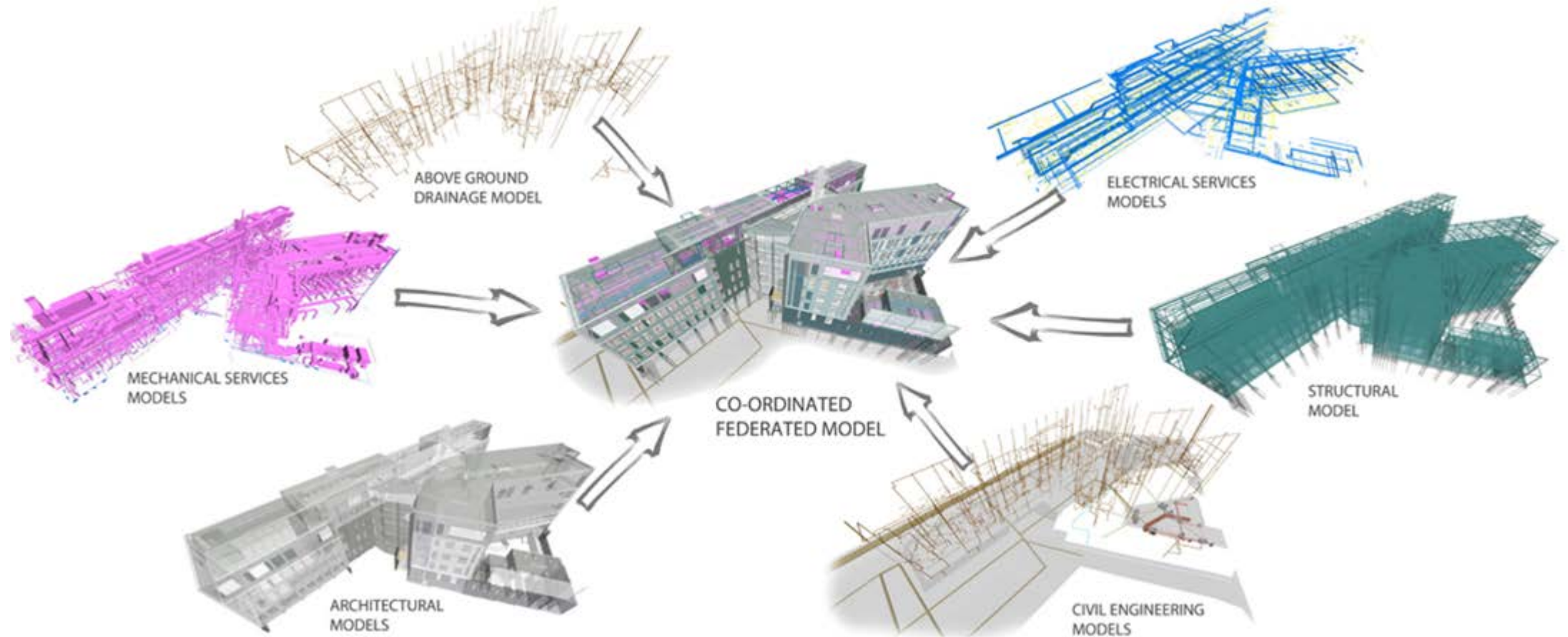
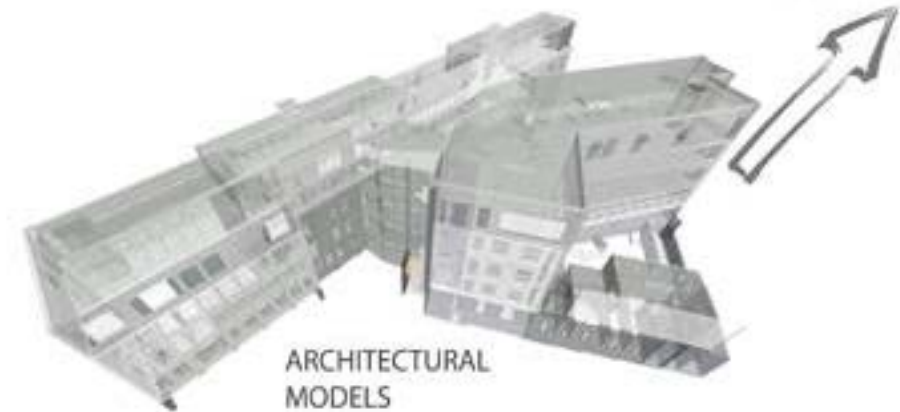


Working with Digital Technologies & BIM



How can we create data rich intelligent models?

