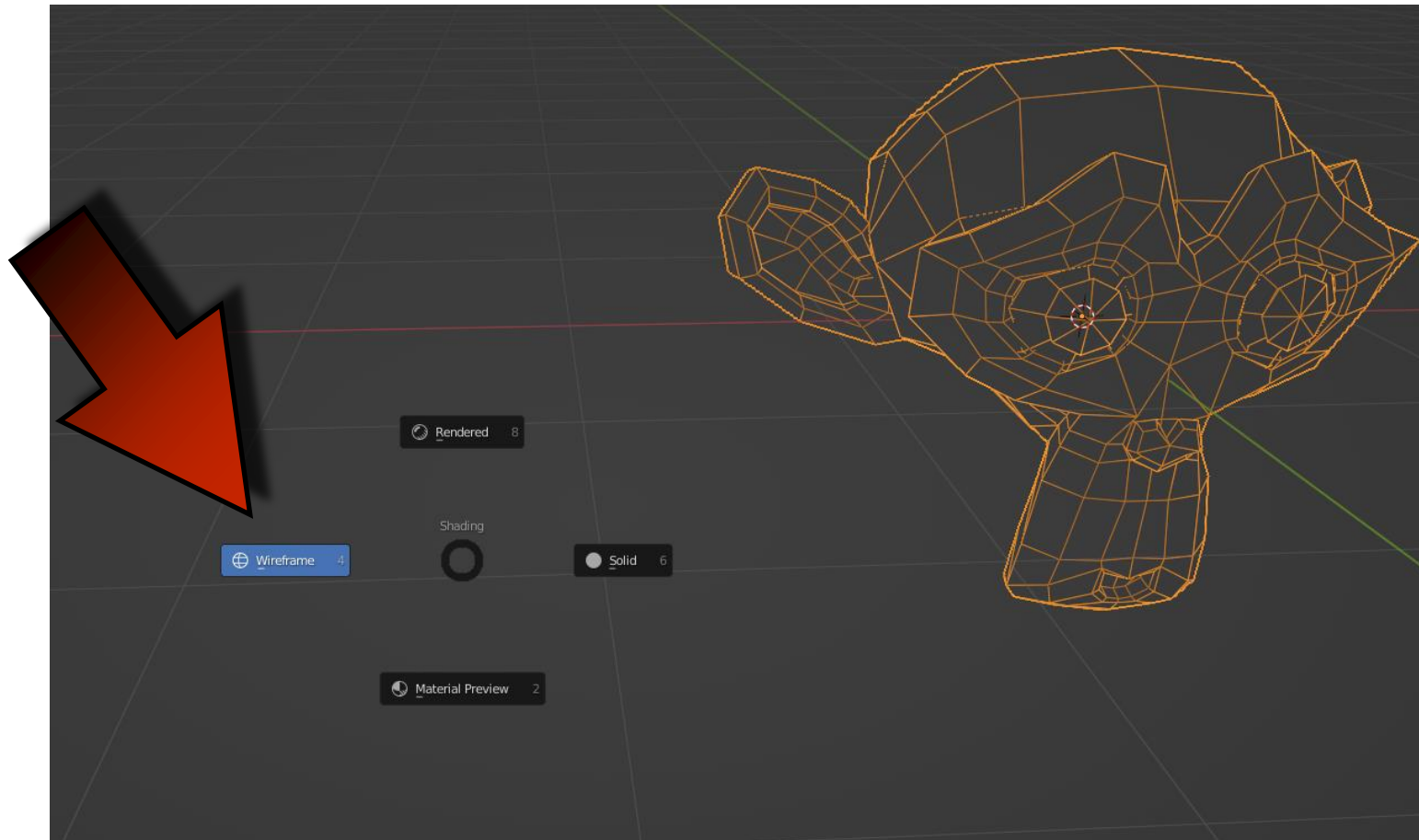
MATERIAL



PREPARATION TO WORK

Z KEY

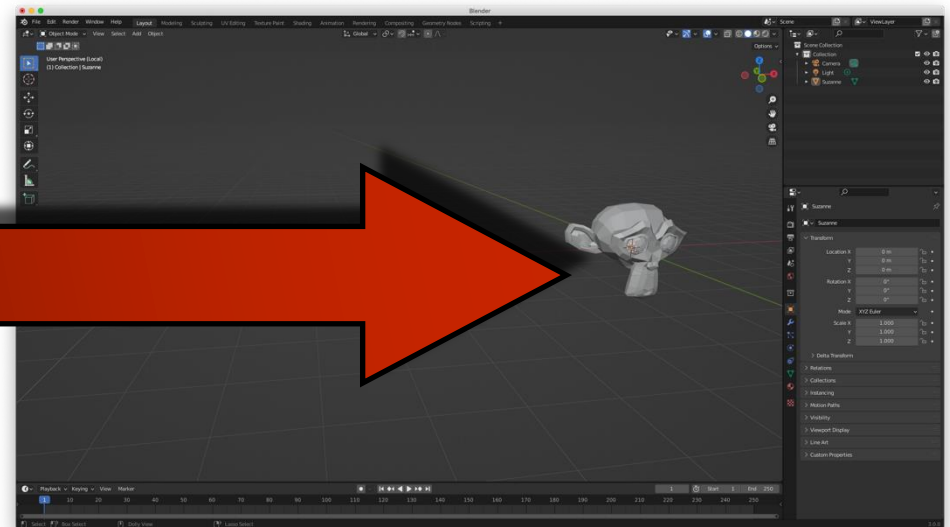
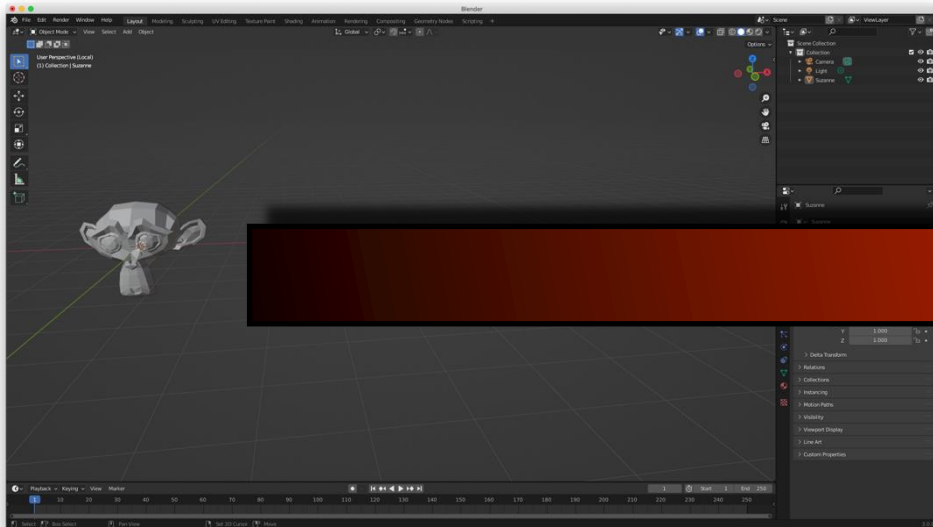
GIVES THE SAME POSSIBILITIES



PREPARATION TO WORK

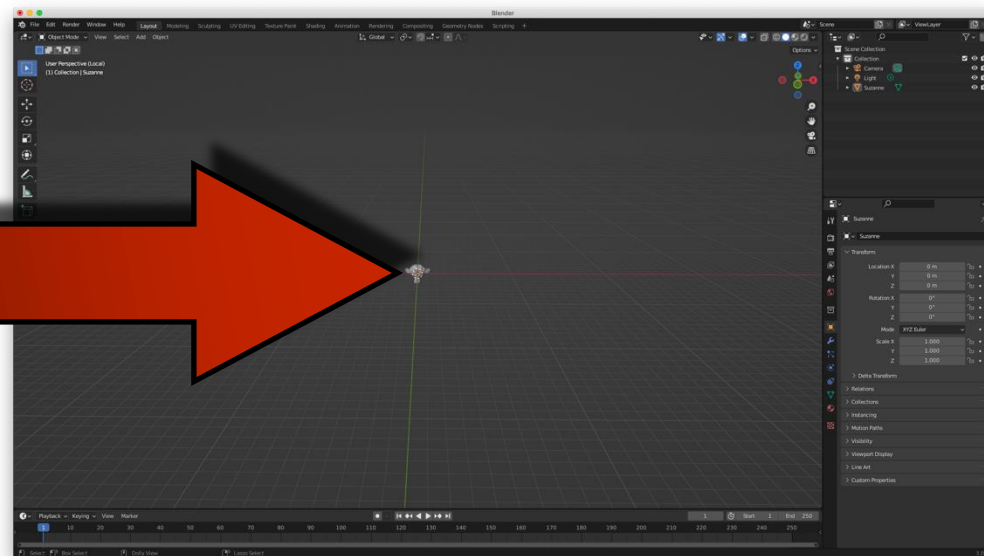
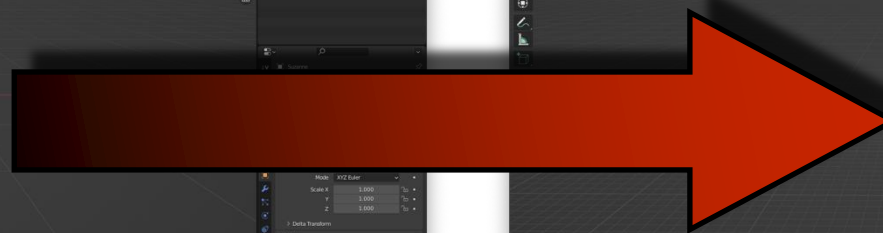
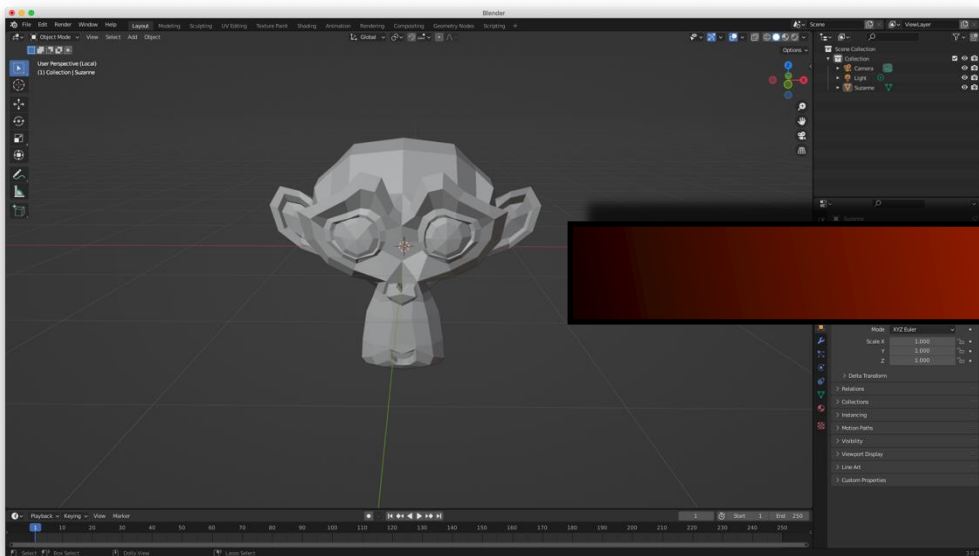
**ON A PC COMPUTER, PRESS SHIFT
AND MOVE THE MOUSE WHEEL
THEN MOVE THE MOUSE.**

