
Clean Air 4 Schools Programme

London Borough of Southwark

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Much of the contents of the CA4S programme, such as the lesson plans and investigations/experiments were based on the work of the London Sustainability Exchange Toolkit (2012). In addition, the 'Air Quality in L.B. Southwark: guide for public health professionals (GLA, 2012) provided the basis for our knowledge and understanding of the impacts of bad air quality and providing this information to the public in a more digestible way.

Additionally, we would like to thank all the schools, teachers and pupils who participated in the Cleaner Air 4 Schools programme. We strongly believe that their enthusiasm and their commitment to raising awareness of air quality in Southwark will continue to have a positive impact on young people and the wider school communities.

Executive Summary

The Cleaner Air 4 Schools programme (CA4S) in the London Borough of Southwark (LBS) took place from September 2015 to May 2016. The primary goals of the programme were to raise awareness of the risks of air pollution and to provide information to the schools and their communities so that action can be taken to reduce emissions and exposure.

The programme consisted of three stages:

- The delivery of five sessions (one per week) to primary schools on the topic of air quality and related subjects
- Collection of Nitrogen Dioxide (NO₂) data through the use of diffusion tubes placed around the school sites
- Legacy planning through consultation with headteachers and/or other key members of school staff

The first stage also involved contacting schools and inviting them to participate in the programme. A total of 5 schools agreed to participate with a total of six groups; Bellenden Primary, Cobourg Primary, Judith Kerr Primary, Ivydale Primary and St Judes CE Primary. The sessions were delivered at the same time each week in participating schools. In some schools the sessions involved complete classes and in others cases the programme was delivered to small groups.

CA4S Sessions

Each Air Aware session introduced different aspects of air quality investigation and mitigation. All sessions were related to air quality and included science based experiments and discussions. From a curriculum standpoint, the sessions included science, history, art, english and maths skills although teachers were informed that the sessions should not replace any of these individual classes. During the sessions, diffusion tubes were set up and collected to analyse the NO₂ levels in and around the school site.

A session breakdown is provided below:

Session number	Overview
SESSION 1	Introduction to air quality, what's in our air, the different daily activities that affect our air, The Great Smog, The Clean Air Act, Nitrogen diffusion tube set-up
SESSION 2	Particulate matter introduction and investigation, gases in our air and their molecular structure
SESSION 3	Lichen introduction and investigation of lichen on the school site. Nitrogen diffusion tube collection
SESSION 4	Engine idling discussion and preparation of poster to raise awareness
SESSION 5	Sessions recap and assembly preparation

Complete session plans can be found in the Appendix A.

Diffusion Tube Results

Diffusion tube data was collected from one or two locations within each school. These locations usually covered the playground areas and/or a location where teachers felt the level of pollution would be highest. Results showed that of the five schools, three had high levels of NO₂ present whilst one school had shown reasonably low levels of NO₂. The fifth school, St Judes, had its data compromised owing to the diffusion tubes collecting rain water after they were put up the wrong way. In place of this school, LBS provided results for a school a few streets away. This school, Notre Dame School, had periodical data available which shows that in all four data sets provided NO₂ levels were in excess of the EU limit values.

The results from each school can be found overleaf (not including Notre Dame School):

School	Exposure time	µg / m ³
BELLENDEN - MAIN GATE	336 hours	63.59
BELLENDEN - GARDEN	336 hours	55.33
COBOURG - FIRE EXIT	336 hours	49.91
COBOURG - MAIN GATE	336 hours	47.29
IVYDALE - NEAREST ROAD	336 hours	58.43
IVYDALE - MAIN GATE	336 hours	54.72
JUDITH KERR - FIRE EXIT	2016 hours	26.43

Legacy

Meetings with head teachers or other key staff members were scheduled with 3 of the schools; Bellenden, Cobourg and Ivydale. The remaining two, St Judes and Judith Kerr both declined the meeting requests. All schools produced an action plan which was put together by pupils within the Air Aware group and their class teacher or group leader. Action plans contained actions such as poster design, engine idling campaigns, newsletters and letters to parents and the school community. Action plans can be found in the Appendix.

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1 Introduction

London Borough of Southwark (LBS) commissioned MP Smarter Travel (MPST) to deliver the Cleaner Air 4 Schools (CA4S) Programme in Southwark primary schools. The aim of the programme has been to raise awareness of the risks of air pollution and to inform schools of the actions that can be taken to reduce emissions and exposure.

1.1 Background

Every year, it is estimated that over 29,000¹ premature deaths are caused by poor air quality in the UK. For those affected, air pollution reduces life expectancy by an average of over eleven years. Poor air quality is estimated to account for nearly 5% of annual UK deaths. Awareness of the problem remains low with air pollution considered an invisible public health crisis affecting much of the UK.

