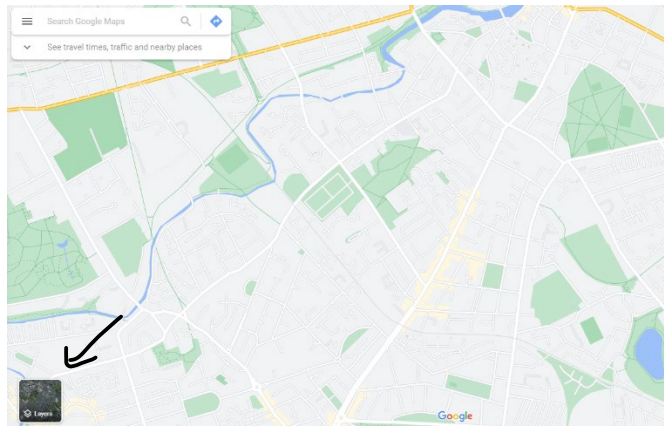




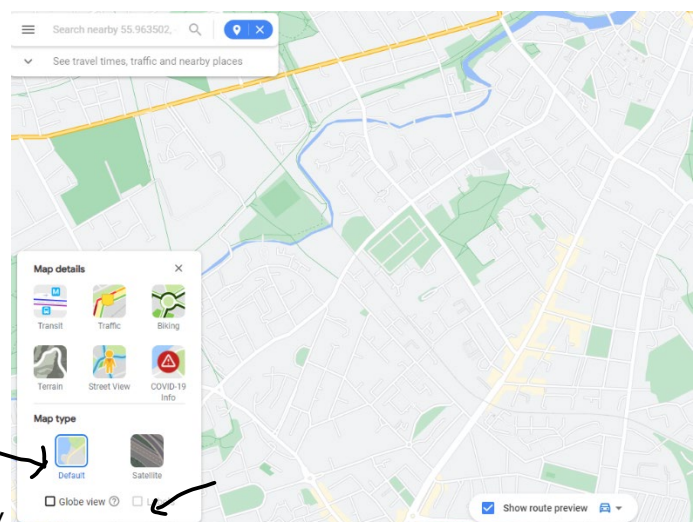
## Design Eco-Friendly Parts

### Make a local map

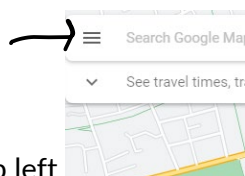
The included resource for learners to measure about how far it would take them to get from and to certain places, is taken from a map of a small area in Edinburgh, without landmarks. It would be recommended for you to use a local map from your area printed onto A4 or A3 paper; getting a map from Google is fairly straightforward:



click the layers icon at the bottom left,



then select default and tick the labels box so it is empty,



lastly, choose print from the menu at the top left

# MARTY STUDENT WORKBOOK



## Emissions

It is important to explain to learners that a vehicle starting and accelerating from stopped uses more petrol than a car driving at a constant speed. As a result, there are more emissions from cars in the city, with all the starting and stopping when compared with longer distances travelled. The same is true for other vehicles, aeroplanes, in particular, use far more fuel in take off than they do when in the air flying.

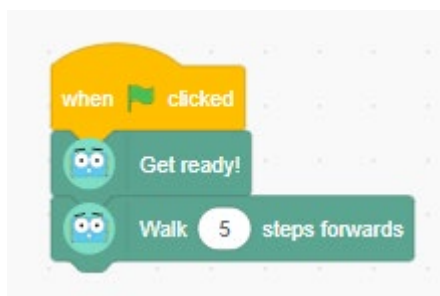
Let learners know that the measurements of emissions are estimates when they are scaled to be something other than what was shown on the video. Estimates are not precise measurements of the emission but still give a good idea of about how much.

## Marty walking the route

The points used for the video are the first part of the route to get Marty from the dentist to the friend's home. The measurements recorded are based on the page that was printed for Marty, advise learners to do their own measurements as their printout could be a different size.

The first step that was taken, for coding, was to measure the distance to the first turn and code Marty to walk that. Then the other distances were measured and scale was used to determine about how many steps Marty would need. Once these two measurements were determined, there was a series of trial and error for Marty to get from the dentist to the friend's home.

Here is the code used to instruct Marty to walk the first part of this route.



Because Marty needs to walk 12.5cm, as measured on the map on the video, and because each step Marty takes is 2.5cm, Marty need to take 5 steps to get from the starting point to the first corner.

This lesson involves calculations and comparisons. It would be good to keep some of the presentation work as a display in the classroom as a reminder of the COP26 goals. The emission posters are included as separate resources and could be printed in a larger format.