**ON AN APPLE COMPUTER, PRESS SHIFT AND
MOVE YOUR FINGER OVER THE MOUSE.**



PREPARATION TO WORK

DO THE SAME WITH **CTRL** ON **PC** AND WITH **CMD** ON **APPLE**



**PRESS AND RELEASE
THE G (GRAB) KEY AND
ONLY MOVE YOUR MOUSE.**

**YOU CAN CHANGE THE
POSITION OF AN OBJECT**

**A MOUSE CLICK CONFIRMS THE POSITION AND
THE ESC KEY CANCELS**

**PRESS AND RELEASE
THE R (ROTATE) KEY AND
ONLY MOVE YOUR MOUSE.**

**YOU CAN CHANGE THE
ROTATION OF AN OBJECT**

**A MOUSE CLICK CONFIRMS THE POSITION AND
THE ESC KEY CANCELS**

**PRESS AND RELEASE
THE S (SCALE) KEY AND
ONLY MOVE YOUR MOUSE.**

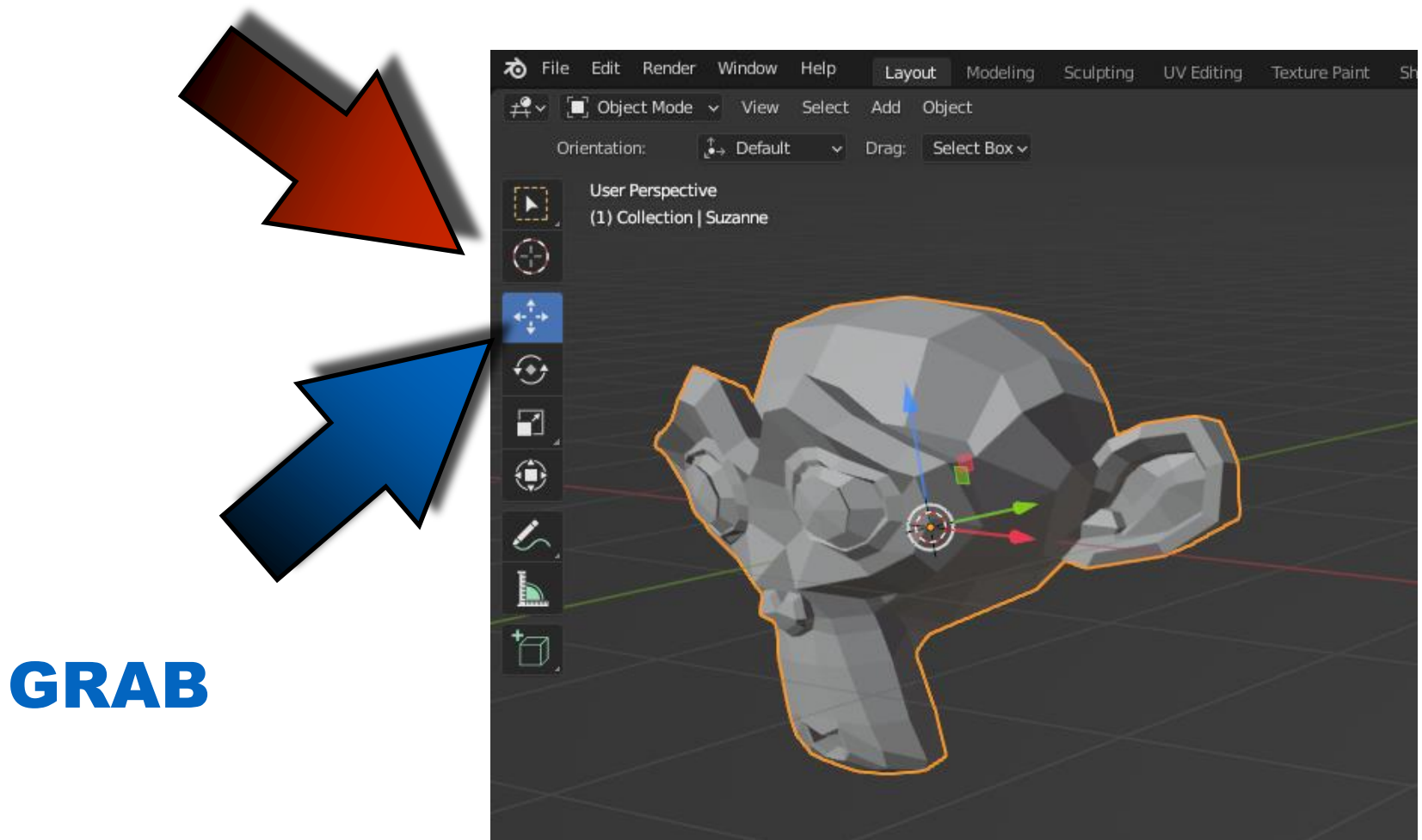
**YOU CAN CHANGE THE
SCALE OF AN OBJECT**