Vulnerable groups such as children, older people and people with asthma are particularly at risk. Additionally, low-income and ethnic minority groups have been found to be disproportionately affected by the issue.

Pollution from road traffic - particularly diesel emissions, are the most significant cause of poor air quality, and can be responsible for up to 70% of local air pollution. The two pollutants of most concern are microscopic airborne particles, known as Particulate Matter, and Nitrogen Dioxide. Together, the two can be extremely harmful to health and are associated with respiratory symptoms, inflammation of the lung lining and susceptibility to bronchitis.

As a result of poor air quality, funding has been made available to all London boroughs to raise awareness and implement measures which reduce the impacts of poor air quality. The Mayors Air Quality Fund has helped support LBS to implement the CA4S programme which began in 2013.

1.2 What is Cleaner Air 4 Schools (C4AS)

An estimated 4,000² Londoners die prematurely each year from causes related to air pollution. Air pollution contributes to a myriad of health problems including asthma, heart disease and lung disease. Children are particularly at risk because of their smaller lung capacity and proximity to vehicle exhausts. They are also more sensitive to pollution than adults and exposure in childhood can cause long term damage.

Schools are considered a good way to communicate with several different groups at once, with children, parents, teachers governors and support staff all involved on a daily basis. Schools are also a good environment to encourage behaviour changes through educational projects with such changes helping to reduce children's exposure.

The Cleaner Air 4 Schools project aimed to:

- Identify the best ways to reduce emissions in and around school buildings
- Reduce exposure of a vulnerable group - children

¹ This is the official recognised figure by the GLA, however latest research has put this figure substantially higher.

² See footnote 1

- Reduce the health impacts of poor air quality
- Increase awareness and understanding of air quality - including what steps people can take to reduce their own 'air quality footprint'
- Recognise, reward and spread good practice by sharing project findings in London and across the UK
- Work with schools and other organisations to improve air quality

MP Smarter Travel developed a programme in order to address the above aims through the delivery of 5 lessons covering various different aspects of air quality. Further information can be found in Section 3.

1.3 In this report

This report includes the following sections:

- Section 2 includes a summary of the school engagement process
- Section 3 provides an overview of the CA4S programme and sessions
- Section 4 outlines nitrogen diffusion tube results at the participating schools
- Section 5 details the feedback received from teachers
- Section 6 summarises the CA4S programme and concludes the report
- Section 7 provides information about the CA4S awards ceremony

2 School Engagement

This section outlines the process of engaging with the identified schools as well as how the programme delivery was initiated.

2.1 Approach

It was decided at the inception meeting that the initial contact with schools would be made through an email to the schools identified by LBS. The schools identified expressed an interest in the programme in the 2014-2015 academic year – when all schools were invited to sign up. For the 2015-2016 academic year, priority was given to those who missed out on receiving the sessions owing to limited resources. Spare places on the programme were then offered to other community schools in LBS following consultation with the LBS School Travel Officers.

Following the initial email, up to 3 telephone calls were made to schools which had not responded to the initial email. As there were only 10 schools to contact this process was not a strain on resources, however, as the first email was sent shortly prior to Christmas, the email was not treated as priority by school staff in some cases. Speaking to the head teacher was often not possible unless they had already agreed to participate which meant frequent conversations with administrative staff. Many of these staff members agreed to pass on messages but with little effect. It was agreed with LBS that if a school had been spoken to 3 times and an agreement for participation was not received, we would then stop pursuing the school. In reality, this limit on calls was exceeded owing to the lack of communication following messages.

Many schools seemingly ignored the initial email for various reasons. It was reported later in the process that head teachers often do not read all the mail in their main inbox as they are so frequently contacted by companies trying to sell products and services. This is a result of their emails being publicly available on various databases. Consequently our emails were sometimes filtered as 'junk' and missed by the contact in question.

Occasionally, the head teacher would agree to participate in the programme, but would allocate another staff member to be the main point of contact. Time restrictions then applied as it is only possible to speak with some staff members before school or after school. In most cases, this was only a one-hour window.

Following the first update meeting with LBS, it was clear that the engagement process was taking much longer than expected. As a result of the short delivery schedule of the CA4S programme, school office staff were informed that if the school did not wish to participate, we would still require a 'not participating' response as the schools in question were holding up funding for other schools who could benefit instead. This created the desired effect and within 2 weeks all participating schools were confirmed.

Below is a list of all schools who were contacted (including those who missed out in 2014-2015):

- St Anthony Dulwich
- Alfred Salter Primary
- Bellenden Primary
- Dulwich College
- Ivydale Primary
- Cobourg Primary
- Judith Kerr Primary
- St John's Catholic School
- St Judes C of E
- Charles Dickens

2.2 School Participation

Once schools had been confirmed, each school was sent further information summarising the content of the 5 sessions within the CA4S programme. They were also sent information on the appropriate age and size of participating groups. Most schools subsequently requested that the sessions be delivered to a whole class.

