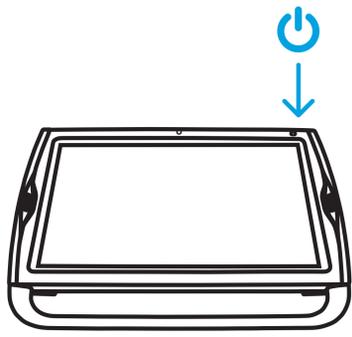


Getting Started with zSpace

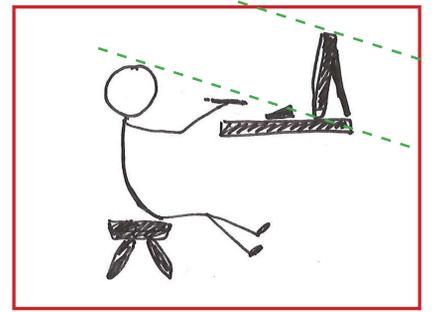
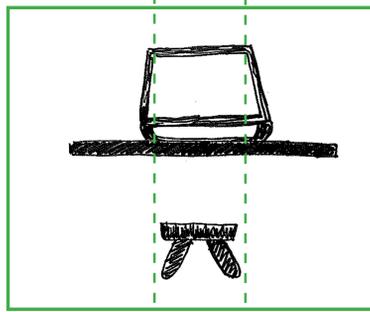


Turn on your zSpace by pressing the power button on the top right.



CHECK YOUR SETUP

Sit close to your zSpace and centered in front of the screen. Avoid sitting too far away from the system or too low in your chair.



CHECK YOUR GLASSES



TRACKED GLASSES

Wear these to see in 3D

OR



FOLLOWER GLASSES

Wear these to see in 2D



Remember, only ONE pair of tracked glasses can be used for each zSpace.



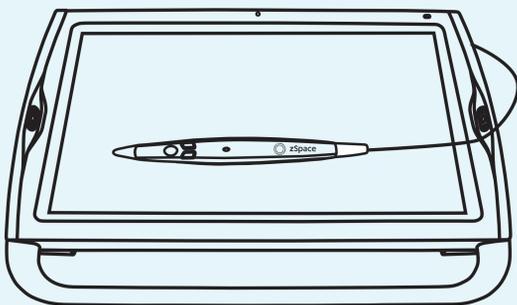
LAUNCH AN APP

Use your mouse to double-click a zSpace App icon!



INTERACT WITH STYLUS

What if my stylus beam disappears?



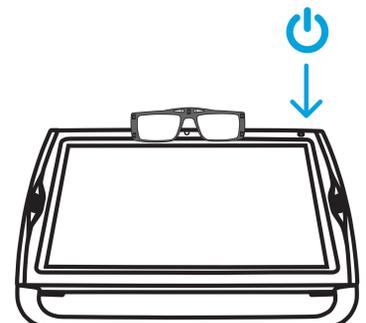
Hold the stylus still for a second, and the beam will reappear!

A beam will appear!



Use the buttons to select or take action where the beam is pointing.

For ideas and help with zSpace applications, visit edu.zspace.com



Turn off your zSpace by pressing the power button on the top right.



Home Control Bar

- Home
Go back to the main menu screen
- Save
Save any progress made in your activity
- Settings
Change general settings and preferences
- Tour Builder / Activity Builder
Save scenes for presenting or viewing later / For teachers: edit or create activity questions
- Photo Gallery
View, delete and export photos taken with Camera tool
- zView / zShare
Connect to share your screen or create a recording
- Visibility
Ability to show and hide labels and notes in the scene
- Help
All done? Click here to return to Studio

Multiple Select
Create a group of models that you can move, resize, or delete

Undo
Undo and redo actions related to objects, tools, and notes

Sandbox

Studio Bar

- Reassemble Models**
Return dissected parts to their original positions
- Show Size**
Model size shown in meters
- Compare Size**
Shows model size relative to other models in scene
- Organize All Models**
Arrange models for easy viewing
- Scale Model**
Resize tool will appear on all models. Drag the scale bubble in and out to resize.