Tools such as Revit enable intelligent 3D Modelling that can be linked into a BIM Process.



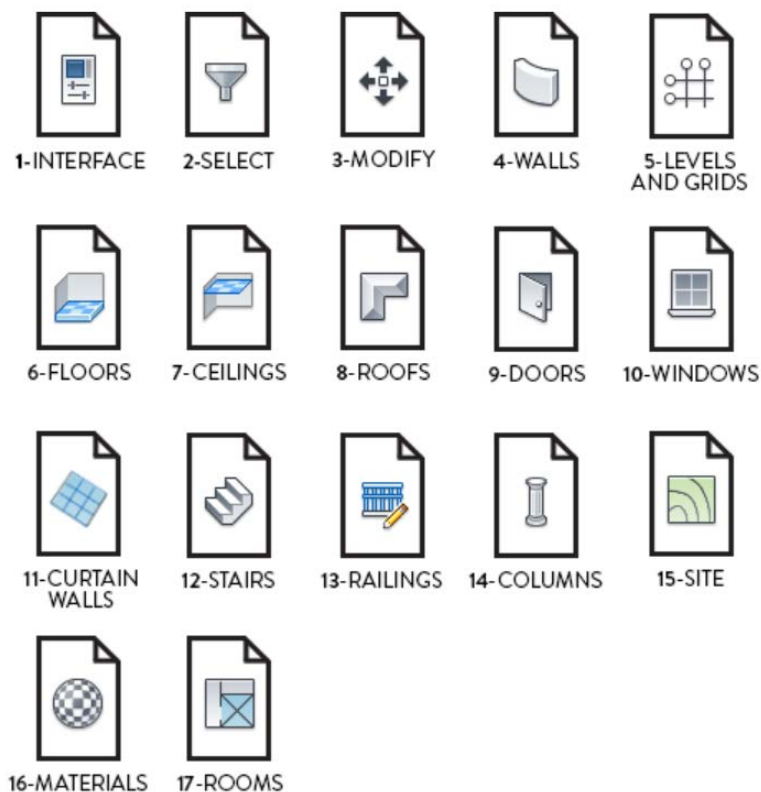
Remember a Revit Model alone is not BIM



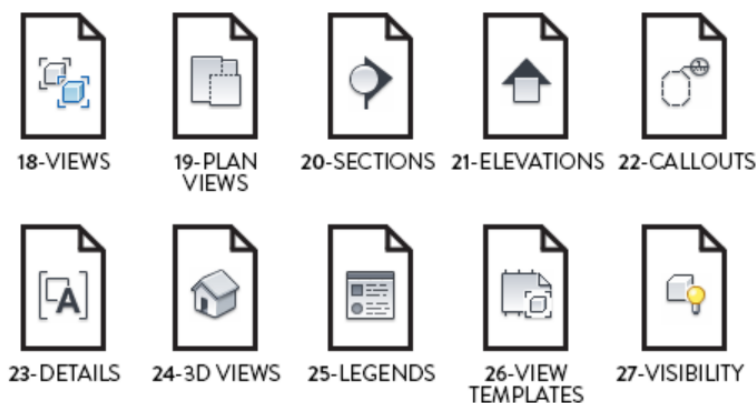
AUTODESK®
REVIT®

AUTODESK® REVIT® the basics

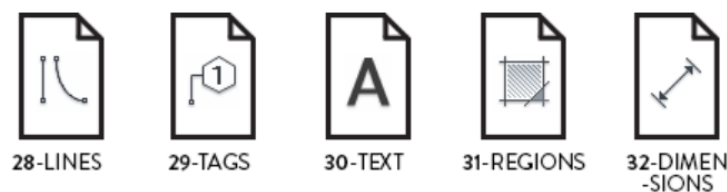
PART 1: MODEL