The table below contains the size and school year of the groups:

School name	Pupils participating	Year	Number of sessions
BELLENDEN PRIMARY SCHOOL	10	Yr 5	5
COBOURG PRIMARY SCHOOL	29	Yr 5	5
IVYDALE PRIMARY SCHOOL*	26 and 24	Yr 5	4 and 5
JUDITH KERR PRIMARY SCHOOL	29	Yr 4	5
ST JUDE'S C OF E	15	Yr 5	5
TOTAL	133		

**Ivydale Primary School asked for 2 classes to be involved. As only one class was chosen to carry out an assembly, the first class did not complete their 4th session as requested by the main contact at the school.*

A total of 5 schools participated with 6 groups receiving the sessions. Ivydale requested the sessions for 2 classes and this was agreed by LBS. In the case of Ivydale, a couple of the lessons were modified as the diffusion tube set-up and collection was not necessary in each class.

2.3 Delivery Schedule

All sessions began in January 2016 and finished in May 2016. The schedule for participating schools is included in the table below:

School name	session dates	session time	Number of sessions
BELLENDEN PRIMARY SCHOOL	23 rd Feb 2016 – 22 nd Mar 2016	11am	5
COBOURG PRIMARY SCHOOL	14 th Jan 2016 – 11 th Feb 2016	11am	5
IVYDALE PRIMARY SCHOOL CLASS 1	23 rd Feb 2016 – 22 nd Mar 2016	1.30pm	4
IVYDALE PRIMARY SCHOOL CLASS 2	23 rd Mar 2016 – 4 th May 2016	9.15am	5
JUDITH KERR PRIMARY SCHOOL	12 th Jan 2016 – 9 th Feb 2016	1pm	5
ST JUDE'S C OF E	12 th Jan 2016 – 9 th Feb 2016	11am	5

3 Cleaner Air 4 Schools

The following section provides a comprehensive overview of what was delivered to schools as part of the Cleaner Air 4 Schools programme in LBS.

3.1 Sessions

As mentioned in previous sections of this report, our CA4S programme provides a set of 5 sessions. Each session is 60 minutes and schools were given the option of morning or afternoon slots. Morning sessions ran from 11am to 12pm and afternoon sessions from 1.30pm to 2.30pm.

The sessions primary aims were to raise awareness of the importance of air quality as well as to educate pupils on the environmental and health impacts of poor air quality. As junior road safety officers were sometimes involved in the sessions, this tied in with their road safety and school travel duties.

Class teachers were required to be present during the session at all times for general class/group management as well as to help the pupils to understand any complex topics if needed. In addition, as the pupils were all required to complete an assembly to their peers, it would be the teachers' responsibility to ensure the pupils had the right support to carry this out beyond the last session.

All session lesson plans can be found in the Appendix A.

Session 1

In the first session the facilitator began with a discussion of what air quality is and why it is important to LBS. Pupils were shown a poster and asked to identify all the day to day activities which affect our air quality - both positively and negatively. After the poster session, pupils were shown a photograph taken in the summer of 1952 and asked to guess the time of day the picture was taken. The picture showed a dark scene taken during the smog of 1952. A short discussion about the great smog commenced with information about the death toll and what life might have been like in this time. The pupils were then introduced to 'The Clean Air Act' with key points outlined for the pupils. The session finished by introducing nitrogen dioxide and explaining where it comes from followed by the set-up of nitrogen diffusion tubes in two locations at the school. Pupils were asked to predict which location would have higher levels of nitrogen dioxide.

Session 2

The session began with a quick recap followed by further information about the gases which make up the air we breathe. The session continued by explaining which gases make up the key pollutants in our air and introduced to molecular structures. Pupils were then asked to draw compounds of CO, CO₂, NO₂ etc. The session then focusses on particulate matter with a particulate matter wipes investigation of the school site.

Session 3

Session three was dedicated wholly to Lichen. Pupils were taught what Lichen are, the types of environments they grow in, what they look like. Pupils then spent the remainder of the session looking for and identifying Lichen on the school site. Pupils were then also set a task of looking for Lichen in their gardens or parks and to bring in samples the following week.

Session 4

Session four briefly addressed the Lichen task with pupils having an opportunity to show their Lichen samples. Engine idling was then introduced as well as engine idling law. Pupils were informed of the ill effects of engine idling around the school environment and how this affects vulnerable people such as children, the elderly and those who suffer from respiratory illnesses. An action plan was put together for the school by pupils and then pupils were given the remainder of the lesson to come up with a poster design to discourage engine idling.

