Westminster City Council Schools' Healthy Commutes Project: *Classroom intro with mapping* • Session 1 of 3: 1.5 - 2 hours • KS2 geography, ICT and Maths Prior to starting the project: The school should have an idea of actions and targets to put into place as a result of this project. These will be required to inform action planning sessions.	Materials to Prepare: **Check you have resources well in advance!** • PowerPoint of Session 1 adapted for this school • 15 A3 colour maps printed of school's surrounding area: 2 versions e.g. immediate area + likely catchment areas (1 each) • Traffic survey sheets 1 each or 1 between 2 • Cotton pads for wiping leaves, gloves, 3 plastic bags labelled • Cameras/iPads

Intro 20 min	**Use PPT1 to guide your introduction to topic and session 'Our Journey to School'** ***Slide 1 & 2* - *Intro to project 'Air Quality around our school' and how we travel to it matters***. The aim of this project is to involve children in promoting safer, active, and more 'sustainable' travel at their school *[explain '**Sustainable**'].* Ask children to think about their journeys to school and if there are ways, we can make them more active, safer, and better for the environment. ***Slide 3* - *Introduce the concept of Air Quality - 'What's up there besides air'?*** Think, pair, share - gases and particles that shouldn't be there. Makes the air dirty and unhealthy. ***Slide 4 -15* - *Where does Air Pollution come from?* -** Sometimes naturally occurring, like pollen, salt spray, volcanic ash and soot from forest fires. A lot is unnatural - cars, factories, fires, and products that we use, such as cleaning spray. Air Quality can be poor both outside and inside buildings. ***For this project, we are going to focus particularly on air pollution caused by cars and road use.*** ***Slide 16* - *What is the problem with dirty air or Air Pollution* -** Sometimes it can just cause itchy watery eyes, or make you sneeze, but serious Air pollution can make people very sick. It can make it difficult to breathe and cause diseases such as lung cancer, respiratory infections (asthma), and heart disease ***Slide 17* - *How do we know when air pollutants are present?*** Think, pair share**.** Explain: sometimes we can see them or smell them. Or we might experience noticeable effects of the pollutants, such as difficulty breathing when there's a lot of ozone in the air or watery eyes when there is excessive pollen in the air. We rely on technology, government information, the news media and social media to inform us of the air quality conditions or forecast**.** ***Slide 18* - *What is the problem with driving to school?*** Think, Pair share - Cars ***emit*** [explain emit, emissions] certain gases called Carbon monoxide (CO), Nitrogen oxides (NOx) and small particles - Particulate matter (PM), Volatile organic compounds (VOC) and Sulphur oxides (SOx), all of which contributes to air pollution. Also using our cars all the time means less exercise. Sometimes we have unpleasant routes, journeys or experiences which leave us feeling stressed and

	unsafe etc ***Slide 19- 20* - *How can we check and monitor pollution levels?*** WCC have introduced machines called SENSORS that monitor and check AQ. There is one close to this school, which enables the council to check road pollution levels daily. The information is recorded in a data map. Looking at this information, we can predict when and why AQ might change. Look at link to map and explain what each coloured dot means. How and when might the colours change? Time of day, specific roads are always busier than others, weather conditions.

Analysing data Activity 1 **My journey to school map** 15 mins Part 2 can be completed after a break or another day if needed Activity 2	***DISCUSSION***: Look at data information chart (Pick any week that shows good variation in results). What do the spikes mean? They indicate when there are more cars passing by the sensor/higher levels of pollution. Can you say anything about when they are at their highest levels. What might it look like at the weekend? What about different times of the day. What does that tell us about pollution near our school? ***Slide 21 -22*** Activity 1 - Mapping our journey to school. Can you find where you live on a local map or closest starting point you recognise. • Find the **school** on your map • Find your **home** on the map • Plot the **route** (*draw a line*) you walk/cycle/drive etc from **A** to **B** • Discuss features about points along your journey, such as 'cut through the park, enjoy trees and flowers/ meet best friend here/ nice food smells / avoid here, big dog' etc **Part 2 – Outdoors in local area NB** *This session should be completed only on a dry day as rainfall will wash away evidence of pollution.* **Teacher to predetermine 1 busy main road and 2 other different places locally** - *one should be outside or very near to the school, another should be a busy road and the third somewhere in between. [LOOKING FOR CONTRAST in areas with light and heavy traffic]* Recommended: Risk Assessment of Busy Road ***Slide 23*** - Intro to activity - explain that you'll be investigating the amount of traffic on a local busy road, and thinking about if our school run contributes to the pressure