**A MOUSE CLICK CONFIRMS THE POSITION AND
THE ESC KEY CANCELS**

**IF YOU PRESS
X, Y, OR Z AGAIN,
YOU WILL CHANGE
THE VALUES
ON THE GIVEN AXES.**

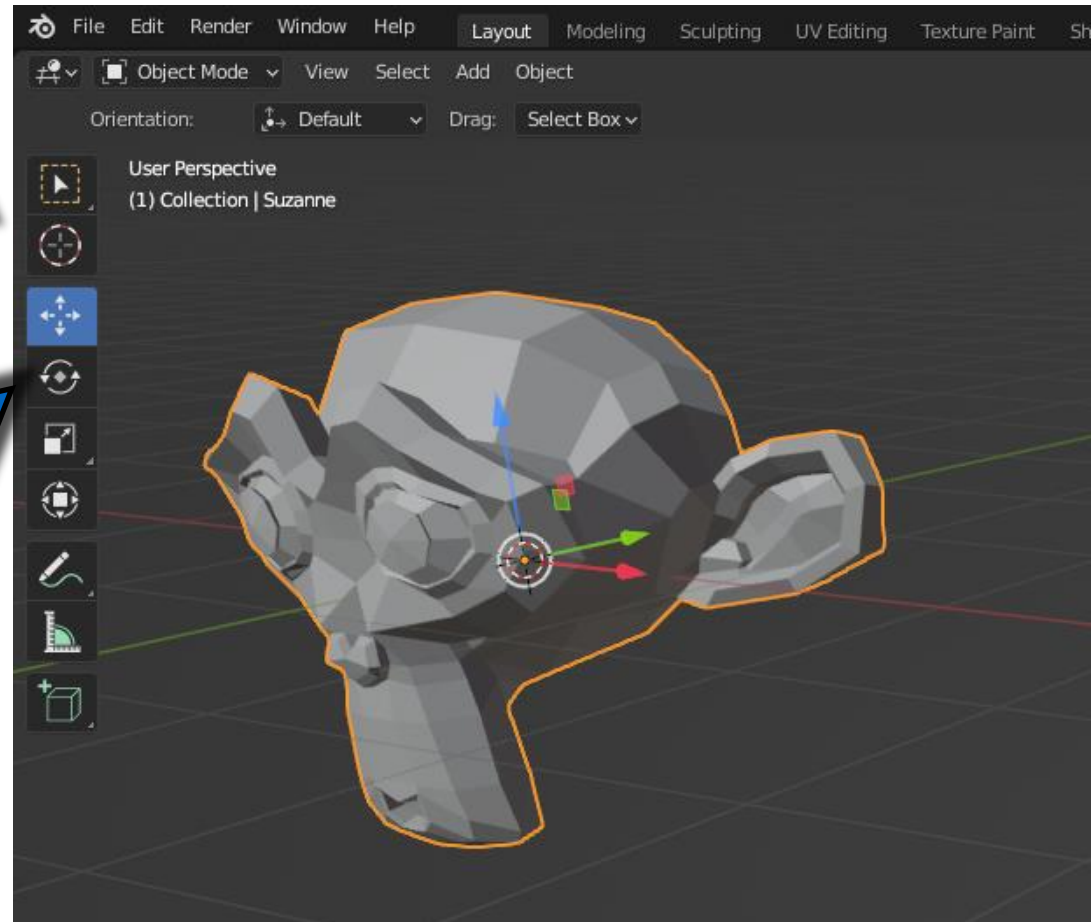
**A MOUSE CLICK CONFIRMS THE POSITION AND
THE ESC KEY CANCELS**

THE SAME TRANSFORMATIONS CAN BE CHANGED IN **THE TOOLBAR.**



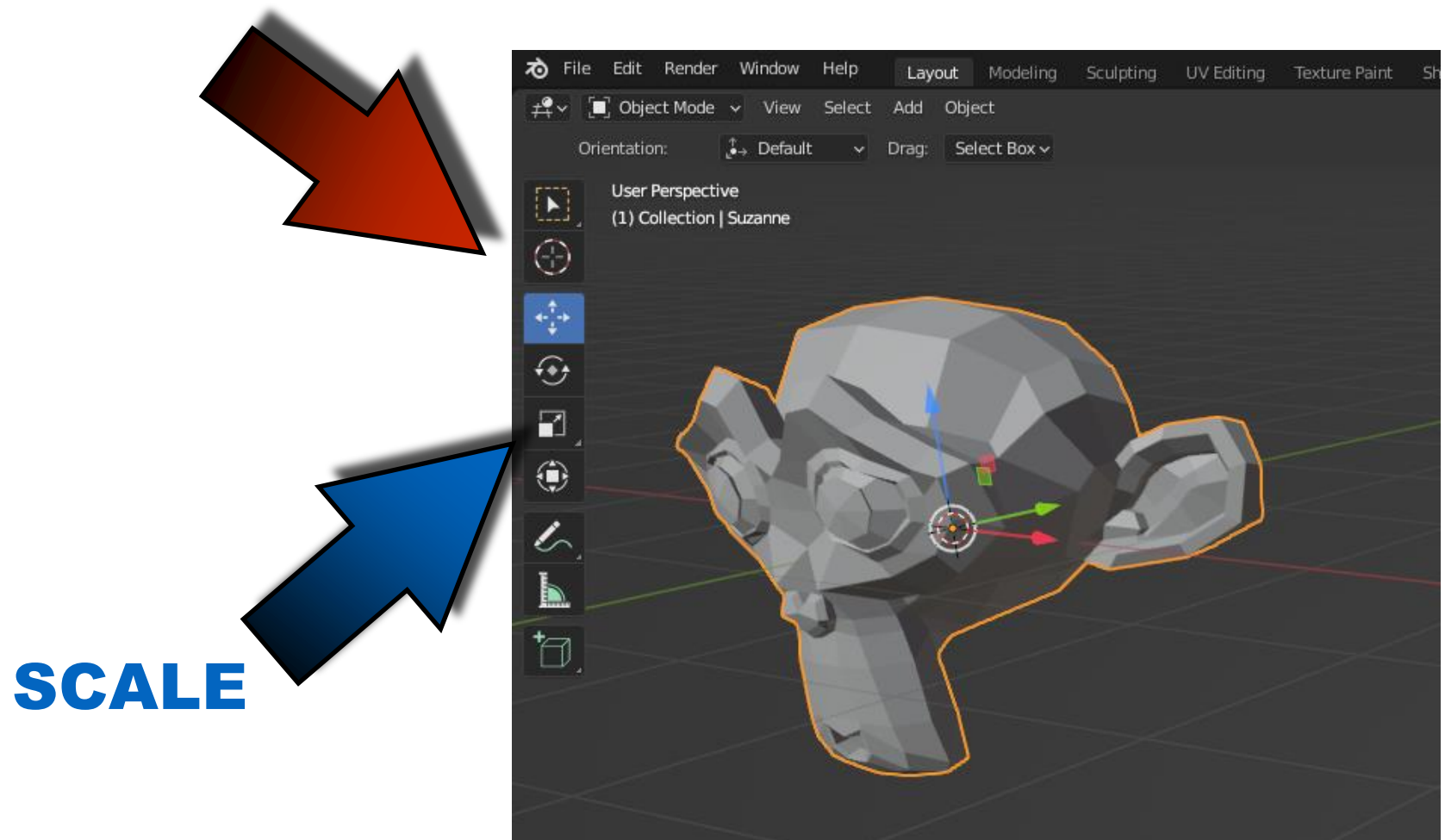