Scene-based Context Menu

Backpack

- Model Gallery**
Browse and search models
- Import Models, Photos, or Audio**
Select your own 3D models, photos, or audio clips to add to the scene

Tools

- Ruler**
Add a ruler, place near a model to see units. Choose metric or imperial units.
- Cutting Plane**
Push into a model to view inside. Note: Some models are hollow.
- Camera**
Point camera at model and see the camera's view in the PIP window. Take a photo by clicking the camera icon on the PIP window

Object-based Context Menu

Stylus

- Primary Button**
Selects objects and confirms choices
- Right Button**
Activate the context menu
- Left Button**
Add objects to a group. Click the object again to remove it from the group

Trash

Drag models to this icon to delete them



ACTION	KEYBOARD COMMAND
STYLE MODES	
Switch stylus modes (move & dissect)	Spacebar
TOOLS	
Take a photo when using the Tools Camera	Hold camera w stylus and press Enter
COMMON ACTIONS	
Select Model	Left button select
Select All / Deselect All	CTRL-A / A
Undo/Redo	CTRL-Z / CTRL+Y
Model Gallery open and close	M
Delete Model	Hold model w/ stylus + Delete
Duplicate	CTRL-D, D
Rotate a model held by the stylus	All 4 arrow keys
MENUS	
Perform "Save" action (prompts "Save As" dialog if it is the first save)	CTRL-S
Open / Close the Help Screen	F1



Home Control Bar

- Home** — Go back to the main menu screen
- Save** — Save any progress made in your activity
- Settings** — Change general settings and preferences
- Activity Builder** — For teachers: edit or create activity questions
- Photo Gallery** — View, delete and export photos taken with stylus cam
- zView / zShare** — Connect to share your screen or create a recording
- Visibility** — Ability to show and hide labels and notes in the scene
- Help** — All done? Click here to return to Newton's Park

Gravity Bar

- Zero Gravity** Gravity: 0.00
- Moon** Gravity: 0.17
- Mars** Gravity: 0.38
- Earth** Gravity: 1.00
- Jupiter** Gravity: 2.54
- Planet X** Gravity: Unknown

Launch Bar

- Reset Experiment
- Play Experiment
- Review Experiment

Scene-based Context Menu

- Add Note
- Move
- Stylus Cam

Object-based Context Menu

- Delete Model
- Move
- Stylus Cam

Stylus

- Primary Button** — Selects objects and confirms choices
- Secondary Button** — Activate the context menu

Backpack

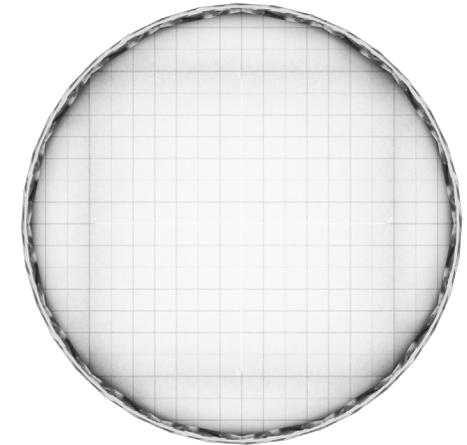
- Balls** — Soccer, Bowling, Foam, Paint, Cannon, zBall, Sponge
- Forces** — Drop Column, Force Area, Projectile & Horizontal Launcher
- Targets** — Hoop, Bullseye, zBox, Putting Cup
- Ramps** — Straight, Platform, Curved, Deflector
- Materials** — Wood, Deflector, Metal, Carpet, Ice, Rubber
- Blocks** — Soccer, Bowling, Foam, Paint, Cannon, zBlock, Sponge