25mins	traffic puts on the local area. For this you'll be recording how many vehicles you see + how many passengers there are - ASK Why count passengers? What is better, driving solo or taking passengers and WHY? • Ask pupils to make 3 predictions (**Slide 24**) before they go out for investigation. CLARIFY you'll Be counting for 2 minutes at a time but make predictions about if you stood for 1 hour • How many vehicles will there be in one hour? • Will most cars have one person (the driver) or more than one person in them? • What will be the most common type of vehicle? Explain how survey will work & how to record results (**Slide 25- 26**). Demonstrate with volunteer how to conduct survey, record in pairs, taking in turns to be 'looker' & 'recorder' & count using tallies. • Explain the Environmental Quality Survey with stops 1-3 and scoring system (**slide 27**) • Give out survey sheets (1 each). Pupils should fill in name, date and survey location, then complete 3 predictions in top box. This can be revisited post-survey. Give out clipboards 1 between 2 **Slide 28** - Explain leaf wipes and what we can learn from the way pollution disperses and impacts us
Activity **3** **Environmental survey** 10 mins **Traffic survey** 15 mins **Leaf wipes** 10 mins	Prepare to go out for ***40 minutes total.*** Pupils should be organised into pairs (1 sheet, clipboard + pencil per pair). • Go out and head for STOP 1. Check everyone has 'Traffic Survey' sheet (vehicles) on top of clipboard. • Line class up along a wall, away from roadside. Check pupils all listening & SPLIT line in half. <u>Vehicle Count Survey</u> • 'Team A' will be counting vehicles travelling left to right only. • 'Team B' count right to left only • Remind everyone of basics, plus to listen for your Ready Steady GO! and your

Activity 4 **Plenary** 5 mins	5,4,3,2,1 STOP! • Stopwatch ready & countdown to start. 2 minutes.. (Take some photos) countdown to stop. • Pupils add up subtotals & totals from tallies and turn over to 'Car Passenger Survey' sheet <u>Passenger Count Survey</u> • Pairs can now swap roles, remind about counting ONE or MORE passengers (Time: 2 minutes) • Pupils add up subtotals & totals from tallies. **Observe**: What do we notice about the speed of the traffic? tortoise or hare? What does that mean for AQ? (Stationary vehicles - concentration of pollution, too fast - more pollution. Cars should stick to speed limit - better for AQ and safety.) • Turn over sheet to 'Environmental Quality Survey' (street audit) <u>Environmental Quality Survey</u> • Pupils take 2 minutes to look around them (at stop 1) giving each criteria a score 0-5. Once finished give cameras to collect photo evidence with 'thumbs up/thumbs down' classmates. • Choose 2 - 3 volunteers to check pollution levels by wiping leaves and other surfaces like windows. Need gloves and cotton pads. Put in a bag marked 'busy road'. • Repeat Environmental Quality at stops 2 & 3 (a quieter residential location and a green space if possible) • Back at school, check pollution levels by wiping windows to the front of the building near the busiest roadside and then at the back. Are windows closer to road dirtier than those further away? Put into a separate bag marked 'school'. **At school** (Slide 29) We will check results next session. Finish with quick plenary quiz: A. Diesel vehicles are often the most polluting vehicles on the roads (True) B. You can always see air pollution (False) C. Walking on the inside of the pavement and away from the road can help you breathe in fewer car fumes (True) D. You can always smell air pollution (False) E. The surface area for gases to diffuse through the human lungs is roughly the same size as a tennis court (True) F. It's always better to be inside a car to protect you from air pollution (False) (Slide 42) Next week, prepare for understanding our travel habits.