THE SAME TRANSFORMATIONS CAN BE CHANGED IN **THE TOOLBAR.**

ROTATION

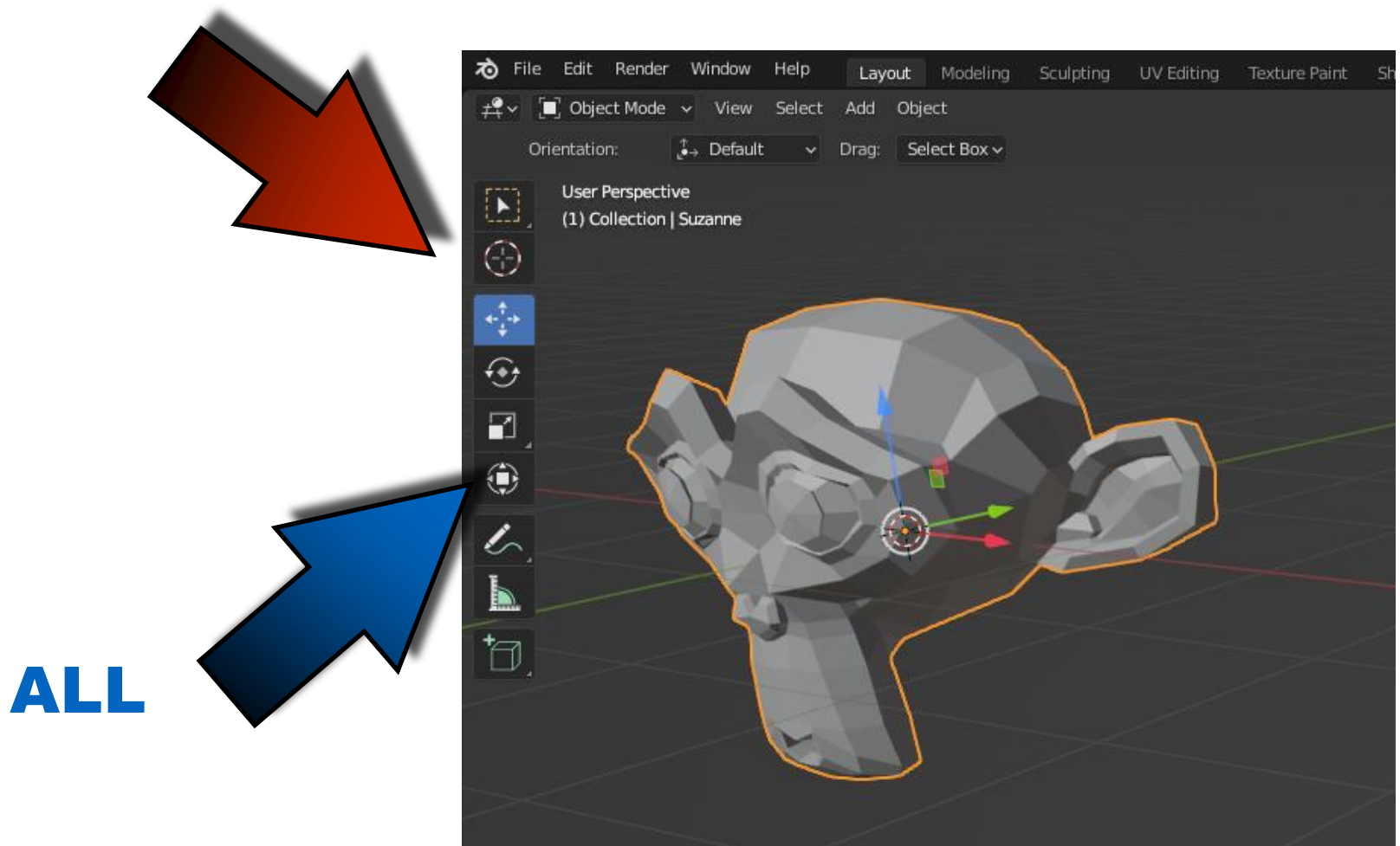


PREPARATION TO WORK

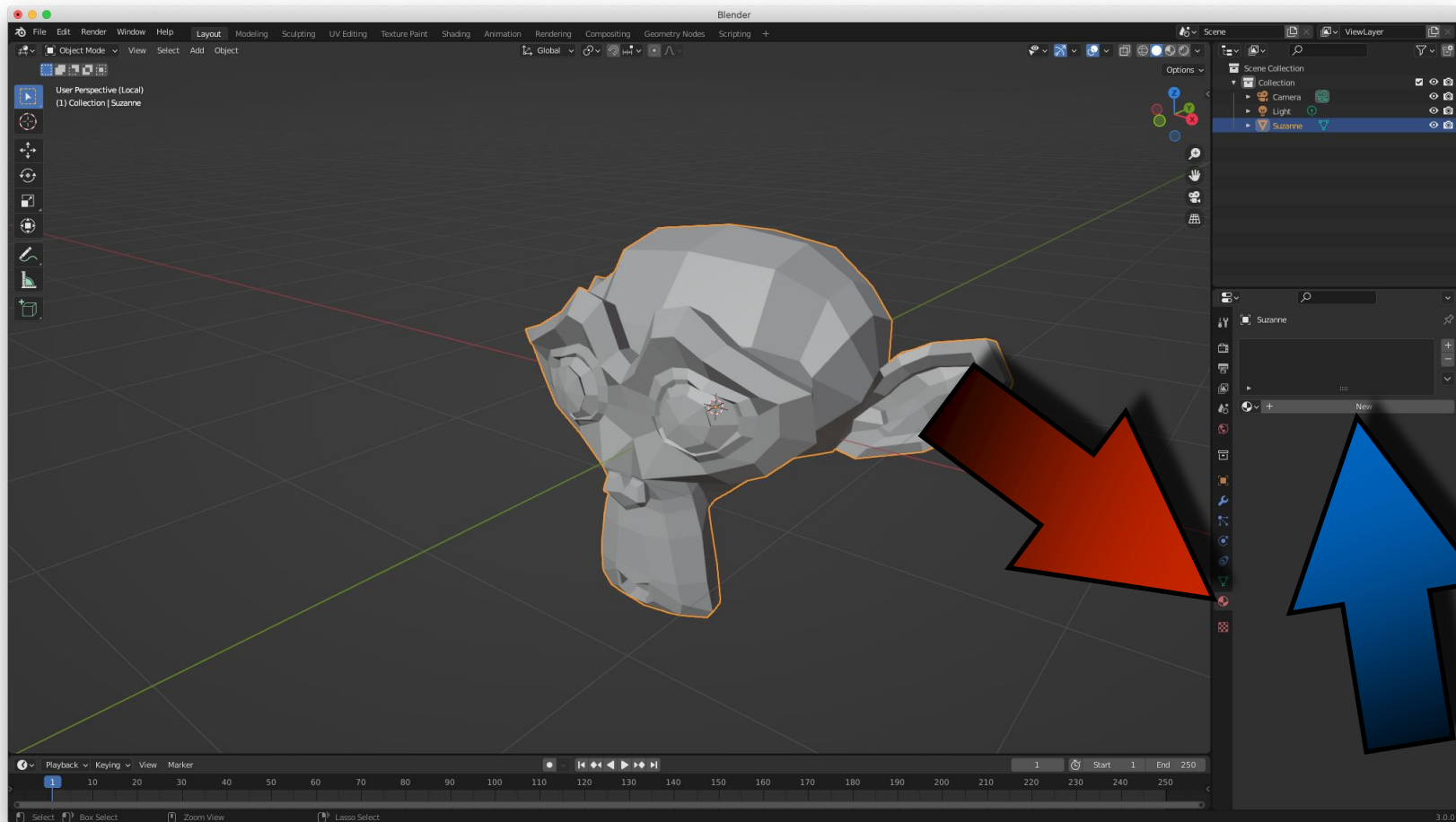
THE SAME TRANSFORMATIONS CAN BE CHANGED IN **THE TOOLBAR.**



THE SAME TRANSFORMATIONS CAN BE CHANGED IN **THE TOOLBAR.**

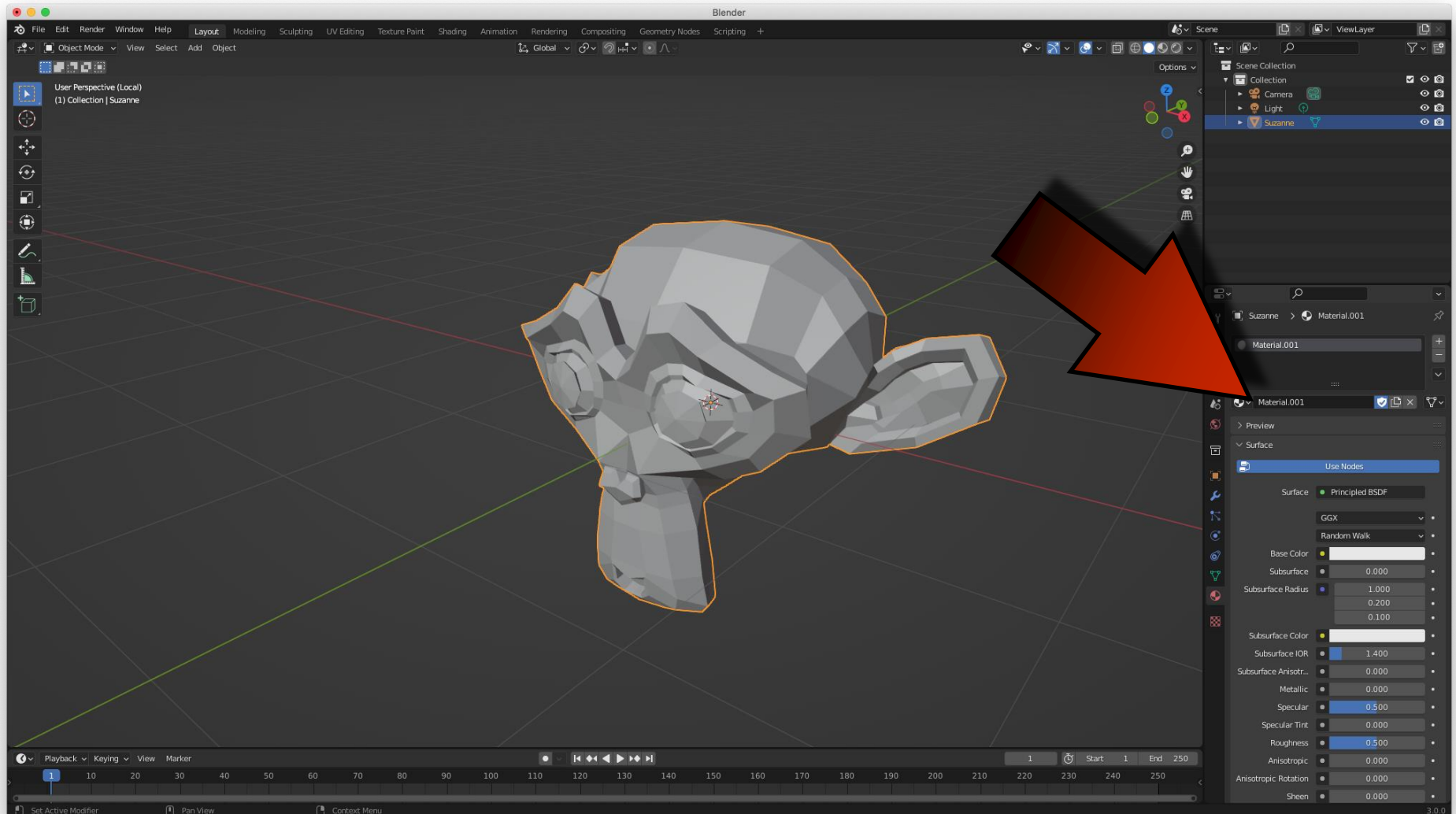