Session 5

This last session focused on producing an idea and materials for an assembly which the pupils would present to other pupils in their school. In some instances, teachers requested to focus on creating final posters to put up around the school as opposed to assembly preparation.

An at-a-glance breakdown of the sessions is included in the table below:

Session number	Overview
SESSION 1	Introduction to air quality, what's in our air, the different daily activities that affect our air, The Great Smog, The Clean Air Act, Nitrogen diffusion tube set-up
SESSION 2	Particulate matter and investigation, gases in our air and their molecular structure
SESSION 3	Lichen introduction and investigation of the school site visit to find lichen. Nitrogen diffusion tube collection
SESSION 4	Engine idling and poster making to raise awareness
SESSION 5	Re-cap on all sessions and assembly preparation

3.2 Legacy

As well as the pupil sessions, it was agreed with LBS that meetings would be arranged with head teachers to discuss a continuation of the air quality agenda within the school beyond the life of the sessions being delivered. This often included discussing with the head teacher or other school contact, the action plan which was developed by pupils in session 4. The action plan included activities that covered the current and sometimes next school year.

All schools were encouraged to sign up to AirText which is a free London based service which sends a text in advance of poor air quality episodes. All teachers involved in the sessions were shown the website www.londonair.org to continue monitoring air quality if they wished to beyond the sessions.

Unfortunately, not all head teachers were able to accommodate this meeting or declined to be involved. The two schools who did not participate in this activity were Judith Kerr and St Jude's C of E. However, an action plan was produced by each of these schools and a copy was sent to the head teacher as well as the teacher involved in the sessions.

All the school action plans can be found in the Appendix B.

3.3 Challenges

Issues that emerged from delivering the sessions mainly based on the group size. It was much harder delivering the sessions to a full class as opposed to smaller groups. In LBS the schools participating mostly wanted to provide the sessions to full classes and only one school agreed to focusing on a small group.

The classes were generally harder to manage, particularly if the school staff did not manage the pupils focus. On school site investigations and activities, the large groups took much longer to organise. This led to some rushed sessions with less time to cover the material in full.

In a couple of instances the teachers took the opportunity to use the session as a replacement for their usual science sessions. This was discouraged from the outset of the programme but it only became apparent this was the case on the first day of the session or when the teacher mentioned this was the case. No real issues were presented and we believe the science content is appropriate for the age groups participating but as mentioned previously schools were requested to treat the sessions as an additional non-curricula activity.

In three of the schools, teachers were either not present during the sessions or used the sessions to carry out other administrative tasks. This resulted in them providing less management of the pupils which made it harder to engage with the pupils and cover all the material allocated to the sessions.

All schools were informed that a teacher was to be present for the session and that the facilitator attending may not be a trained teacher however, it seems that this information was not always passed on. Additionally some teachers seemed poorly informed of the sessions despite information being provided in advance with some reporting that they didn't know what the sessions were about or that they were only told on the day that we were 'coming in to teach science'.

Based on this, lessons have been learned and where teachers were less involved the facilitator remained in contact with the teachers via email to ensure they were aware of what the sessions covered and what was needed at each session from the school.

In the case of Judith Kerr, this was not done as the facilitator only found out on the last session that the teacher present was not the regular class teacher but an assistant. This assistant was not present at every session and it did not seem as though there was much communication between the assistant and teacher about the sessions.

The list below shows which schools had a teacher was present and any issues which emerged during the delivery of the sessions:

- Bellenden – no teacher present for the first 3 sessions. This school provided a group of 10 but as a teacher was not present the pupils would pick and choose if they wished to attend. By the third session, our facilitator spoke to the teacher and requested that a member of staff should attend each session and pupils were spoken to about their involvement. All pupils participated moving for the remaining sessions.
- Cobourg – General issues regarding the size of class (29) and the time taken to organise the group for activities. The teacher was always helpful and would step-in to control the class
- Ivydale Class 1 – The teacher had been informed that the sessions were replacement sessions for science and therefore she took a back seat in the class. Generally, the teacher would step-in when the class was disruptive but it seemed as though the sessions were seen as a time-out.
- Ivydale Class 2 – The teacher changed over twice in this group but generally there were no major issues as with Cobourg.
- Judith Kerr – The teacher was not present throughout the sessions which only became apparent to the facilitator at the last session. The teaching assistant present was not present at one session and generally avoided intervention except when absolutely necessary.
- St Jude's – Class was very disruptive throughout and this made it extremely difficult to maintain a schedule however, the teacher was very pro-active and would often intervene.