Westminster City Council Schools' Healthy Commutes Project: Graphs (Excel) • Session 2 of **3:** 1.5 hours • KS2 ICT (+ geography/numeracy/literacy) • Session 3 You'll need access to computers (one between two) with use of Microsoft Excel	Materials to prepare: • PowerPoint of SESSION 2 adapted for school • **Hands up survey data on travel habits and preferences in a table to insert into PPT slide** • **Cotton pads from previous week** • Excel instruction sheets, 2 sided with adapted data table *3) Some potential* Questions in mind *(think about relevant / interesting questions to their data* • Excel document with table of survey results

Intro and guided whole class activities. 15 min **SLIDE 23 Please insert street audit prior to session →**	1. Use ppt **(Slide 3)** to recap last session 2. Introduce today's session **(Slide 4)**: *What can we remember of predictions and findings etc? Calculate results (total number of vehicles counted left and right multiplied by 30 – gives an hour's worth of traffic). Discuss predictions and findings. Any surprises?* **What impact could the school run have on this amount of traffic?** 3. **(Slide 5)** ***Please insert your completed street audit*** Analyse the street audit. Why do some places have low scores? Can we look for areas to improve so it is easier to walk, scoot/Cycle or take public transport. Eg, bus stop is across a busy road, crossing is very far away. Walking through the park is scary as it is badly lit. There are bins crowding the pavement, hard to pass. Make whole class notes and set aside for later. 4. **(Slide 6)** Use 3 volunteers to look at the cotton pads used for window wipe (need gloves or tongs). What place made the pads dirtiest? What area of the school has the dirtiest pads? What can this tell you about school streets? How might that impact the children? 5. **(Slide7 - 8)** ***DISCUSSION***: Look at data information chart. [PICK the WEEK THAT you completed traffic survey} Find the closest dot to road and time we counted. What does it look like? Was that at the highest level for the day? Look at the data around our school. When is it at the peak? **Why** might that be? 6. **(Slide 9)** Explain that you'll be looking at recent data from our School Travel 'hands up' survey to consider your school's habits & creating comparative graphs **1.** GUIDED ACTIVITY **(SLIDES 10 - 15)** • Explore comparative graph with guided questions: *What kind of picture does it paint for health, wellbeing, air quality, local environment, areas for improvement & reasons for travel choices?* • ASK: Who has used Microsoft Excel before? Explain 'Spreadsheets' and examples of what they're useful for. • Open an empty document and have a look around, explaining/checking language: cells, rows, columns, a cell reference etc.

Activity 1 **Creating graphs with Excel** 45mins	• MODEL activity task step-by-step, from finding Excel on start menu through to format-customising graphs. Follow instruction sheet for each step, highlighting and demonstrating important steps on board (such as remember to save!) decide/explain where graphs should be saved. Pupils should be able to work independently if they listen now then use instruction sheets! • Open & leave table of survey data on board for ref (*also same as data table on 'step 1' on sheets) • Class seated in sensible pairs at computers. Give out instruction sheets. Start activity (give support) Pupils will work at different levels and speeds for this activity. **Key points to emphasise** • Highlight table of data with no extra columns or rows, or graph won't work. • Save table once all data completed, using pupils' names and in designated location. • All graphs need 3 titles: main chart title plus both axis titles (see sheet side 2). • Once charts have all titles & saved they can have a play with formatting and personalising save graphs once checked by an adult.
Activity 2 **Analysis and write-up (report)** 20-30 mins	• As pairs begin to finish activity 1, call everyone's attention to explain next activity. • **Discuss** the habits. What is good? What do we want to do? How can we encourage the school to get out of cars? Take some examples of questions about the graphs, write on board. • Create a Word doc and demo how to copy the graph from the Excel doc to the Word doc. Give it a title, paste their graphs and use sample questions from board about their graphs. Maybe swap with another pair to fill in each other's answers. • Using the answers and the data, children create their own short travel '**report' on school habits** . The report should include findings of Traffic survey, AQ sensor and street audit to paint an evidence-based account. Conclude the session and explain about the next session - we will be using all the info to decide what improvements are needed to help us with our travel habits and how we can encourage the rest of the school to travel more sustainably.