Trash — Drag models to this icon to delete them

Sandbox

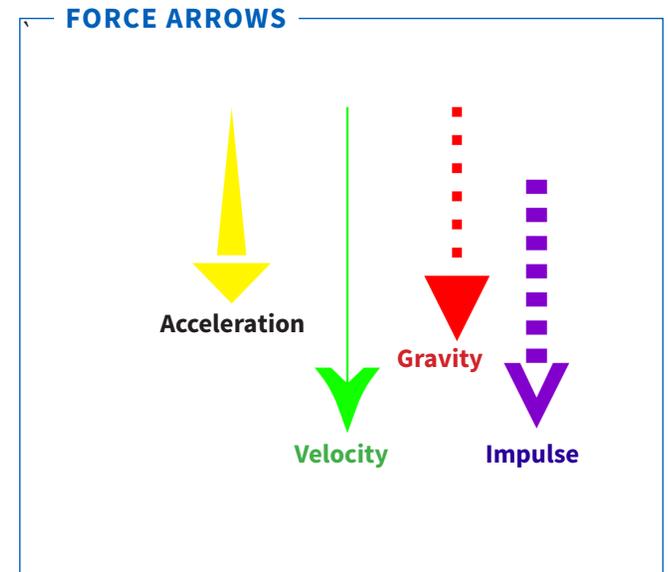
Newton's Park

REFERENCE SHEET



Each square in the grid is 1m x 1m

FUNCTION	KEYBOARD COMMAND
EXPERIMENT TOOLS	
Launch / Reset Experiment	Spacebar
Open Replay and Evaluate Mode	E
Delete Model	Hold model w/ stylus + Delete
Platform Tilt and rotate	All 4 arrow keys
Evaluation Mode - Move frame-by-frame through time slider	Left & Right arrow keys
Perform "Save" action (prompts "Save As" dialog if it is the first save)	CTRL-S
Reset the scene	F5, CTRL-R
Open / Close the Help Screen	F1