4 Nitrogen Diffusion Tube Results

As part of the sessions, Nitrogen diffusion tubes were set-up and left out for approximately 2 weeks. In the case of some schools – the exposure time was much longer owing to a session being postponed.

Typically, the first session would introduce the tubes and their purpose. Pupils, with the help of the teacher would identify the best locations to set-up the tubes. Teachers were encouraged to select an area of the school where they believed higher levels of pollution would be expected such as near a busy road. They were also asked to identify a location where they thought would be lower levels of pollution such as a garden or playground. In all cases, pupils were involved in the identification process and the teacher had the final say on the two locations.

4.1 School Results

As explained above, the exposure time varied for some schools and one school is missing data is missing owing to bad weather the first time they were put up. The caretaker, attached the tubes upside down which resulted in rain water collecting in the tubes. As these were not usable and there was insufficient time to repeat the process, LBS took the decision to provide the school with tube results from the nearby Notre Dame School. The results of this school are included below for the purposes of comparison.

In the case of Judith Kerr, construction work was taking place on site and one of the tubes was affixed to a temporary fence. On the collection date, this tube was not found as the temporary fencing had been removed by the builders who were unaware of the diffusion tube. We therefore only have one result from this school.

All the school results are presented below in tables:

Bellenden Primary

Location	Exposure time	Concentration $\mu\text{g}/\text{m}^3$
MAIN GATE	336 hours	63.59
GARDEN	336 hours	55.33

Cobourg Primary

Location	Exposure time	Concentration $\mu\text{g}/\text{m}^3$
FIRE EXIT	336 hours	49.91
MAIN GATE	336 hours	47.29

Ivydale primary

Location	Exposure time	Concentration $\mu\text{g}/\text{m}^3$
NEAREST ROAD	336 hours	58.43
MAIN GATE	336 hours	54.72

Judith Kerr Primary

Location	Exposure time	Concentration $\mu\text{g}/\text{m}^3$
BIKE SHEDS	2016 hours	26.43

The results show that 3 out of 4 schools had limits which exceeded the national limit of $40 \mu\text{g}/\text{m}^3$. The national limit is in line with EU legal levels and is a mean average figure per year. As the results collected from schools only cover a 2 week exposure period, further testing will need to be carried out per year to determine an average level of $\mu\text{g}/\text{m}^3$ as the results above may not be indicative of typical levels of nitrogen dioxide.

When comparing these results to the Notre Dame School which includes periodic data from December 2015, January 2016, February and March 2016, it can be determined that the results are from the participating schools are likely to continue to be high at other periods in the year.

Notre Dame School

Period	Month	Exposure time	Concentration $\mu\text{g}/\text{m}^3$
12	December	4 weeks	44.89
1	January	4 weeks	62.85
2	February	4 weeks	52.47
3	March	4 weeks	57.51

5 Feedback

This section includes the feedback collected from the participating schools.

5.1 Feedback Survey

A feedback form was sent via email to all schools participating in the CA4Schools programme. Schools were fairly slow to respond to the survey, which consisted of 8 questions. Only 5 schools responded to the survey, which was issued in early June after the awards event. Several reminders were sent to the school that did not respond and an attempt to collect the information via telephone was also made.

On a whole, feedback was positive about the CA4S programme. A more detailed summary is provided below. A copy of the survey questions can be found in Appendix C.

5.2 Survey Analysis

QUESTION 1

The first question within the survey aimed to determine how each of the sessions were rated by the teachers from a scale of 1 to 5. Each of the sessions was rated Good or Fair by the schools from session 1 through to 4. Session 5 received one 'Fair' response which we believe is due to a misunderstanding. The teacher in question believed we would be telling the pupils what to do in their assemblies and have all their materials ready, however, we only agreed to pre-plan as much as the session would allow. We began the discussion of what pupils and the teacher would like to do in the assembly and within the remaining time available, we tasked pupils with developing scripts/posters/presentations and similar depending on the classes chosen focus. Some classes opted to deliver a play whilst others settled on posters and presentations.

Question 1

On a scale of 1 (very poor) to 5 (excellent), please rate the following sessions:						
Answer Options	Very Poor	Poor	Fair	Good	Excellent	Response Count
Session 1: What's in our air?	0	0	0	3	2	5
Session 2: Particulate Matter	0	0	0	3	2	5
Session 3: Lichen	0	0	0	4	1	5
Session 4: Engine Idling	0	0	0	3	2	5
Session 5: Assembly Preparation	0	0	1	2	2	5
<i>answered question</i>						5
<i>skipped question</i>						0

QUESTION 2

When asked if the programme was considered useful/informative, all schools responded yes.