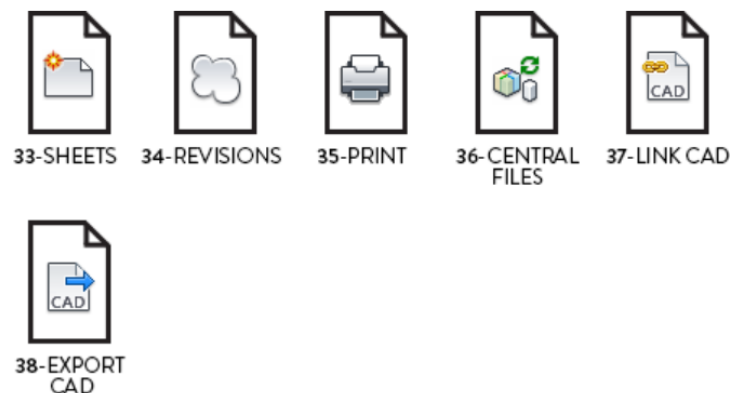
PART 2: VIEWS



PART 3: ANNOTATE



PART 4: PUBLISH AND COLLABORATE

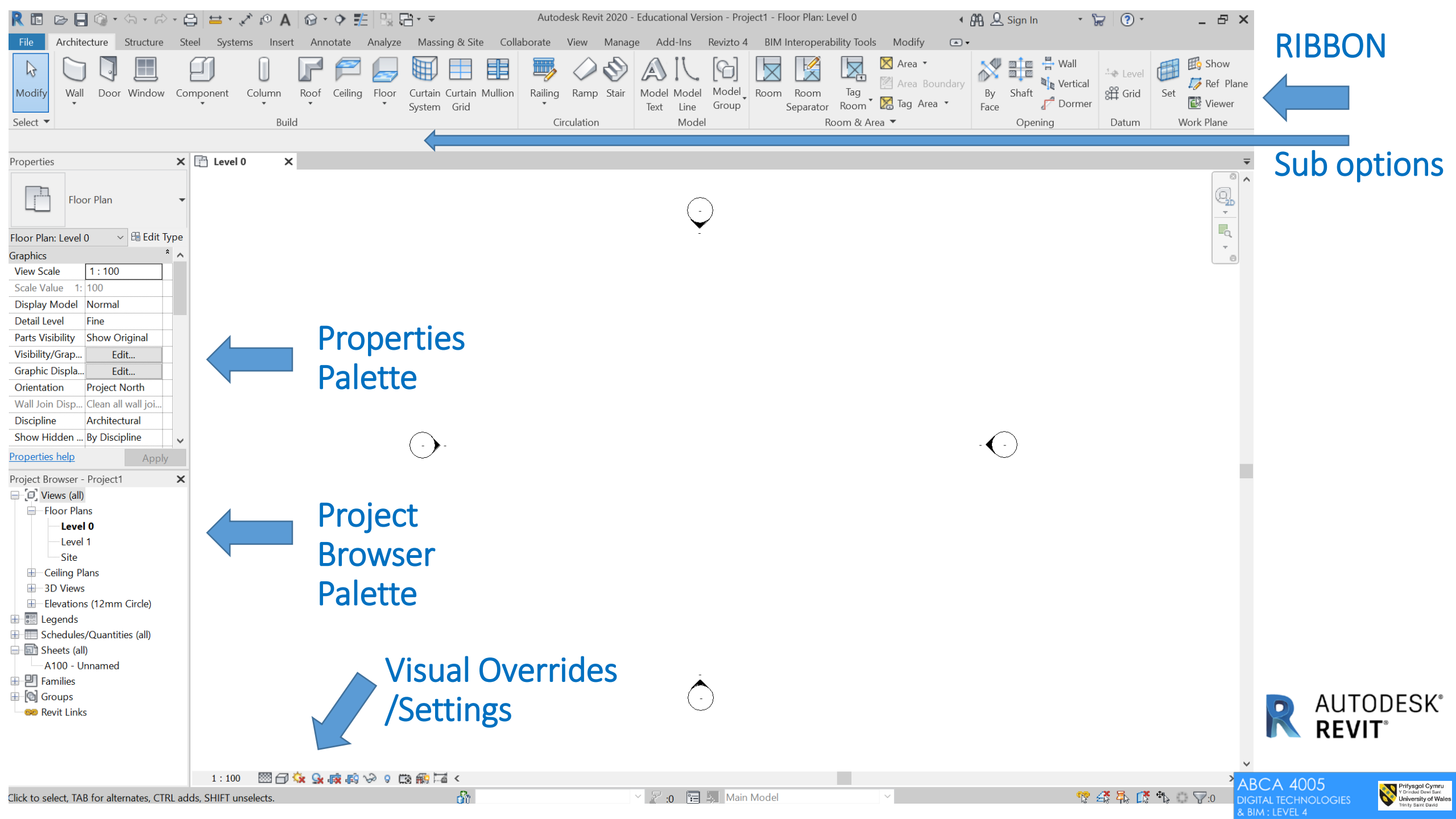


PART 5: ADVANCED TOOLS



<https://revitpure.com/basics>

<https://academy.autodesk.com/>



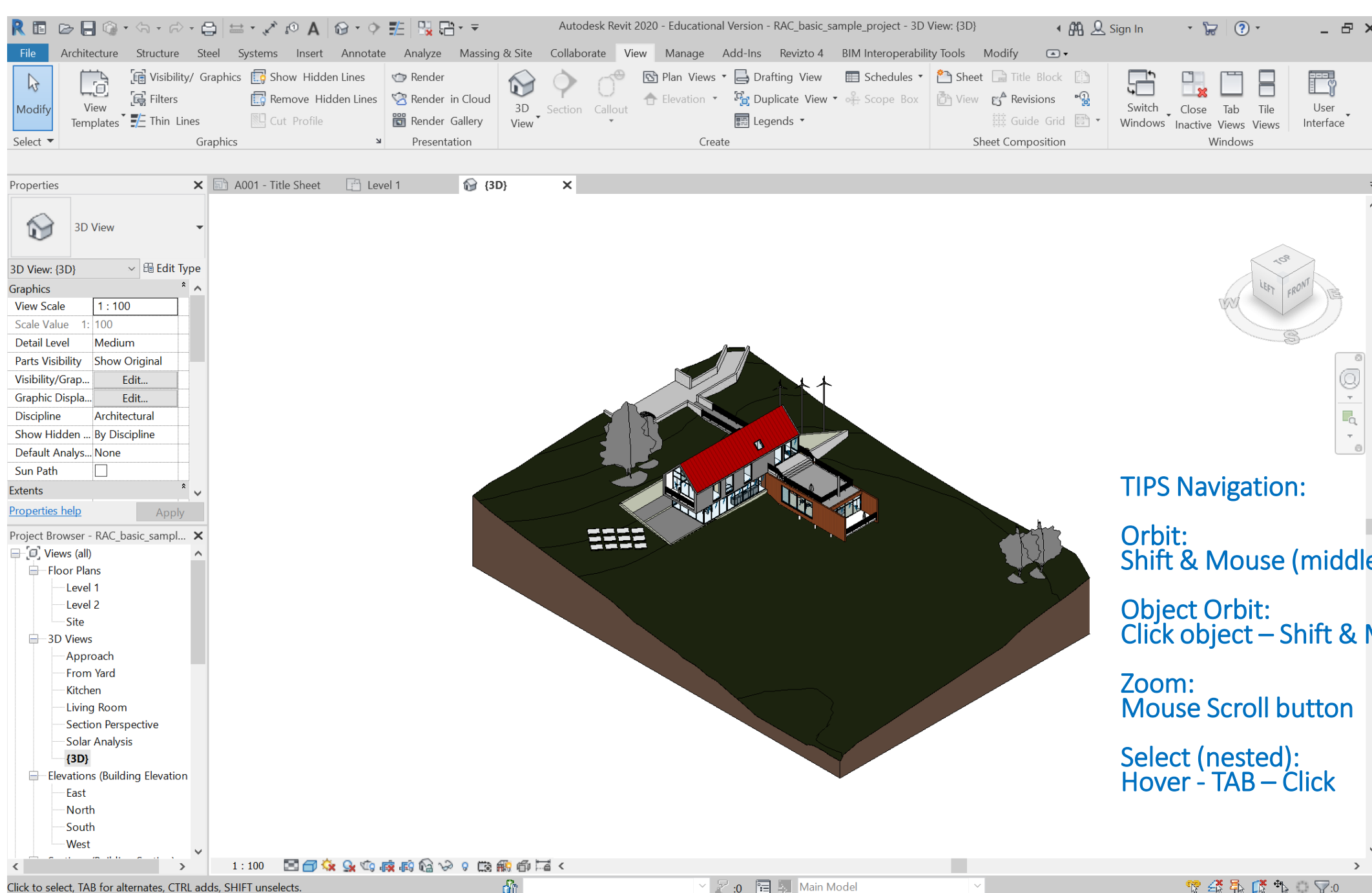
RIBBON

Sub options

Properties
Palette

Project
Browser
Palette

Visual Overrides
/Settings



1-INTERFACE



2-SELECT



3-MODIFY

TIPS Navigation:

Orbit:
Shift & Mouse (middle button)

Object Orbit:
Click object – Shift & Mouse (middle button)

Zoom:
Mouse Scroll button

Select (nested):
Hover - TAB – Click



Exercise 1

It's the Workshop again only this time in REVIT.