Main Menu
Body regions, quizzes, animations



Reset View



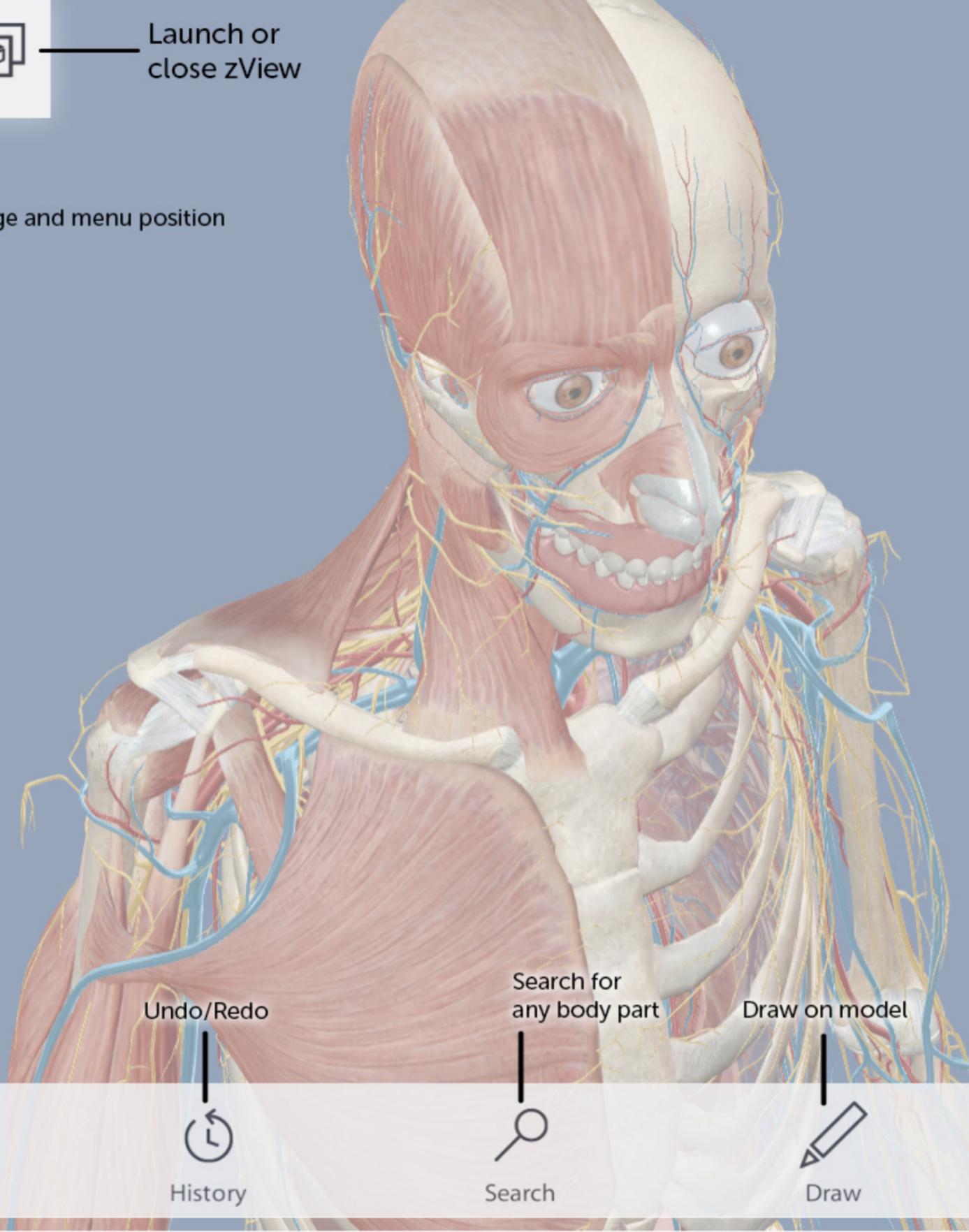
Male/
Female



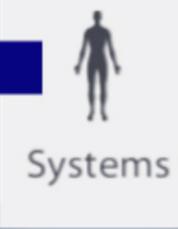
Settings
Change language and menu position



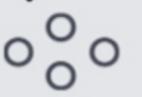
Launch or
close zView



Choose systems
to add to the model
(select again to
remove systems)



Select multiple
body parts



Multi-Select

Select to
create note



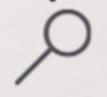
Notes

Undo/Redo



History

Search for
any body part



Search

Draw on model



Draw

Save 3D scene
to view later



Favorites

Save picture of
whole screen



Save to Pictures



Tools

Home Control Bar

- Home** — Go back to the main menu screen
- Save** — Save any progress made in your activity
- Settings** — Change general settings and preferences
- Activity Builder** — For teachers: edit or create activity questions
- Photo Gallery** — View, delete and export photos taken with stylus cam
- zView / zShare** — Connect to share your screen or create a recording
- Visibility** — Ability to show and hide labels and notes in the scene
- Help** — All done? Click here to return to Franklin's Lab

Multimeter — Displays readings of the components in your circuit (voltage, amps, ohms, and watts).

Stylus

- Primary Button** — Selects objects and confirms choices
- Secondary Button** — Activate the context menu

Object-based Context Menu

- Delete Model
- Flip Polarity
- Move
- Workbench
- Stylus Cam

Scene-based Context Menu

- Add Note
- Show/Hide Labels
- Move
- Stylus Cam

Backpack

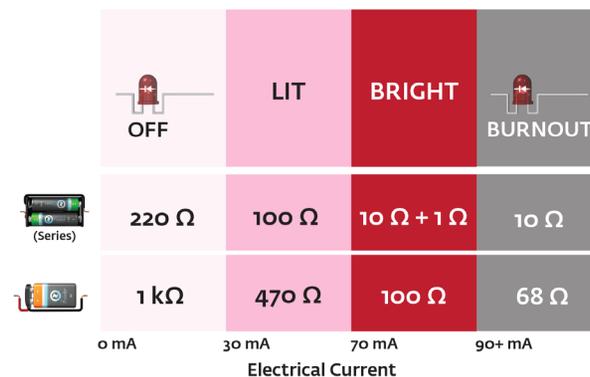
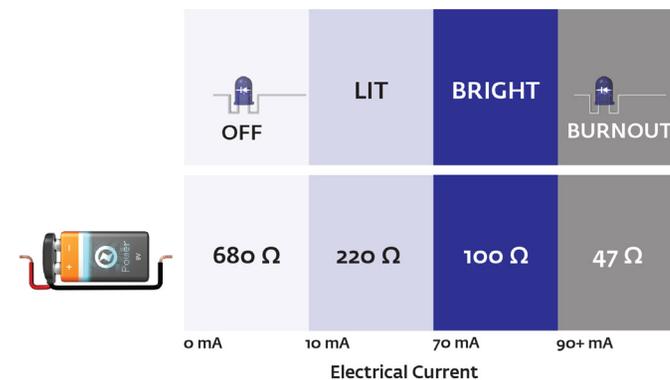
- Batteries** — AA, AA Parallel, AA Series, 9V
- Resistors** — Various resistors
- Motors** — DC Motor
- Wires** — 30 gauge copper, 1 gauge copper, and more
- Lights** — Flashlight bulb, blue LED, red LED
- Switches** — SPST Switch