Question 2

Did you find the Cleaner Air 4 Schools Programme useful/informative?		
Answer Options	Response Percent	Response Count
Yes	100.0%	5
No	0.0%	0
If no, please explain		0
<i>answered question</i>		5
<i>skipped question</i>		0

QUESTION 3

When asked if the sessions were relevant to the curriculum, one school skipped answering this question but the remainder answered 'yes'.

Question 3

Did you find the sessions were relevant to your curriculum?		
Answer Options	Response Percent	Response Count
Yes	100.0%	4
No	0.0%	0
<i>answered question</i>		4
<i>skipped question</i>		1

QUESTION 4

When asked if the sessions were relevant to the values of the school, all schools responded yes.

Question 4

Did you find the sessions relevant to your school values?		
Answer Options	Response Percent	Response Count
Yes	100.0%	5
No	0.0%	0
<i>answered question</i>		5
<i>skipped question</i>		0

QUESTION 5

When asked if the experiments and activities were relevant to the age group of pupils all schools responded 'yes'.

Question 5

Did you find the experiments and other activities were relevant for the age-group of pupils?		
Answer Options	Response Percent	Response Count
Yes	100.0%	5
No	0.0%	0
<i>answered question</i>		5
<i>skipped question</i>		0

QUESTION 6

Question 6 of the survey focused on what can be done to improve the sessions. All teachers responded with suggestions and these are listed below.

Question 6

Is there anything you would suggest to improve the sessions?		
Answer Options	Response Percent	Response Count
Yes	100.0%	5
No	0.0%	0
If yes, please specify		0
<i>answered question</i>		5
<i>skipped question</i>		0

Number	Response Date	If yes, please specify
1	Jun 29, 2016 4:08 pm	More visual and interactive resources for the children to look at / do during whole class teaching.
2	Jun 29, 2016 10:07 am	Advanced notice of equipment required (ICT, printing etc)
3	Jun 22, 2016 8:10 am	Perhaps longer sessions where more information can be obtained
4	Jun 14, 2016 9:18 pm	Providing a session with the pupils to discuss the results and the implications/consequences and what can be done to address these findings.
5	Jun 14, 2016 3:49 pm	There was a lot of talking and at times the children became unfocused. It would be better if the sessions could be more practical. The children enjoyed swabbing the building but did not really do any other hands on activities.

In response to the suggestions made, it is helpful to understand why the comments arose. In the case of response number 1, as we were working with whole classes for some schools it was difficult to utilise all of the interactive elements as they were iPad based and so the teachers did not have the means to share these with pupils. Some of the field research didn't take place in all of the classes which was also due to the class size. The sessions took place in early spring of 2016 and for every outdoor activity, pupils were spending a total of 15-20 minutes leaving and entering the classroom which affected the quality and content of the sessions and so for the larger classes, some of the field research was dropped and photographs and slideshows were presented instead.

For response 3, the class size was also a factor. In the past we have found that when working with 10 pupils the sessions move faster and this allows for additional time to expand on some of the content and encourage healthy discussion/debate.

Response 4 suggested discussing the results with pupils – this was always the intention, however the results often took 2 weeks to be returned and by then the sessions had been completed. A follow up email was sent to all teachers with their results and what they meant so that they could discuss these with the pupils involved, however, in future we would modify the programme to include a gap, to allow enough time for the results to be received.

Response 5 related to a class that included up to 33 pupils and a handful of disruptive pupils. This class was also located on the top floor of a 4 storey building and so some of the field research was omitted as each time pupils were taken out it took 20 minutes of the session time before any research began. There was also different teachers present at each session and there was one session where no teacher was present so this comment could be referring to just one session out of the 5.

QUESTION 7

Question 7 asked if any changes would be implemented as a result of the sessions. Each school answered yes. As demonstrated by the responses below, the schools are keen to make changes and each have adopted different elements of the programme to focus on according to what is most practical for them. Some of these actions were included in the various school action plans.

Question 7

Will you be making any changes at the school as a result of the information learned during the sessions?		
Answer Options	Response Percent	Response Count
Yes	100.0%	5
No	0.0%	0
Please explain		5
<i>answered question</i>		5
<i>skipped question</i>		0

Number	Response Date	Please explain
1	Jun 29, 2016 4:08 pm	Signing up to air text but the reality is, all children will have to go outside regardless of air quality as we do not have the staff numbers to cover for poor air days. Nice idea though.
2	Jun 29, 2016 10:07 am	We applied for the Veolia Envirogrant to get climbing plants which will absorb some of the pollutants in the air.
3	Jun 22, 2016 8:10 am	Informing parents via our newsletter of the findings from our research
4	Jun 14, 2016 9:18 pm	This work will feed into our School Travel Plan. We have also moved forward in encouraging our pupils to travel to school in different ways.
5	Jun 14, 2016 3:49 pm	Making parents more aware through newsletters about pollution around the school.