**IF WE WANT TO ADD COLOR,
CLICK ON THE MATERIAL AND THEN
ON THE NEW ONE.**



PREPARATION TO WORK

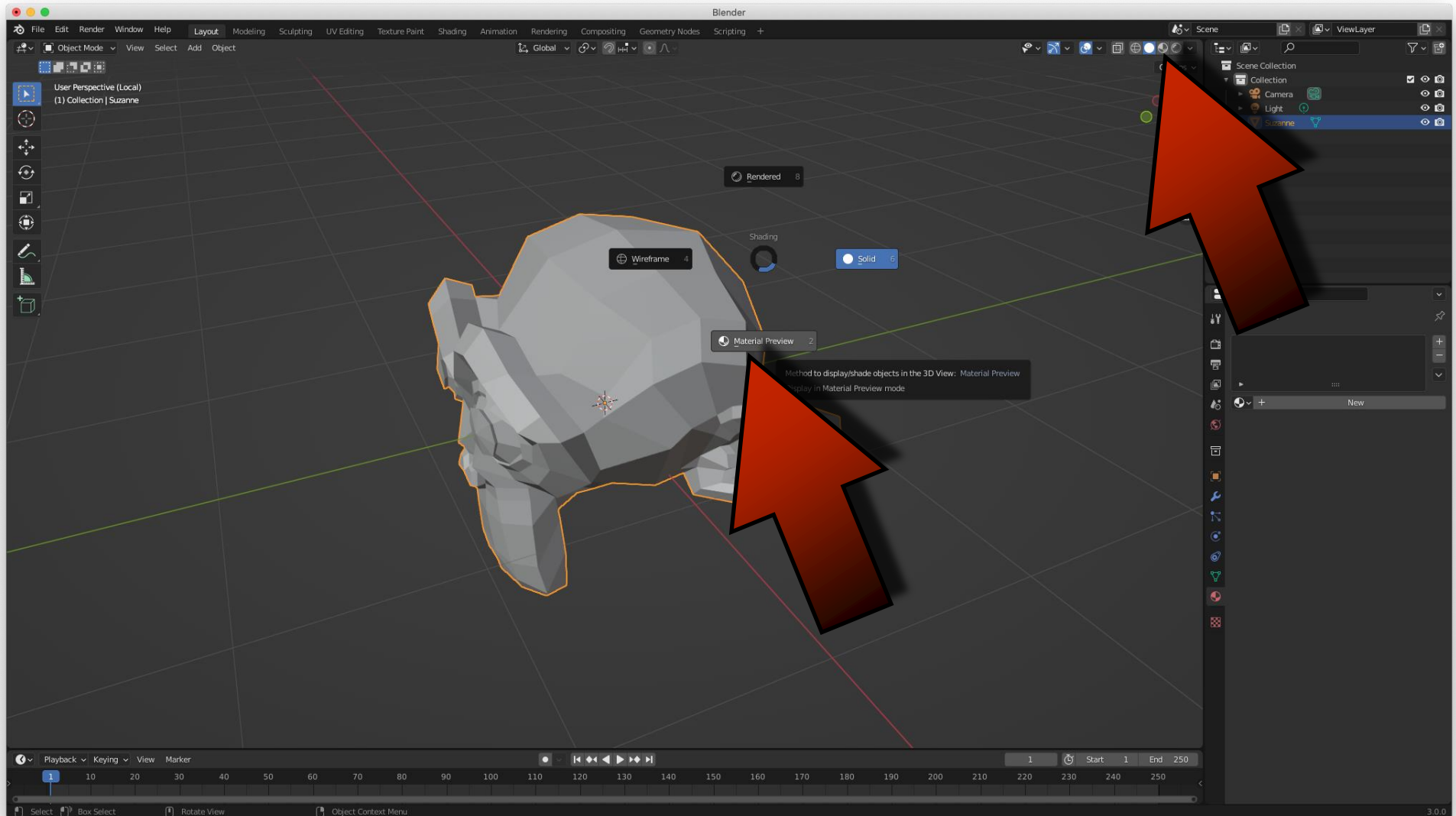
BY DEFINITION WE WILL SEE THE MATERIAL SURFACE SETTINGS BOX (PRINCIPILED BSDF).



PREPARATION TO WORK

POWER OF AR AND VR

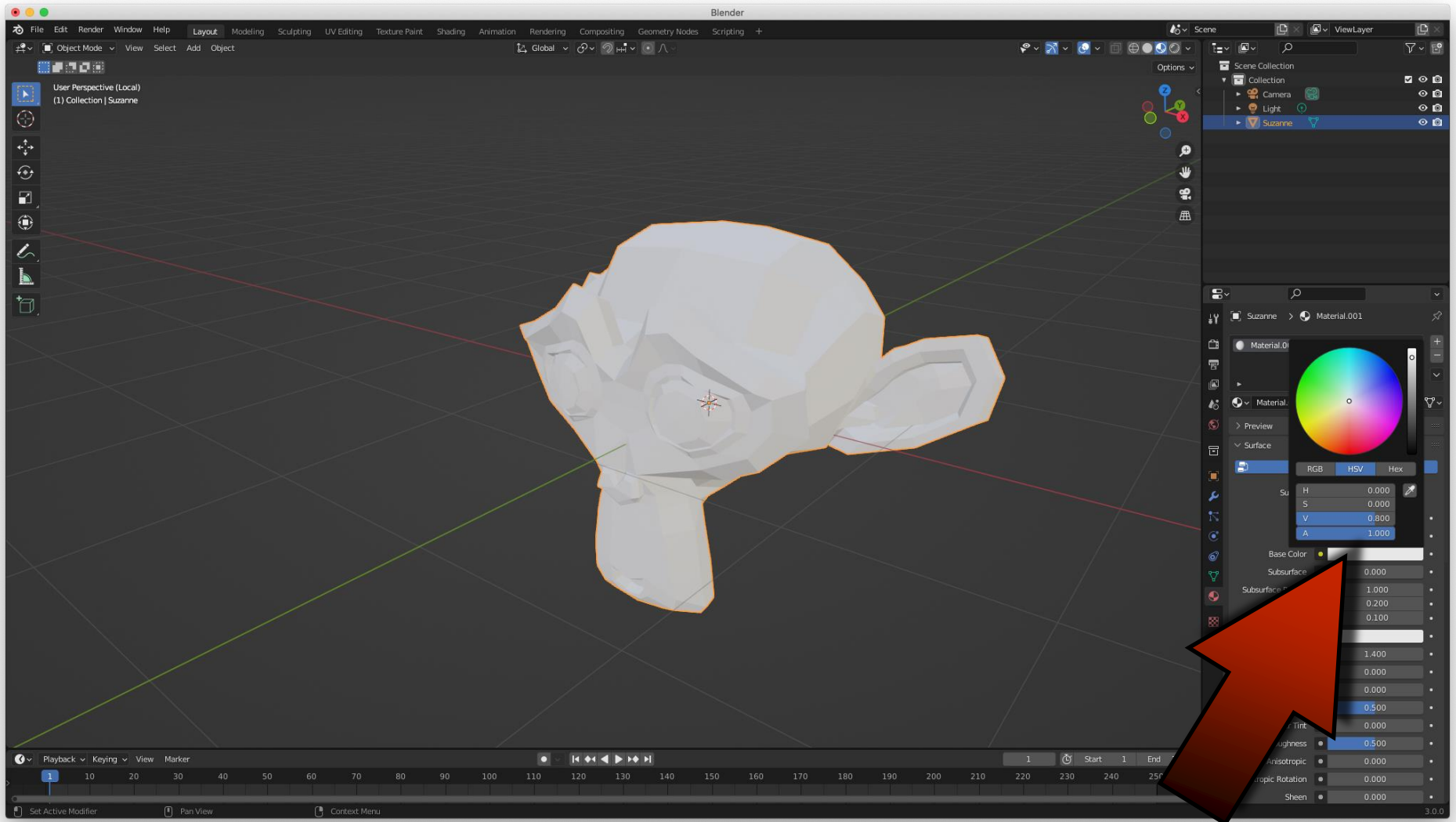
CLICK THE **Z KEY** AND SELECT **MATERIAL PREVIEW.**