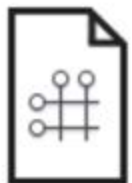
EASY?

Assume the following:

- High to Apex of roof is 5m
- Floor to ceiling height is 2.5m
- Floor slab is 300mm,
- Roof is 300mm thick
- Cill heights are 900mm
- Add Grid Lines



4-WALLS



5-LEVELS
AND GRIDS



6-FLOORS



7-CEILINGS



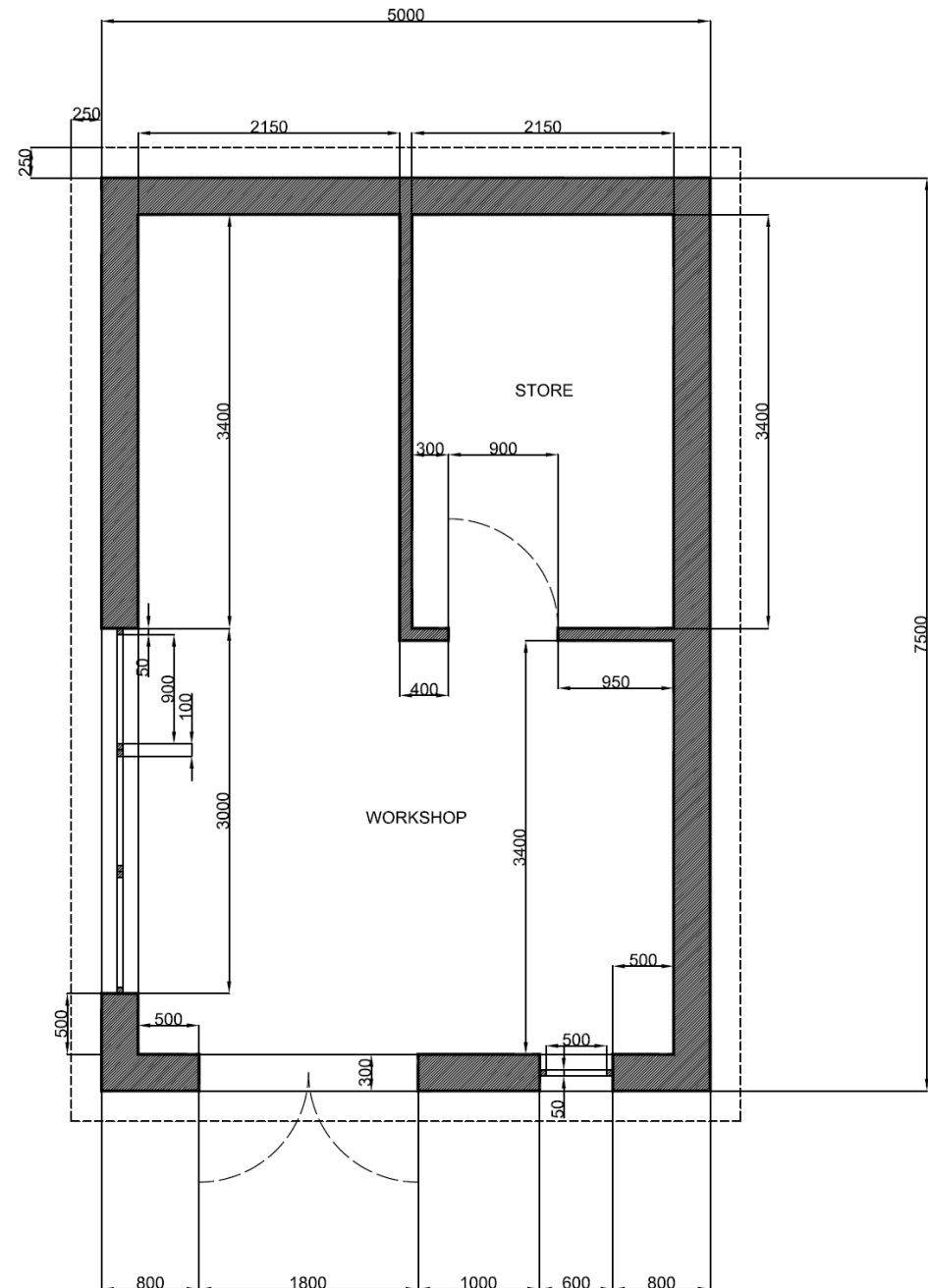
8-ROOFS



9-DOORS



10-WINDOWS



Creating /Editing



4-WALLS



6-FLOORS



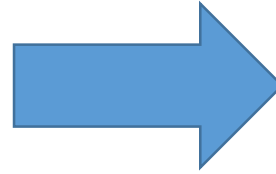
8-ROOFS



9-DOORS



10-WINDOWS



Type Properties

Family: System Family: Basic Wall

Type: Wall-Ext_102Bwk-75Ins-100LBlk-12P

LOAD...
Duplicate...

Type Parameters

Parameter	Value
Construction	
Structure	Edit...
Wrapping at Inserts	Both
Wrapping at Ends	None
Width	290.0
Function	Exterior
Graphics	
Coarse Scale Fill Pattern	<Solid fill>
Coarse Scale Fill Color	RGB 192-192-192
Materials and Finishes	
Structural Material	Concrete Masonry Units _Low Density
Analytical Properties	
Heat Transfer Coefficient (U)	0.2359 W/(m²·K)
Thermal Resistance (R)	4.2386 (m²·K)/W
Thermal mass	27.90 kJ/K
Absorptance	0.700000

[What do these properties do?](#)

<< Preview OK Cancel Apply

Properties

Basic Wall
Wall-Ext_102Bwk-75Ins-100LBlk-12P

Walls (1) Edit Type

Constraints

Location Line	Wall Centerline
Base Constraint	Level 0
Base Offset	0.0
Base is Attached	☐
Base Extension Distance	0.0
Top Constraint	Unconnected
Unconnected Height	8000.0
Top Offset	0.0