QUESTION 8

The final question within the survey asked if schools would recommend the programme to others. Four schools responded yes and one responded no. The school which responded no was the only school where a different teacher was present each time (or not present in one class) and they were also the school that had the misunderstanding regarding the preparation for assembly session. In addition, this school did not attend the final awards ceremony and they also lost one of their diffusion tubes as a result of the building works taking place at the school. Based on these factors, it is understandable that they felt the programme would not benefit others as various issues arose at some of the sessions which is unfortunate. As a result of this, any future sessions we deliver in schools will include an FAQ's sheet along with signed terms and conditions to avoid misunderstanding and over/under expectations.

Question 8

Would you recommend these sessions to other classes/schools?		
Answer Options	Response Percent	Response Count
Yes	80.0%	4
No	20.0%	1
<i>answered question</i>		5
<i>skipped question</i>		0

6 Summary

The CA4S programme can be considered to have been successful in raising awareness of air quality issues within the participating schools. Most notably, pupils and teachers found the information on engine idling interesting and this knowledge seemed to remain even after some months away from the pupils. This was apparent in the assemblies pupils delivered as well as at the awards event to celebrate their participation.

Diffusion tube tests demonstrated that NO₂ levels exceeded the EU limit in some areas, was borderline in others and one school (Judith Kerr) was considered a reasonable result. However, these results are not robust and many factors need to be taken into consideration. For this project, it should be noted that the CA4S programme aimed to raise awareness and the diffusion tubes helped facilitate an interest in participating schools and to encourage them to take action as a school community. On a project level, this has been achieved and with teachers committing to a 2-3 year action plan it is hoped they will continue to tackle air quality issues well into the future.

Whilst the sessions were being delivered, meetings were sought with head teachers and other key staff responsible for making school policy decisions, however 2 of the schools declined to have this meeting which aimed to put in place various measures to incorporate a set of 'bad air quality day' policies and procedures. Due to the lack of uptake, we ensured some specific actions were included in the action plans the schools developed. These included signing up to air text and/or letters to parents.

Feedback from 4 schools has demonstrated that the CA4S programme was helpful to schools and met their needs. The awards ceremony helped to cement the outcome of the programme and through the action plan, knowledge gained and letters being sent to parents, we hope to see this legacy continue.

6.1 Recommendations

In future, it is advisable that only small groups are selected when delivering a CA4S programme. This will ensure that the pupils get the most out of the sessions. A group size of between 6 and 12 is sufficient. Larger groups tend to get distracted or become unmanageable without the assistance of a teacher.

More crucially, in order to discuss the results of NO₂ tubes with the pupils, it is strongly advised that a two week break is included between sessions 3 and 4 to allow enough time for the results to be received. That way, meaningful discussions can take place with the pupils to further reinforce air quality awareness.

Someone at LBS should also be responsible for following up on the school air quality action plans, this could be a quick call to see how they are doing or it could be a more detailed discussion around how the air quality actions can be included in the school travel plan so that monitoring is built-in to the travel plan system. This will make sense, and provide the participating schools with reminders of their actions and give them a more formal need to be addressed.

7 Cleaner Air 4 Schools Awards

In order to reward schools for their participation in the CA4S programme, London Borough of Southwark requested a small event to award the pupils and their teachers for their involvement. The event took place on 26th May 2016 and was open to other school staff to attend from Southwark schools.

The event was held at Southwark Cathedral and attended by LBS staff from the transport and environment departments as well as the pupils and teachers who participated in the CA4S programme. Only one school was not able to attend the morning (Judith Kerr).

Councillors Maisie Williams and Victoria Mills were also present to open and close the awards event. Participating schools also delivered a short 10 minute presentation on what they learned from the CA4S programme sessions. Children were fully involved in the presentation and in many cases came up with their own creative ideas such as scripting and putting together a short play about engine idling.

The agenda of the morning is included below:

09:30am	Arrival and registration
10:00am	Welcome
10:10am	Opening speech by Councillor Maisie Anderson - cabinet member for Public Health, Parks and Leisure
10:20am	School presentations
11:00am	Awards
11:20am	Air Aware moving forward
11:30am	Southwark Cathedral and education
11:40am	Closing Speech by Councillor Victoria Mills - Cabinet member for Children and Schools / Chair of Corporate Parenting Committee
11:50am	Close (guests will need to leave the Weston library promptly by 12pm)

Each school was presented with a Bonsai Tree sourced from a local business and school certificates.

Appendix A Lesson Plans

Air Aware Toolkit: Lesson 1 Introduction and Diffusion Tube Set-up 1 Hour

Overview: Introduction to air quality and the effect of pollutants and set up of Nitrogen Diffusion tubes on the school premises.