PREPARATION TO WORK

POWER OF AR AND VR

CLICK ON THE WINDOW BASE COLOR.



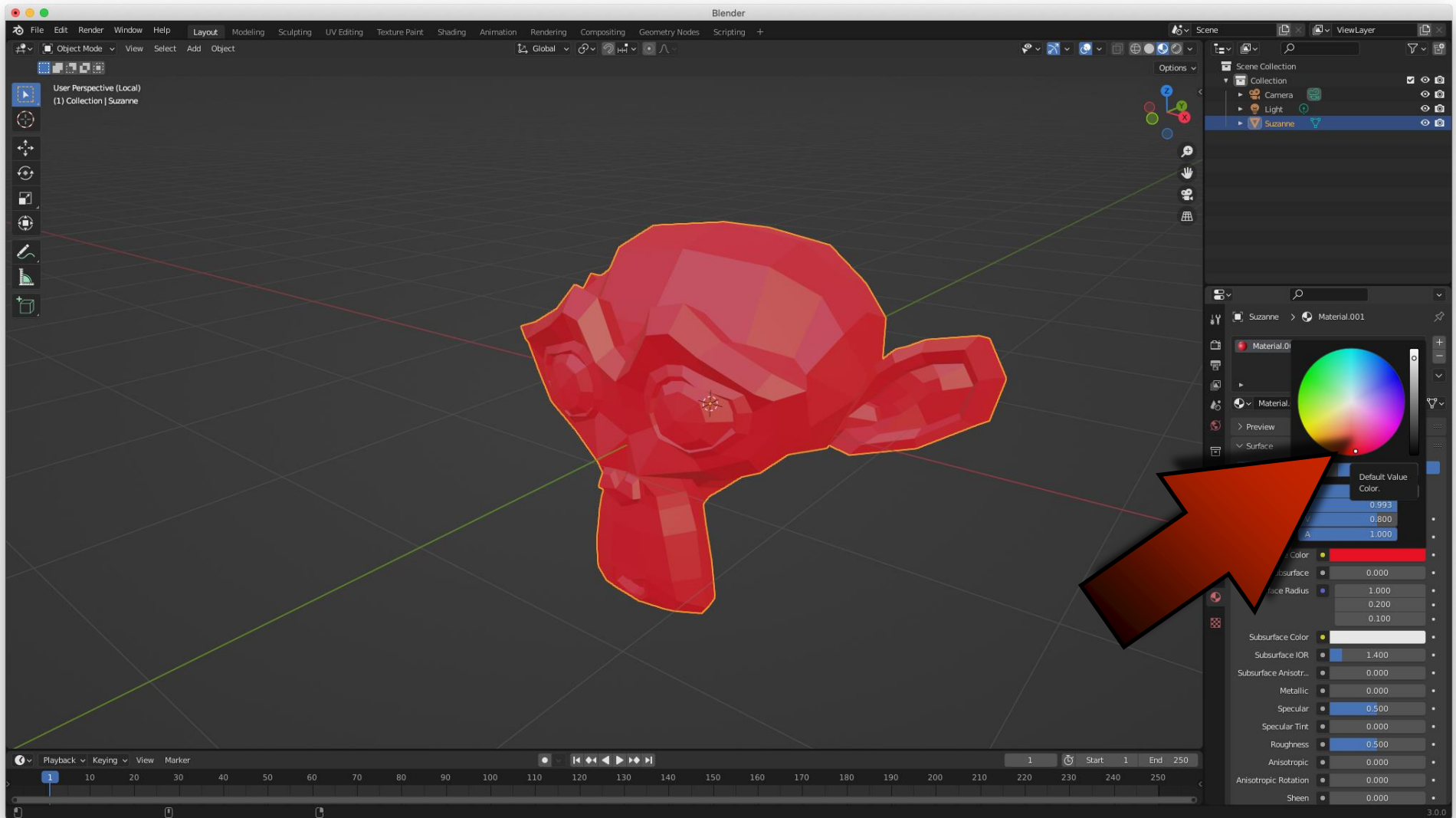
PREPARATION TO WORK



POWER OF AR AND VR

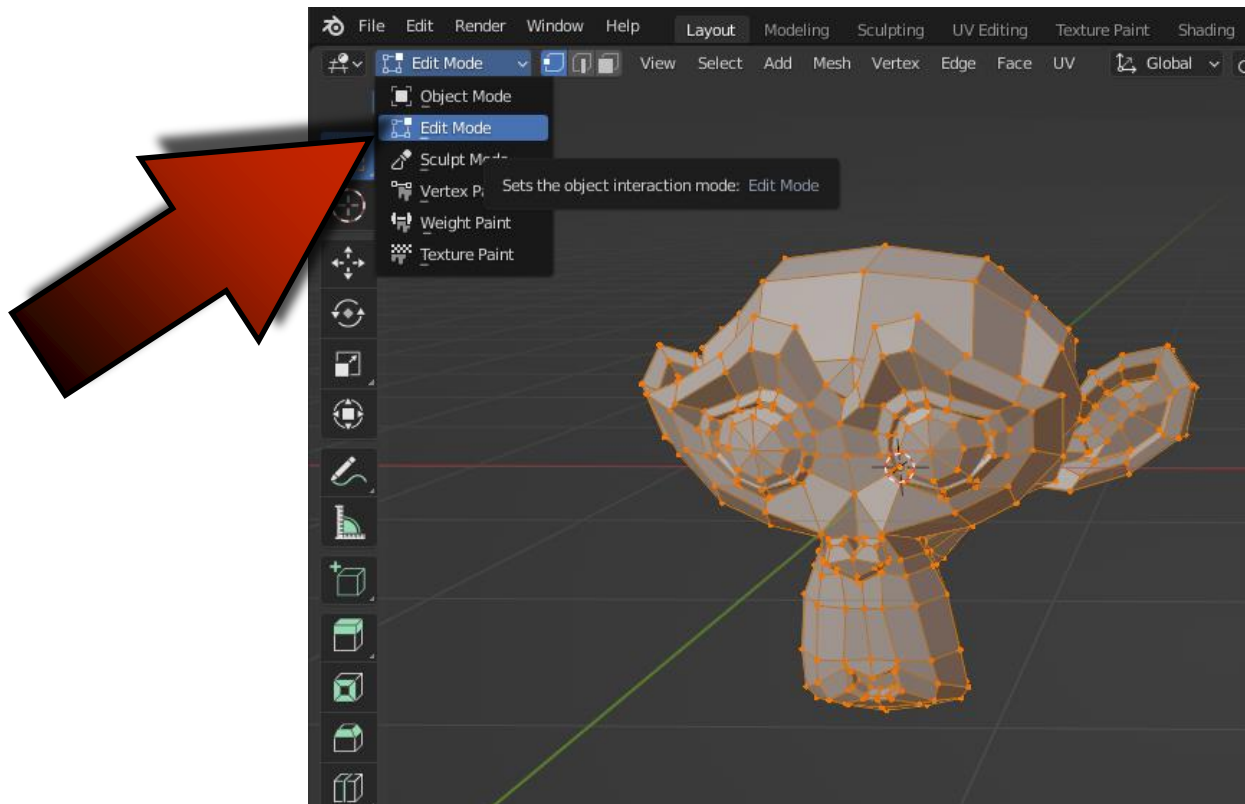


CHANGE MODEL COLOR



PREPARATION TO WORK

**IF WE WANT TO CHANGE ELEMENTS
INSIDE THE OBJECT, WE HAVE TO
ENTER **EDIT MODE** OR PRESS
THE **TAB KEY**.**





POWER OF AR AND VR



PROGRAM CONFIGURATION

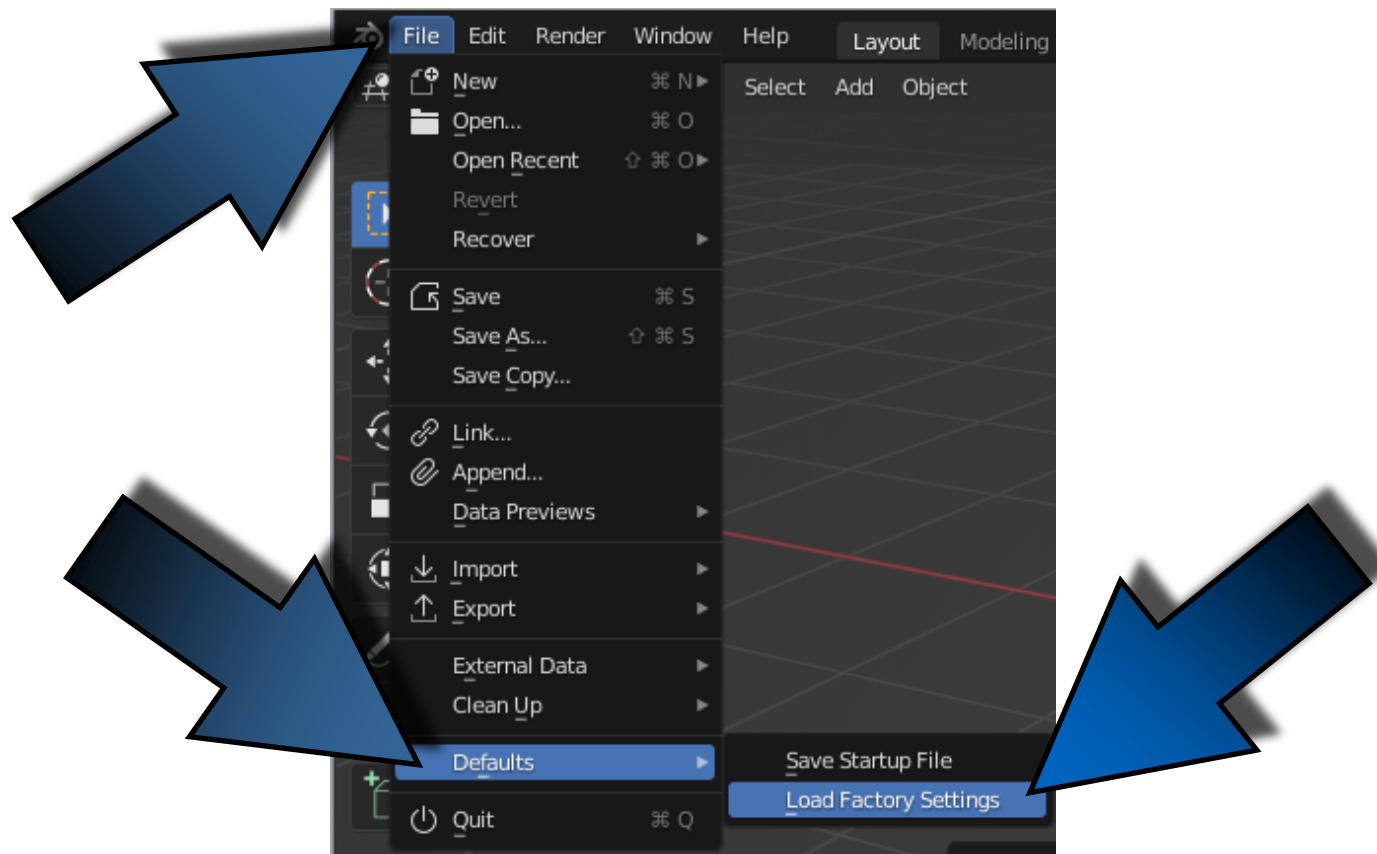
The image shows the Blender 2.80 interface with the Preferences window open. The Preferences window is titled "Blender Preferences" and has a sidebar on the left with the following categories: Interface, Themes, Viewport, Lights, Editing, Animation, Add-ons, **Input** (highlighted in blue), Navigation, Keymap, System, Save & Load, and File Paths. The main area of the Preferences window is divided into sections: Keyboard, Mouse, Tablet, and NDOF. The Mouse section is expanded, showing the following settings:

Setting	Value
Emulate Numpad	<input type="checkbox"/>
Default to Advanced Numeric Input	<input type="checkbox"/>
Emulate 3 Button Mouse	<input type="checkbox"/>
Emulate 3 Button Modifier	Alt
Continuous Grab	<input checked="" type="checkbox"/>
Release Confirms	<input checked="" type="checkbox"/>
Double Click Speed	350
Mouse Drag Threshold	3 px
Tablet Drag Threshold	10 px
Drag Threshold	30 px
Motion Threshold	2 px
Max Threshold	1,000
Softness	0.00

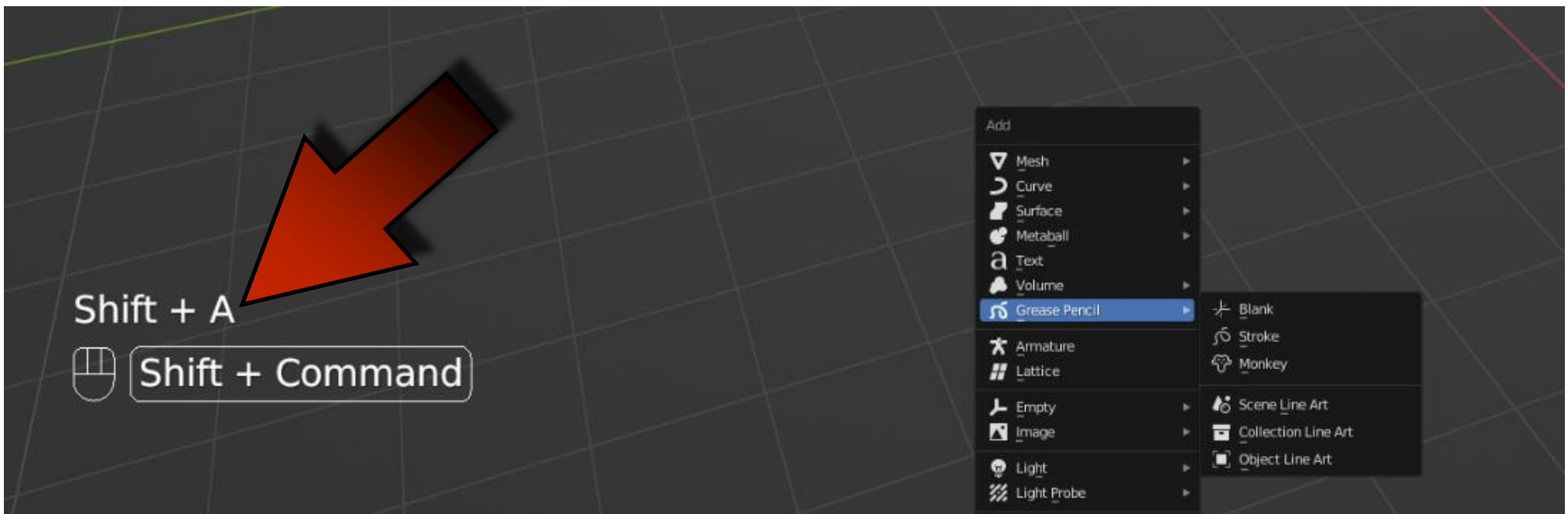
At the bottom of the Preferences window, there is a "Save Preferences *" button. Three large red arrows are overlaid on the image, pointing from the left towards the Preferences window.

PREPARATION TO WORK

IF WE **CHANGE ANYTHING IN THE PROGRAM SETTINGS, WE CAN ALWAYS LOAD FACTORY SETTINGS.**



**IF YOU WANT OTHERS TO KNOW
WHICH KEYS YOU ARE PRESSING,
YOU CAN INSTALL A COMPONENT
THAT WILL DISPLAY THEM.**





POWER OF AR AND VR



ENTER THE WEBSITE

<https://github.com/nutti/Screenecast-Keys/releases>

AND DOWNLOAD **screenecast_keys.zip**

Version 4.1.0 Latest

[Change from v4.0.0](#)
[Supported Blender Version](#)

Notice

We found a way to coexist with the old Blender specific code.
From this version, this add-on supports Blender 2.8 to 4.1 again which drops at Version 4.0.

Other Updates

- Fix bugs

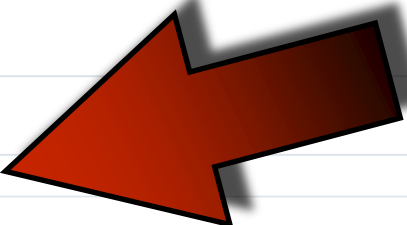
Contributors

- [@Andrej730](#)

▼ **Assets** 3

screenecast_keys.zip	70.9 KB	Oct 5
Source code (zip)		Oct 5
Source code (tar.gz)		Oct 5