Trash — Drag models to this icon to delete them

Sandbox

FUNCTION	KEYBOARD COMMAND
Tilt and rotate the breadboard	Arrowkeys
Enter workbench mode	W
Duplicate	CTRL, CTRL-D, D
Delete model	Select model w stylus + Delete
Perform "Save" action (prompts "Save As" dialog if it is the first save)	CTRL-S
Reset the scene	F5, CTRL-R
Opening Activity Builder	B
Open / Close the Help Screen	F1
Scroll through activities and categories in Content Menu	Up & down arrow keys
Change focus between the categories list and the activity tiles in Content Menu	Right & left arrow keys

HOW TO LIGHT THE LEDS



HOW TO START THE MOTOR

The amount of current (I) will change the speed of the motor.
 Minimum current required for motor to spin: **100 mA**
 Motor will burn out when **2 A** or more current reaches the motor.

Ohm's Law: $V = IR$

Where V = volts provided by the battery

I = amps of current traveling through the circuit

R = ohms of resistance provided by resistors or the circuit parts such as LED and motor

WORKBENCH TROUBLESHOOTING



MOTOR



AA BATTERY



SWITCH

Click the  icon above the component to enter the Workbench.

Review the parts of the component to determine if anything is broken or missing.

Use the inventory to replace or add parts.

Click on the  icon to exit the Workbench and return the component to the breadboard.

Euclid's Shapes



REFERENCE SHEET

Home Control Bar

- Home**
Go back to the main menu screen
- Save**
Save any progress made in your activity
- Settings**
Change general settings and preferences
- Activity Builder**
For teachers: edit or create activity questions
- Photo Gallery**
View, delete and export photos taken with stylus cam
- zView / zShare**
Connect to share your screen or create a recording
- Help**
All done? Click here to return to Euclid's Shapes

Toolbox

- Clear All**
Remove all materials from the board
- Gravity**
Toggle gravity on/off
- Gridlines**
Toggle large, small, or off
- Piece Counter**
Toggle counter on/off
- Wrecking Ball**
Knock objects over and explore physics
- Camera**
Take photos using stylus cam

Scene-based Context Menu

- Duplicate
- Delete
- Select All

Object-based Context Menu

- Duplicate
- Ungroup
- Compose
- Decompose
- Group
- Delete

For Rainbow Cubes, Square Tiles, Pattern Blocks, Fraction Bars, Symbols:

For Base 10 Blocks:

Trash
Drag models to this icon to delete them

Euclid's Shapes



REFERENCE SHEET

FUNCTION	KEYBOARD COMMAND
Toggle the intersected/hovered object as part of or not part of the selection group	Spacebar
COMMON ACTIONS	
Tilt and rotate the table	Arrow keys
Group & Ungroup / Compose & Decompose	Select objects w Left button, then press G
Toggle the intersected/hovered object as part of or not part of the selection group	Spacebar
Delete object	Hold model w/ stylus + Delete
Select / deselect all objects in the scene	CTRL-A or A
MENUS	
Perform "Save" action (prompts "Save As" dialog if it is the first save)	CTRL-S
Reset the scene	F5 or CTRL-R
Duplicate / duplicate selection group	CTRL-D, D
Open / Close the Help Screen	F1

Curie's Elements



REFERENCE SHEET

Periodic Table

Click each tile to see a model of that element.
Click the tile again to return it to the table.

Home Control Bar

- Home: Go back to the main menu screen
- Settings: Change general settings and preferences
- zView / zShare: Connect to share your screen or create a recording
- Help: All done? Click here to return to Curie's Elements

Stylus

- Primary Button: Selects objects and confirms choices
- Secondary Button: Activate the context menu

Title-based Context Menu

- Atomic View
- Combined View
- Bohr View
- Detailed View
- Reset

Scene-based Context Menu

- Atomic View
- Combined View
- Bohr View
- Reset

Curie's Bar

Color-code the periodic table based on any of these factors:

- Ionization Energy
- Atomic Radius
- Electronegativity
- Radioactivity
- Group
- Type
- State at STP

Atom Builder

Use protons, neutrons, and electrons to create atoms

Curie's Elements



REFERENCE SHEET

FUNCTION	KEYBOARD COMMAND
Launch Detailed Element View	W
Rotate through Atomic, Bohr, and Combined Views	Spacebar
Perform "Save" action (prompts "Save As" dialog if it is the first save)	CTRL-S
MENUS	
Reset the scene	F5, CTRL-R
Open / Close the Help Screen	F1
Scroll through activities and categories in Content Menu	Up & down arrow keys
Change focus between the categories list and the activity tiles in Content Menu	Right & left arrow keys

LEOPOLY 3D



Reference Sheet

1 Choose type of design work



Beginner sculpting with a ball of clay.

