

**Challenge exercise – Grading rubric****Finish the model and conduct a carbon analysis**

**Criteria:** Finish creating the model of the house. Link the upper-level floor plan drawing onto the upper level. Manually or automatically create the walls, and then add the doors and windows. Conduct a carbon analysis of a more detailed project model.

**What to Submit:**

- Direct your students to submit their design in a format that works well for you to review and critique. Here are some suggestions:
  - Share the design with your instructor through ACC.
  - Save the rvt file to a school submission dropbox.
  - Save the carbon analysis as a screen print to ACC or upload to a school submission dropbox.

### Grading rubric:

Inspect the Revit model, use the wall schedule as per the figure below, referring to upstairs level only.

Criteria	100%	50%	25%	0%
	Advanced	Proficient	Basic	Emerging
<b>Exterior Walls 30 pts</b>	Length of Exterior wall between 29600 - 29700	Length of Exterior wall between 29500 - 29800	Length of Exterior wall between 29400 - 29900	Length of Exterior wall between 29300 - 30000
<b>Interior Walls 30 pts</b>	Length of Interior wall between 23400 - 23450	Length of Interior wall between 23300 - 23550	Length of Interior wall between 23200 - 23650	Length of Interior wall between 23100 - 23750
<b>Doors 20 pts</b>	All 8 doors have been added upstairs	7 doors have been added upstairs	6 doors have been added upstairs	5 doors have been added upstairs
<b>Screen print of Carbon Analysis kgCO2e 20 pts</b>	Total carbon produced is between 40,250, and 40,350	Total carbon produced is between 40,100, and 40,600	Total carbon produced is between 40,000, and 40,700	Total carbon produced is between 39,500, and 41,000

Total score: / 100

<Wall Schedule>			
A	B	C	D
Family and Type	Length	Base Constraint	Area
Base level			
Basic Wall: External Wall			
Basic Wall: External Wall	8690	Base level	25 m <sup>2</sup>
Basic Wall: External Wall	6134	Base level	17 m <sup>2</sup>
Basic Wall: External Wall	8690	Base level	17 m <sup>2</sup>
Basic Wall: External Wall	6134	Base level	14 m <sup>2</sup>
Basic Wall: External Wall: 4	29647		73 m <sup>2</sup>
Basic Wall: Internal wall			
Basic Wall: Internal wall	5088	Base level	12 m <sup>2</sup>
Basic Wall: Internal wall	2593	Base level	5 m <sup>2</sup>
Basic Wall: Internal wall	3000	Base level	8 m <sup>2</sup>
Basic Wall: Internal wall: 3	10680		25 m <sup>2</sup>
Base level: 7	40327		99 m <sup>2</sup>
Upstairs level			
Basic Wall: External Wall			
Basic Wall: External Wall	8690	Upstairs level	25 m <sup>2</sup>
Basic Wall: External Wall	6134	Upstairs level	17 m <sup>2</sup>
Basic Wall: External Wall	8690	Upstairs level	17 m <sup>2</sup>
Basic Wall: External Wall	6134	Upstairs level	16 m <sup>2</sup>
Basic Wall: External Wall: 4	29647		76 m <sup>2</sup>
Basic Wall: Internal wall			
Basic Wall: Internal wall	3193	Upstairs level	7 m <sup>2</sup>
Basic Wall: Internal wall	1200	Upstairs level	3 m <sup>2</sup>
Basic Wall: Internal wall	2400	Upstairs level	5 m <sup>2</sup>
Basic Wall: Internal wall	3098	Upstairs level	8 m <sup>2</sup>
Basic Wall: Internal wall	2441	Upstairs level	6 m <sup>2</sup>
Basic Wall: Internal wall	4958	Upstairs level	10 m <sup>2</sup>
Basic Wall: Internal wall	6134	Upstairs level	13 m <sup>2</sup>
Basic Wall: Internal wall: 7	23422		53 m <sup>2</sup>
Upstairs level: 11	53069		128 m <sup>2</sup>
Grand total: 18	93397		227 m <sup>2</sup>