Activity

- *The Vanishing Point* -

Step 1: Introduction

Look closely at this picture of *La Fresque des Québécois*[1] (picture in the appendix). According to you, how did the artist create such a successful depth effect?

He used several techniques, particularly creating shadows and playing with the size of the elements (what is closest to the observer must be bigger). Using a vanishing point is also an important element and it is what will be discussed in this activity.

Step 2: Vanishing Point

Painters often use what we call a vanishing point to create depth in their artworks. The artists represent the objects that are farther in the image smaller and the one that are closer bigger, creating the illusion of 3 dimensions. Plus, the (straight) lines of these images that, in reality, would be parallel and move away from the observer become, in the representation, convergent towards the same point we call the "vanishing point".

Print a copy of *La Fresque des Québécois.* Try to find the vanishing point by drawing straight lines that would be parallel in reality (the lower parts of windows of the same building, the stairs of a staircase, the lower part of a balcony, …). Use a marking pen or a highlighter so the lines are apparent. An example is available in the appendix. Normally, no matter how many times and how many different ways you do this, you should always find the same vanishing point.

Step 3: Conclusion

From a more mathematical point of view, the vanishing point also corresponds to the centre of the homothety that links together two objects in the image that in reality have the same dimensions.

Other impressive uses of the vanishing point are found in an art form called "3D Street painting". You can find many examples by doing a quick search on your favourite search engine. You can have fun trying to find the vanishing point on these artworks.

Finally, some artists have fun creating images that seem impossible to us by playing with the rules of three-dimensional representation, particularly with the vanishing point, the norms of superimposition and shadows. M.C. Escher's work[2] shows many examples. Another known example is the impossible cube (images in the appendix). Try to imagine what this cube would look like from another angle.

[1] It is a mural that was painted in 1999 on a building in Parc de La Cetière, on Notre-Dame Street, in the city of Québec. It tells the story of the city of Québec by highlighting some of its famous landscapes and important names.
[2] http://www.mcescher.com/gallery/impossible-constructions/

APPENDIXES

La Fresque des Québécois, original

Le Fresque des Québécois, vanishing point identified

Impossible Cube