OR



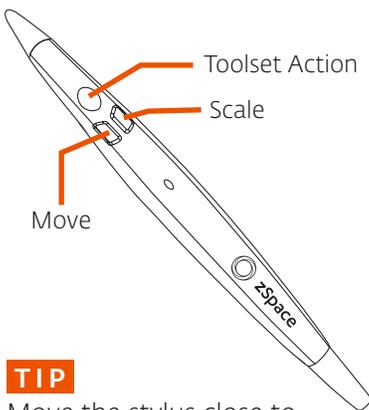
Begin design from a prepared shape.

OR



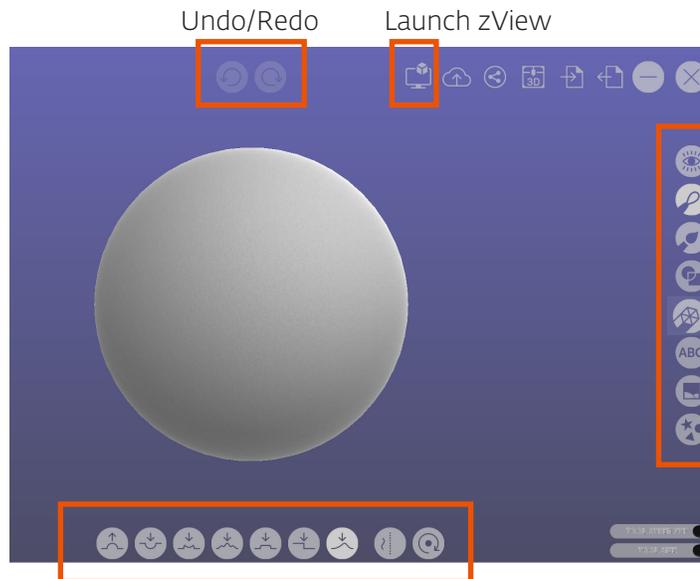
Begin design from animal and human anatomy.

2 Use Toolsets to create your design



TIP

Move the stylus close to the menu items until the hand appears and select the menu item.



Undo/Redo

Launch zView

Available Toolsets

- Material View
- Sculpt Your Object
- Paint
- Add shapes
- Formshifter
- Add text
- Add image
- Emboss

Toolset Actions

3 Saving and Printing

Your saved files can be found in your 'My Documents' folder

To Print: Save your model in STL format and send to the printer



Save Model Load Model

Importing Model to Studio

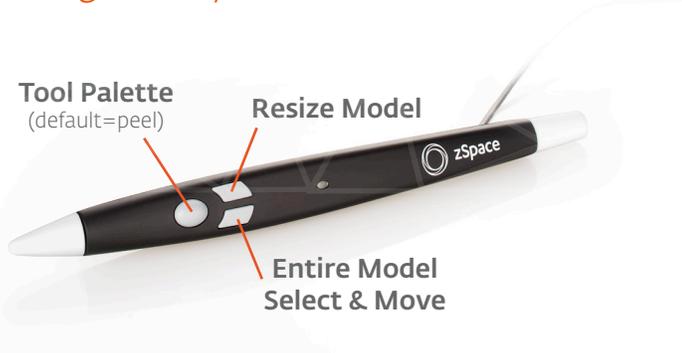
- 1 Open Studio Activity or Sandbox
- 2 Open Backpack & select
- 3 Choose the OBJ or STL file of your model to open