Top is Attached	☐
Top Extension Distance	0.0
Room Bounding	☒
Related to Mass	☐

Structural

Structural	☐
Enable Analytical Model	☐
Structural Usage	Non-bearing

Dimensions

Length	13700.0
--------	---------

[Properties help](#) Apply

It is the same process for all fabric objects.
Select an object you want to edit.
In the properties click 'Edit Type'
In the 'Type Properties' Window click 'Duplicate'
Click Edit.. tab

Family: Basic Wall
Type: Wall-Ext_102Bwk-75Ins-100LBk-12P 2
Total thickness: 290.0
Resistance (R): 4.2386 (m²·K)/W
Thermal Mass: 27.90 kJ/K

Editable
Properties

Sample Height: 6096.0



EXTERIOR SIDE					
	Function	Material	Thickness	Wraps	Structural Material
1	Finish 1 [4]	Brick, Common	102.5	☒	☐
2	Thermal/Air Layer [3]	Fiberglass Batt	75.0	☒	☐
3	Core Boundary	Layers Above Wrap	0.0		
4	Structure [1]	Concrete Masonry Uni	100.0	☐	☒
5	Core Boundary	Layers Below Wrap	0.0		
6	Finish 2 [5]	Plaster	12.5	☒	☐

INTERIOR SIDE

Insert

Delete

Up

Down

Default Wrapping

At Inserts:

Both

At Ends:

None

Modify Vertical Structure (Section Preview only)

Modify

Merge Regions

Sweeps

Assign Layers

Split Region

Reveals

OK

Cancel

Help

Click the preview Tab to
show what the object make
up in plan and section.

Click 'OK' and
'Apply' in the
Type Window

View: Floor Plan: Modify typ

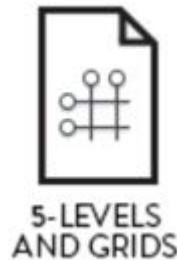
Preview >>

Exercise 2

Draw a 2 storey House.