Westminster City Council Schools' Healthy commutes Project: Drawing up your Action Plan • Session **3 of 3: 1.5 hours** • **KS2 Citizenship (+literacy/art & design)** The school should have identified in advance some realistic actions on how they can help sustainable and active travel. Teachers will have some realistic targets in mind so the children can be guided and directed towards these outcomes. Agree sensible, achievable actions and outcomes. Some can be short term. Others will require more input and wider school involvement.	Materials to prepare: • PowerPoint of Session 3adapted for school • 1 -2 Preselected children's reports from last week • Fluorescent Stars (30) • Safety pins (30) • Coloured felt tips for class +Teacher's marker pens • Small roll of tape • 2 big campaigns sheets A3 (1 per pair) • Flipchart sheets (action plan ideas)
Intro 15 min	1. Explain 'Creating an Action Plan' session + recap on activities throughout project **(Slides 1 - 3)** 2. **Recap** on last week's data analysis and report writing. Explore 'preferences' graph **(Slide 4)** – Preselect 1 -2 sensible reports that clearly highlight the issues. *What do our findings tell us about areas where we could improve? How many ideas can we think of to help children who want to cycle but currently aren't? etc What data and info have we used and collected to support our findings - Traffic survey, AQ monitoring, Pupil survey (The school may have also collected other supporting info such as parent consultation)* **(Slide 5) Look at AQ monitor for today.** *Can we use any of today's data/info in our campaigns. How has it helped us understand the issues around AQ?* 3. Discuss: What do they already do at school / What do they *want* to do? **(Slide 6)**

Activity 1 **Campaign brainstorm & Action Plan** 10 mins 25mins	4. ASK: Who can tell us what they think a '**Campaign'** is? **(Slide 7 - 10)** ...use *Walk Once a Week* & *Big Pedal* logos (top of screen) to explain: When you work together to achieve a goal, usually about something you want to change. You might want to promote something (*do more walking to school*) or oppose something (*stop driving*) so try to persuade others to support your idea. 5. Explain activity – class will be split in half into 2 'campaign teams'. Brainstorm with other teammates & use big campaigns sheets to note down good ideas to help achieve your goals Team **A** will be coming up with ideas to get more children **cycling & walking** to school - Team **B** will be coming up with ideas to get fewer children coming to school **by car** Use green & purple questions on slide to prompt things to consider for each campaign, such as: • what are effective ways of spreading your message to children/parents? • how could you create a buzz about your idea (such as a fun event) ? • how could you enable parents/children to try out a different travel method? 6. Hand out both versions of **big campaigns sheets** (1 between 2) - begin brainstorm activity & support 7. Stick up your flip chart sheet up. Write title 'Action Plan Ideas' at top of sheet + 2 subheadings: 'More cycling' and 'Less driving' Some ideas (Please ensure you have already discussed outcomes/ targets with school leaders, so children can be directed and not mislead about actions) • Create online survey for parent consultation • Discuss ideas for whole school engagement • Assembly • Car free street day • Apply for a car free school street • Apply for speed bumps/Restriction • Contact council for better crossings • Install a bike/scooter shed • Parent cycling group • Big Walk and Wheel event each term • Design a reflective tag/jacket • Walk to school weekly competition • School travel ambassadors The overall message is Healthy bodies, look after the environment, cut carbon emissionsn no cars. Rewards and incentives can be discussed. 8. Give class 2 minute time-check then when they're done ask for ideas from teams and scribe. Vote on 5 agreed targets and how they might start to share the info. This is their action plan for improving school travel & can be submitted to their School Travel Coordinator. Teacher to guide the class towards the appropriate actions and can then begin with arranging in a way that suits the school. ***If not convenient to start today, children can begin with activity below.***

Activity 2 Design Campaign badge 25mins	• Put on examples of star badges, it's time to get creative with **campaigns materials**! • Ask: What would make a good design for a badge? Establish they need to come up with a 'snappy slogan' (not lots of info) and a bold, eye-catching logo. Take a few ideas for what could be effective Try out ideas 1st (scrap paper if needed), sketch lightly in pencil before using pens, only ONE star each! • Give out stars, show examples of 'bike/car silhouette' for logo templates on whiteboard. • Stick pins on back of finished badges and early finishers can support others. Let's get started with helping to improve School Travel!
Action planning ideas, resources and links	**Disclaimer: Whilst Westminster Council provides weblinks for informational purposes, we don't accept responsibility for their content.** Park and Stride | Living Streets WOW - the walk to school challenge | Living Streets Sustrans Big Walk and Wheel - Sustrans.org.uk This project looks at How do they get to and from school, How do they want to? Use **preferences graph** 'If this many children *want* to cycle, what things might be stopping them?' (eg parent concerns)+ 'What solutions/ideas address some of these concerns?' (eg cycle training, safety gear, safer routes) The project should use data from the AQ sensor as a way to support findings carried out by children