VIVED SCIENCE



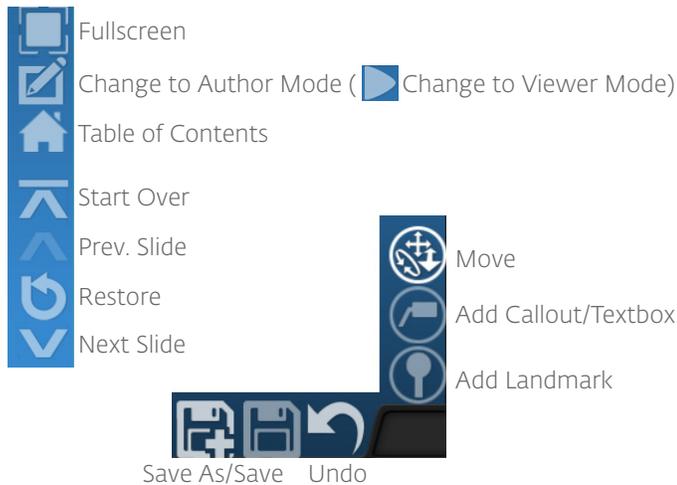
Reference Sheet

Using the Stylus



Quick Reference

Main Menu



Advanced Controls

Global Actions

- Replace All
- Hide All Landmarks
- Make All Opaque
- Clear Highlights
- Link/Unlink Objects
- Clear Slides
- Clear Notes

Local Actions

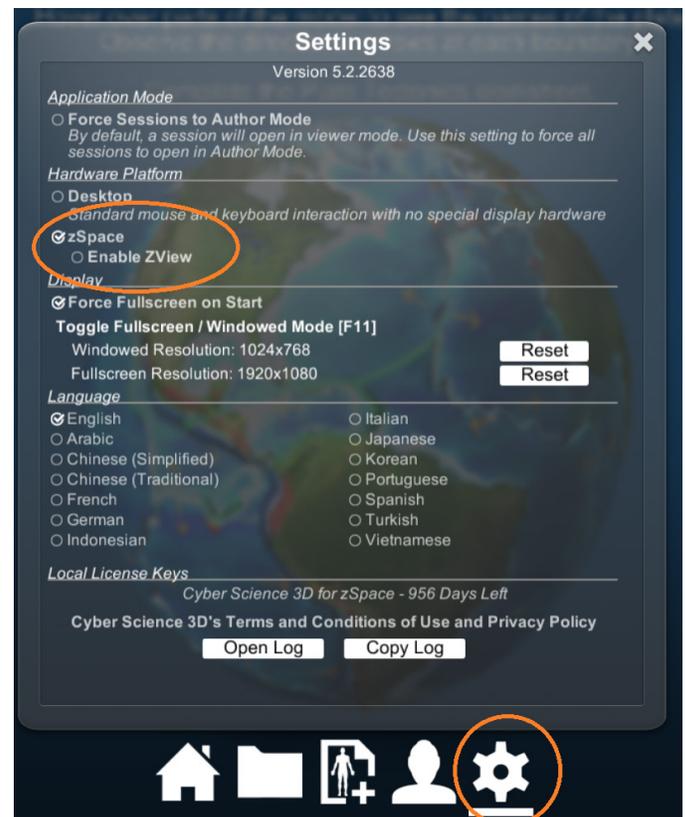
- Replace All
- Hide All Landmarks
- Invert Selection
- Remove Object

Appearance



Enabling zSpace

To enable zSpace mode, open the **Settings** menu by selecting the gear icon. Make sure zSpace is selected under **Hardware Platform**. zView can also be enabled here.



Open Session

To open a session, select the file folder icon.



To find your saved sessions, navigate to:

C:\Users\Public\Documents\VIVED Science Sessions

Creating a Presentation

- 1 Open a new session and design your slide.

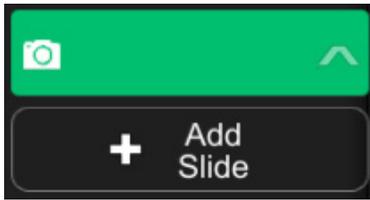


Figure 1 - Creating a Slide

- 2 When done, click **Add Slide** to create a second slide.

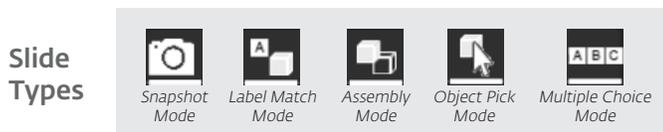
- 3 Repeat until your presentation is complete

- 4 Save session.



Figure 2 - Saving your session

Editing Your Slide



- 1 Select the slide that you want to edit in the right-hand panel

- 2 Edit the scene.

- 3 Click **Store Current View** on the slide you are editing to save changes.