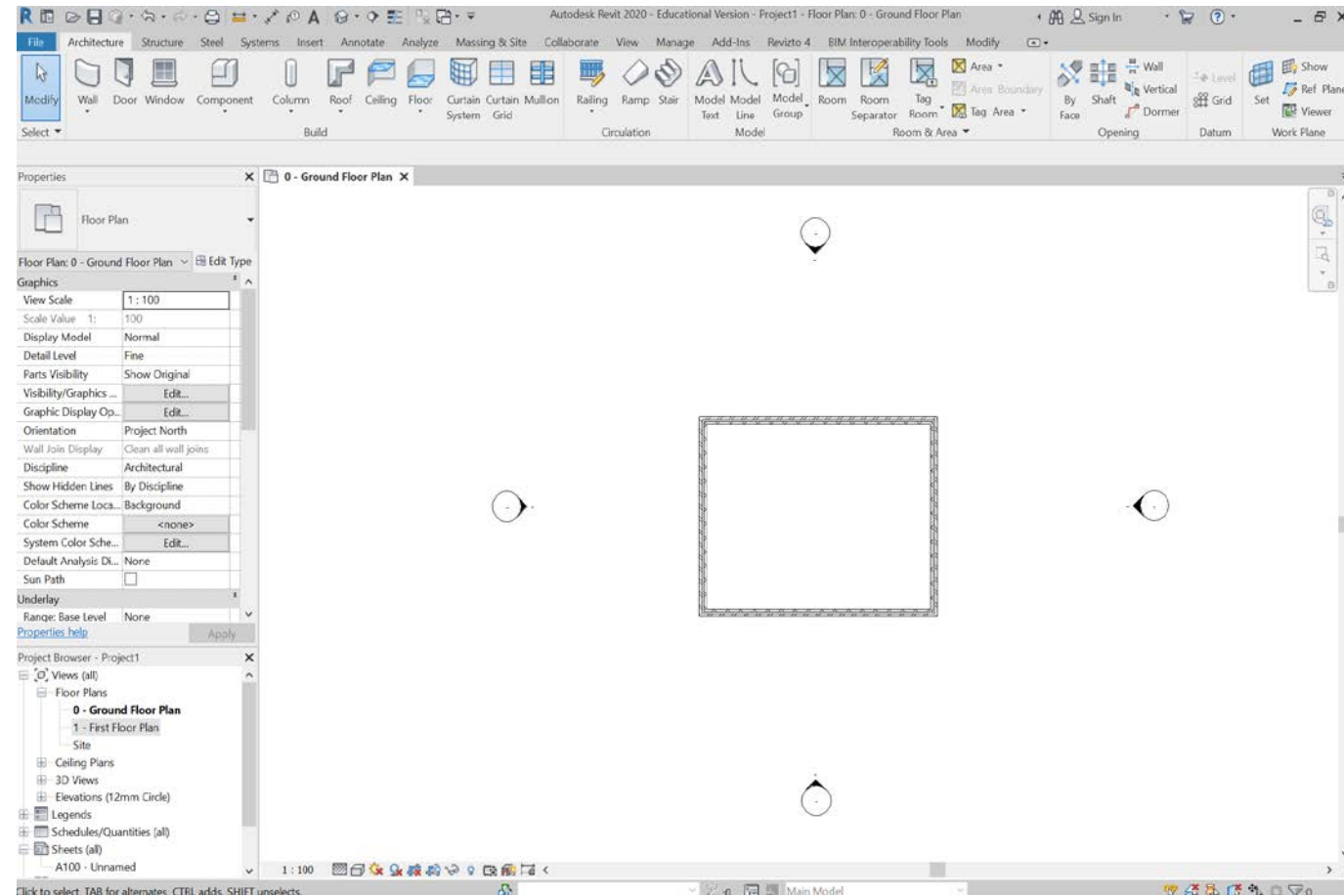
Set up your levels in Elevation view.
Distance between levels of 2700mm

Rename your levels.
0 – Ground Floor Plan
1 – First Floor Plan



Draw a plan 10m wide by 8m deep, select or create your own wall type.

- Add internal walls to create rooms to the ground floor, such as Lounge, Kitchen diner, hallway, WC.
- Add internal walls to create rooms to the first floor, bedrooms, bathroom, landing – (make sure you leave some room for a staircase)
- Add, floors, ceilings, windows, doors and a roof.





11-CURTAIN
WALLS



12-STAIRS



13-RAILINGS



14-COLUMNS