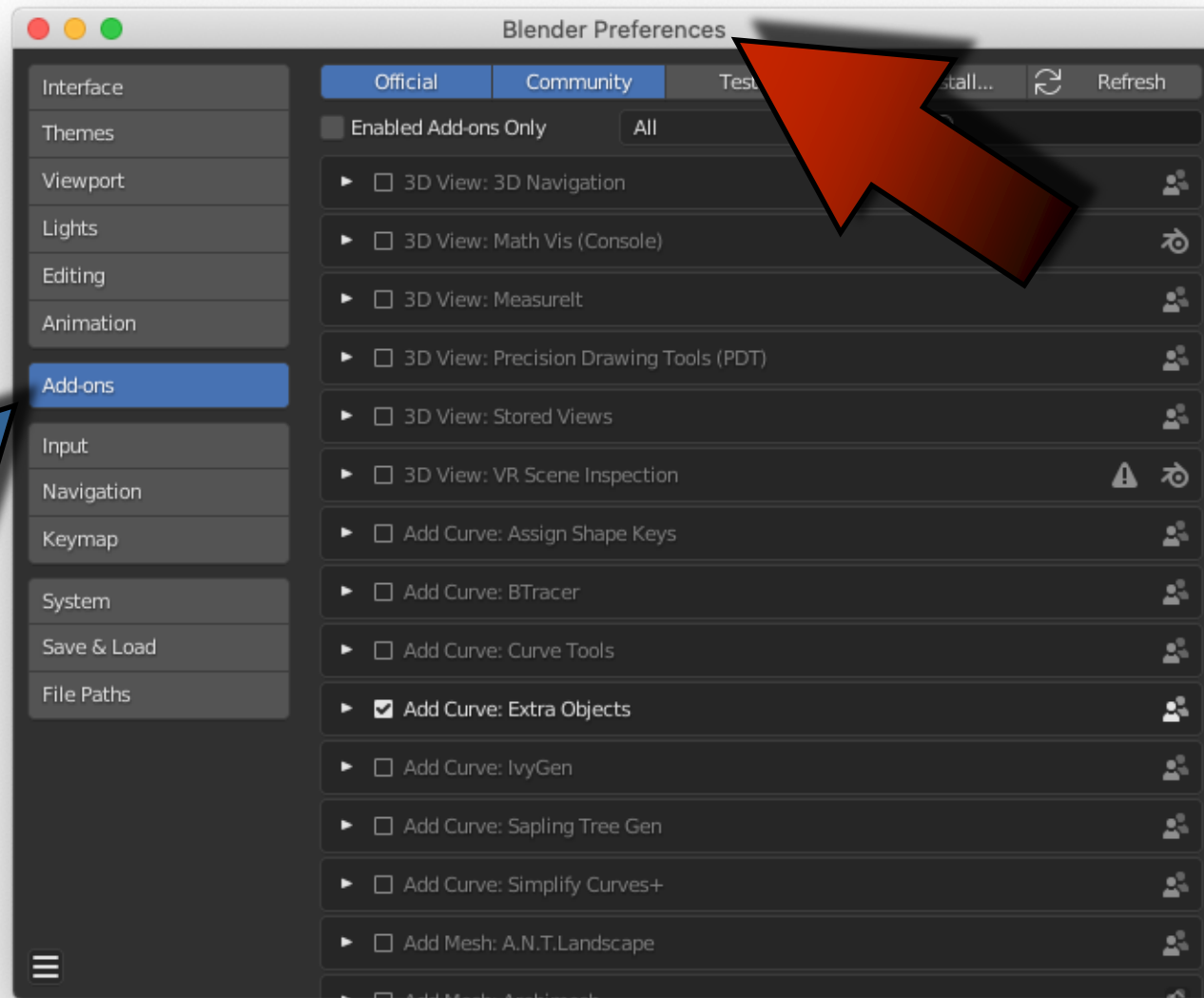
3 3 people reacted



PREPARATION TO WORK

POWER OF AR AND VR

GO TO **PREFERENCES** AND **ADD-ONS** TAB



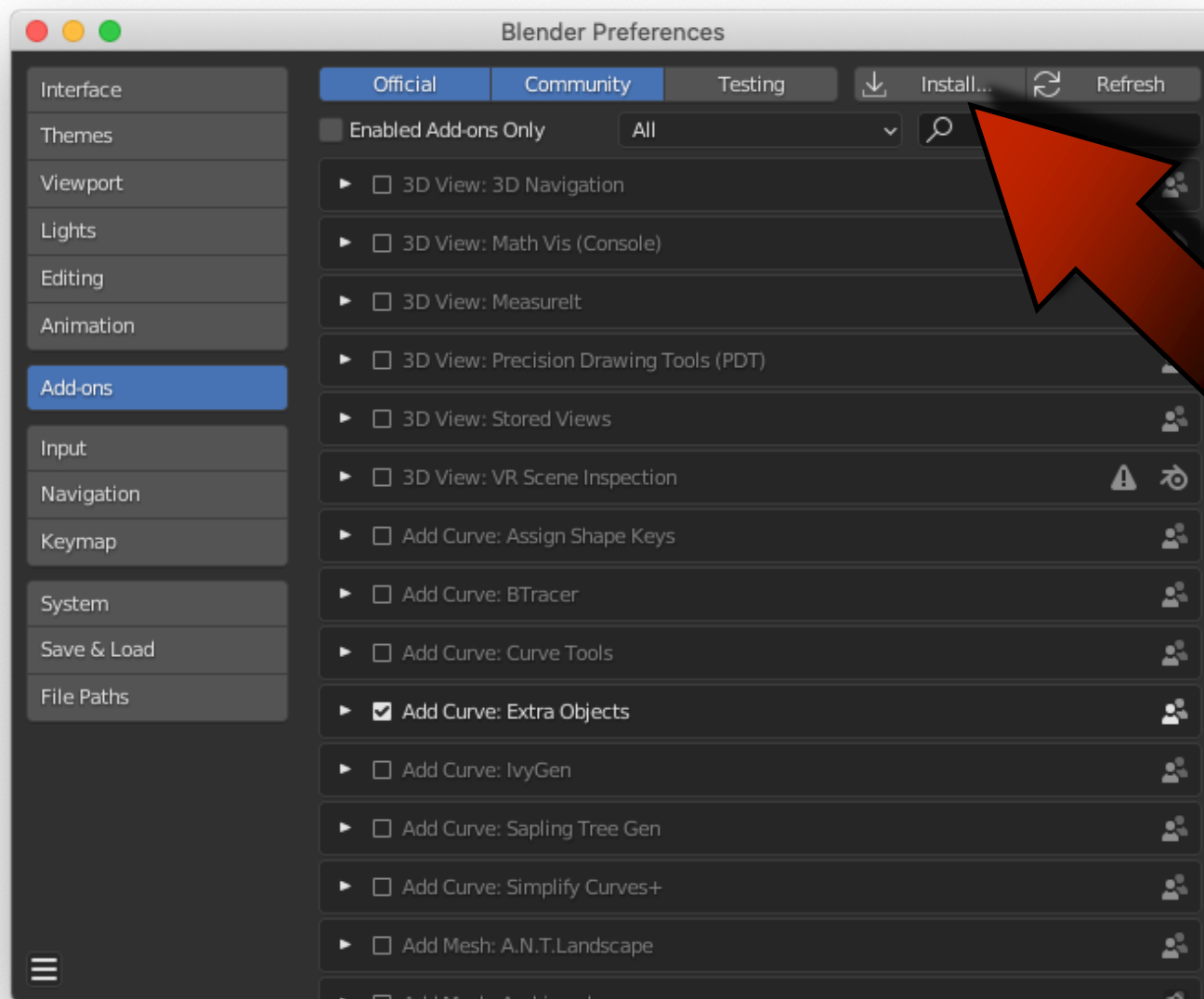
PREPARATION TO WORK



POWER OF AR AND VR



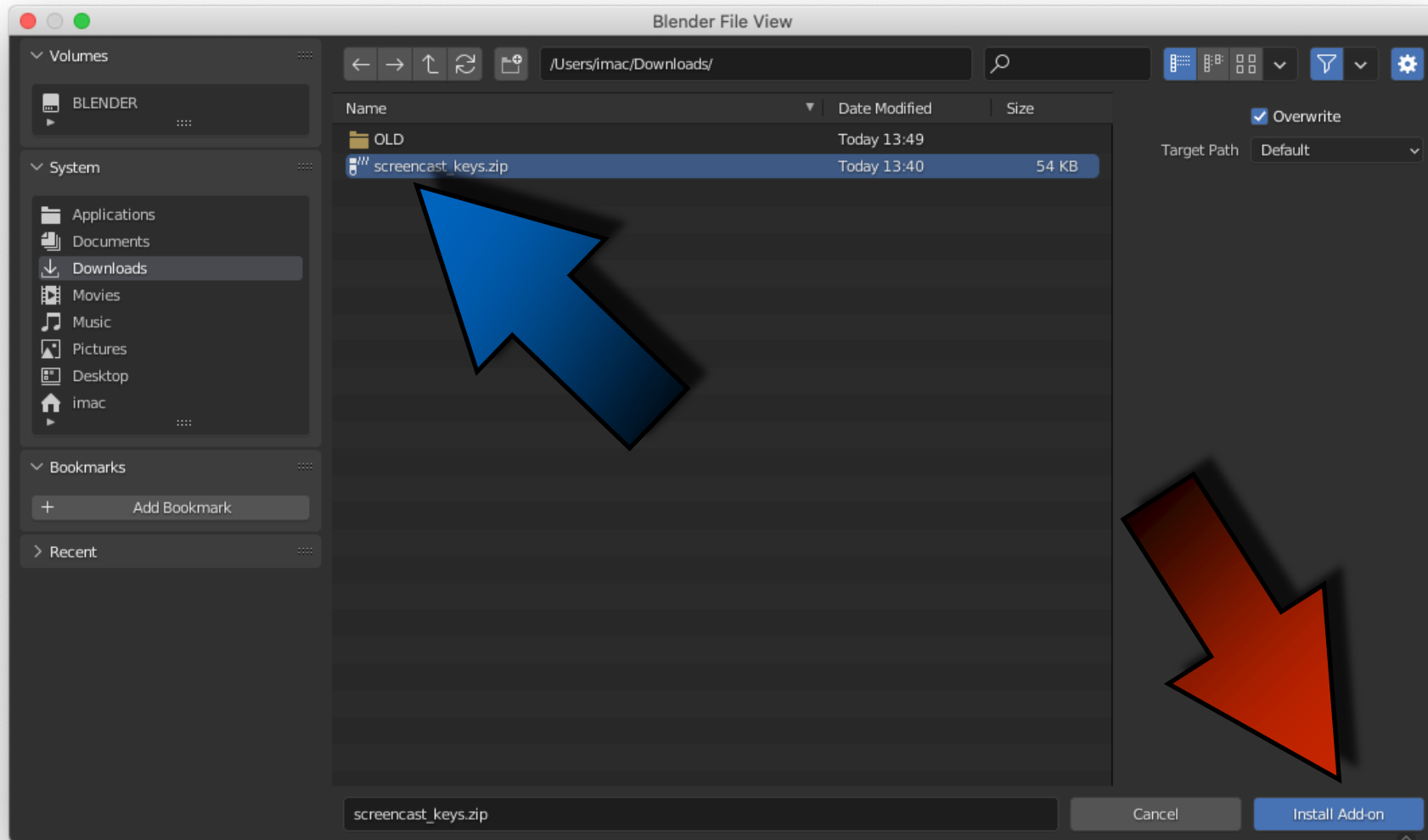
CLICK ON **INSTALL**



PREPARATION TO WORK

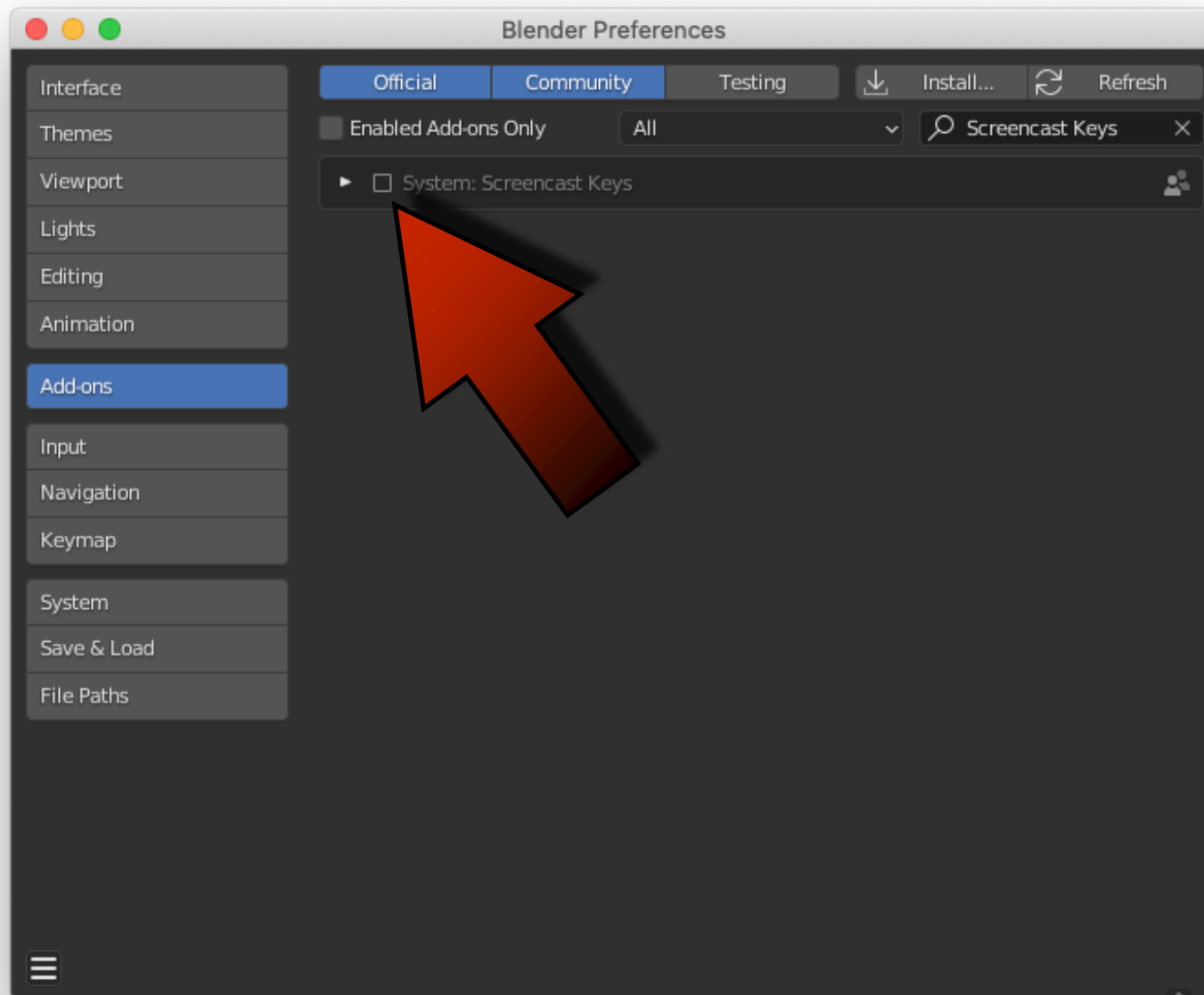
POWER OF AR AND VR

SELECT AND **INSTALL** screencast_keys.zip



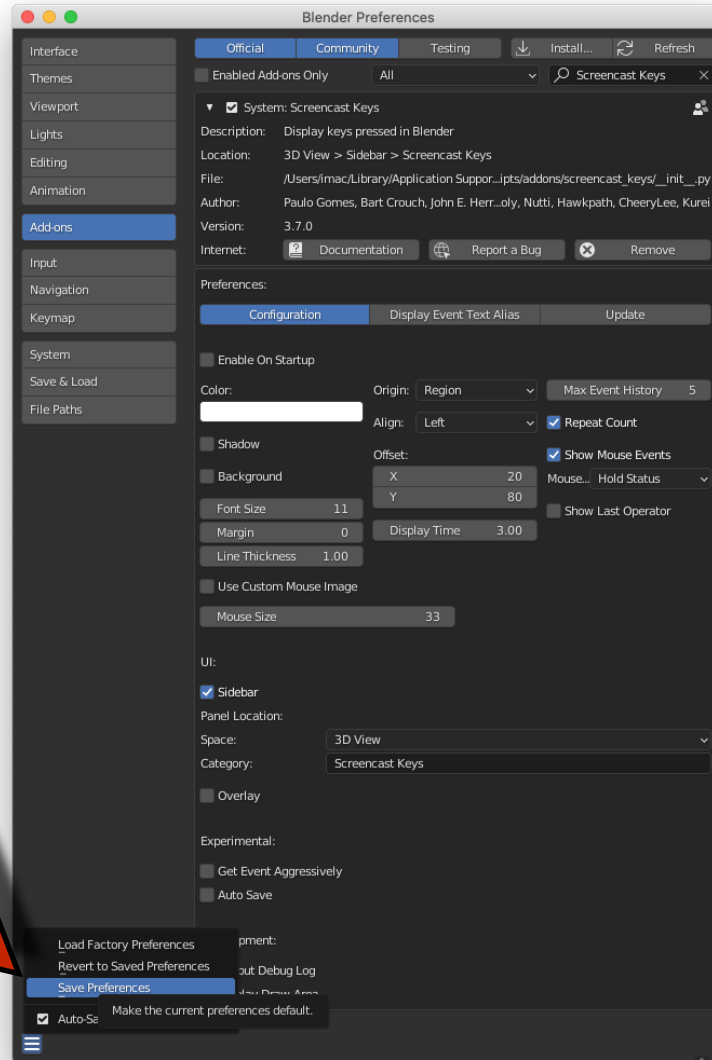