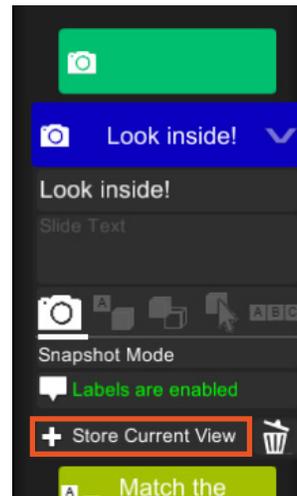


Figure 3 - Saving Edits

- 4 Save session as shown in Figure 2.

Changing Slide Order

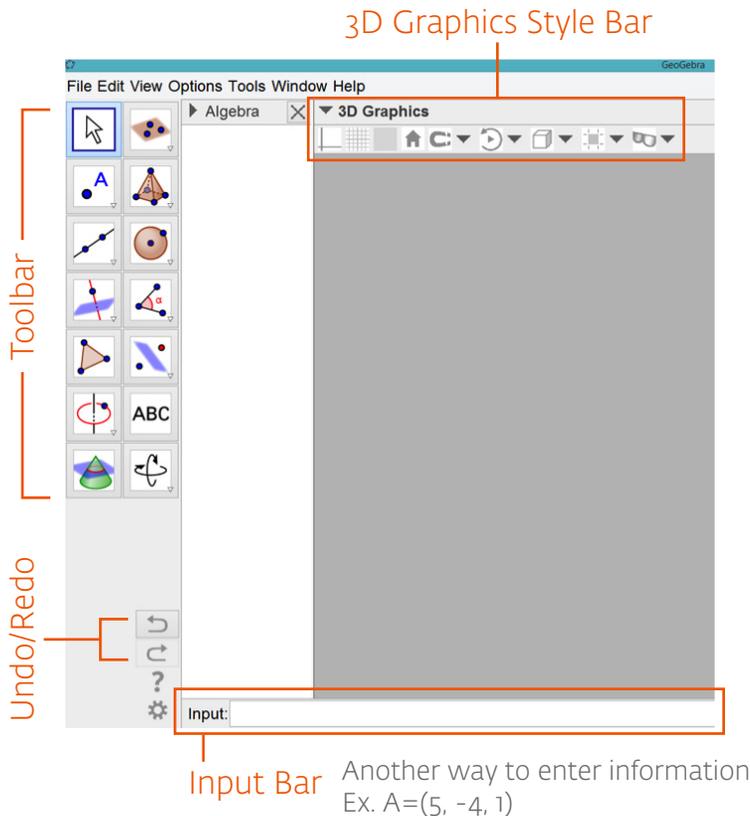
Use the **Table of Contents** to access the **Settings** Panel. Under the Hardware Platform section, switch from **zSpace** to **Desktop**. Click and hold on the slide, when the bar appears you can move the slide.

GEOGEBRA

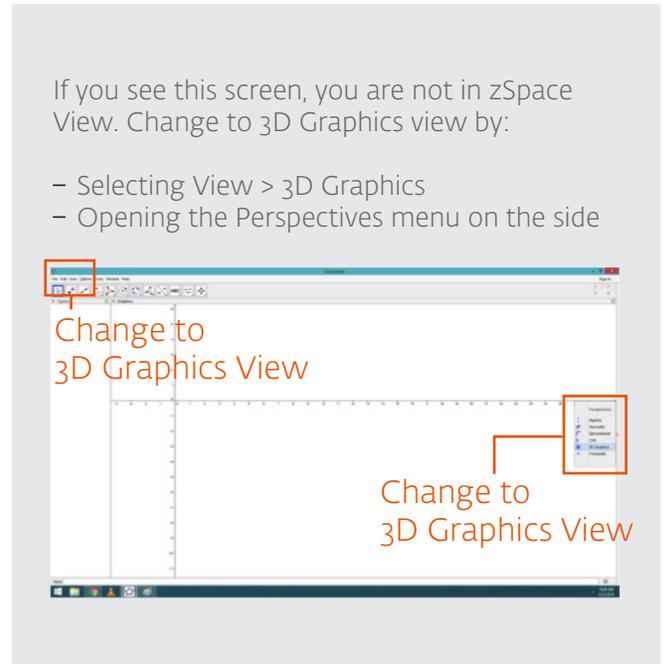
Reference Sheet



zSpace View



Another way to enter information
Ex. $A=(5, -4, 1)$



Using the Toolbar



Hover over for tooltip