PREPARATION TO WORK

MARK INSTALLED COMPONENT



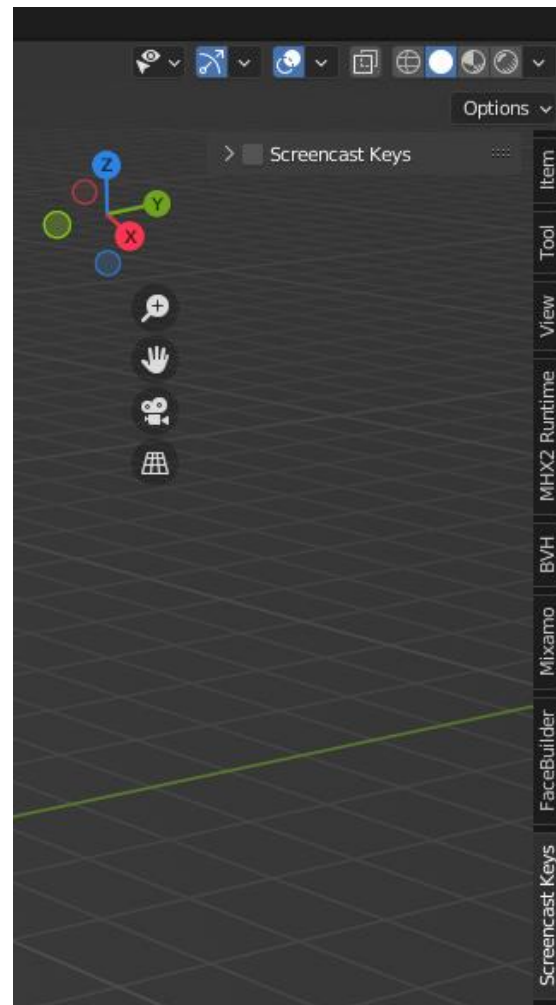
POWER OF AR AND VR

TO MAKE IT ALWAYS VISIBLE
CLICK ON **SAVE PREFERENCES**



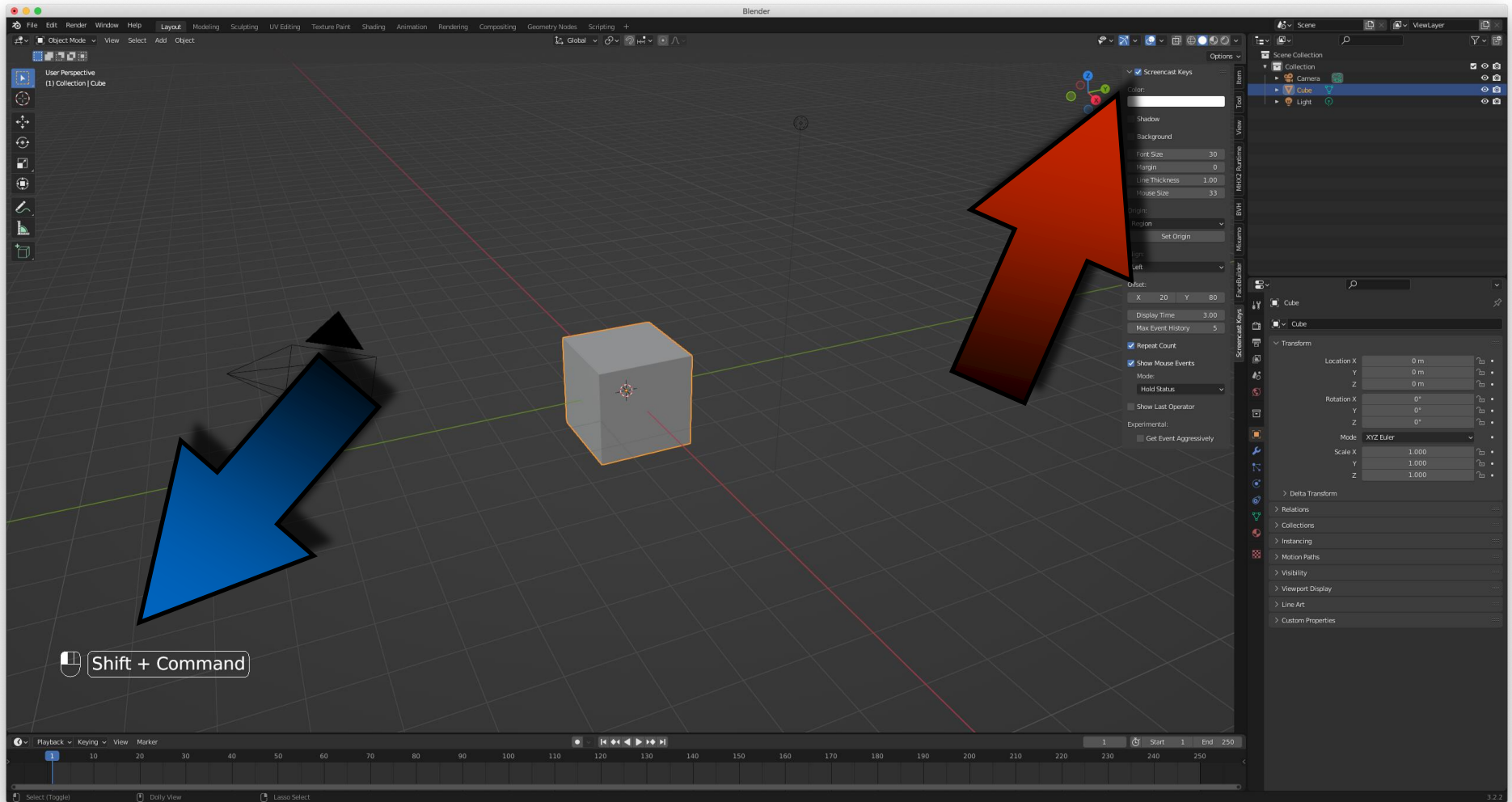
PREPARATION TO WORK

**THE COMPONENT WILL BE VISIBLE
AT THIS POINT**



PREPARATION TO WORK

TO ACTIVATE IT CLICK ON SCREENCAST KEYS



POWER OF AR AND VR

DIĘKUJĘ ZA UWAGĘ



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JACEK KAWAŁEK