Resources: Healthy Air, 'What's in your air' poster.
Nitrogen Diffusion Tubes
Cable ties (for fastening diffusion tubes)
Diffusion tube record sheet

PART 1 – 20 mins

Show on whiteboard the Healthy Air, 'What's in your air' poster. Ask the pupils what they see on this poster?

Question: We're here to find out about Air Quality and Pollution. Who thinks they can tell me something about pollution?

About Air Quality

Air quality is about how healthy the air that we breathe is. Air is made up of "good" gases like Oxygen that we need to breathe, "bad" gases like Nitrogen Dioxide that affect our health, and tiny particles like "dust".

London, like many big cities, has not yet reduced air pollution as much as people would like, but it is much better than it used to be.

Show on whiteboard: Photo 'Ludgate Circus During the Great Smog'.

Question: When during the day was this photo taken?

This photo was taken at 2 in the afternoon during The Great Smog in 1952. Most air pollution then came from burning coal for running factories and power plants and for heating our houses. This created a thick mix of fog and smoke we call smog. 4000 people died in London during the great smog of 1952!

This caused politicians to make a law in 1956 called 'The Clean Air Act' making it illegal to burn coal near where people live.

Show on whiteboard: Photo 'Ludgate Circus Today'

Question: This is Ludgate Circus today. What's the main difference from the other photo?

This photo was taken only a few years ago around the same time of day as the other one. Even if there is no smog, there's still air pollution! The main difference between air pollution now and in the past is that today we usually can't see it! It's invisible!

Part 2 - 40 mins

What are the main air pollutants in London?

Air pollution in London today comes from cars, vans and trucks, and some from heating our homes and buildings.

To find what our air quality is like, we need to measure the concentration of pollutants (harmful gases and dust) in the air.

Two pollutants are a big problem in London and we are going to investigate these in this project: Nitrogen Dioxide and Particulate Matter.

Nitrogen Dioxide (NO₂)

Nitrogen Dioxide is a harmful gas produced by burning fossil fuels.

Question: Can anyone name some fossil fuels? Does anyone know why they are called fossil fuels?

Diesel used in car engines is one of the biggest sources of NO₂, so levels are highest near roads. Other sources include burning coal and gas in power stations to produce electricity and gas boilers used for heating.

NO₂ can make it harder to breathe and can damage people's lungs if they are exposed to it for a long time. NO₂ particularly affects children and people who already have breathing problems such as Asthma.

Show Example NO₂ tube

Since we cannot see Nitrogen Dioxide we need to use science as our eyes to find out how much pollution there is in the air. This is a Nitrogen Diffusion Tube. These are used to work out how much Nitrogen Dioxide is in the air. They have been placed all over London so that with the help of scientists people can work out where the worst areas for pollution are. Your school is now going to be one of these places!

[Head outside]

Task: Look around to identify sources of pollution.

We now need to decide where to put the tubes. We have to think carefully about where to put the tubes. We don't want anywhere too windy or somewhere that the air can't get to easily like in a hole. We also need to think about what sort of places will produce different results.

Where do we think there might be lots of pollution around the school and where might there be less?

Task: Choose locations.

Having decided on where we are going to investigate we now need to come up with a scientific prediction.

Question: What are we expecting to discover at one site compared to another?

Now we need to install the tubes. Firstly we take off the white cap to let the air around us into the tube and then we leave it outside. After a few weeks we are going to send the tubes to a laboratory where Scientists will work out how much Nitrogen Dioxide has been in the tubes. Under the cap is a pad with a chemical that changes if it comes into contact with Nitrogen Dioxide.

[Head back inside.]

Extra Activity

Task: Visit londonair.org.uk and look at air pollution measurements in London.

Air quality is measured all across London and the results can be viewed on the internet at londonair.org.uk so that lots of people can look at them and try to improve the Air Quality.

Air Aware Toolkit: Lesson 2

Particulate Matter and Wipes

1 Hour

Overview: What is the problem, Introduction to Particulate Matter, PM wipes

Resources: Cotton pads
Sandwich bags
Plastic gloves
Ruler
Bottle of water
Marker pen

Part 1 - 10 mins

Last week we started investigating a type of pollution. Can anybody remember what we did and the name of the pollutant?

Who would like to remind the group of some of the things we spoke about from the poster we viewed last week? (Healthy Air Poster 1)

Air pollution: What's the problem?

Pollution is only a small part of the air that we breathe, but it only takes tiny amounts of pollution to make a big difference. Nature can cope with some of our pollution; the chemicals break down or are used up naturally, but we are making more pollution than nature can handle. Pollution is making a difference to our lives and the lives of other living things. It makes living things (including us) unhealthy - some plants and animals are dying out because of pollution. The effect of air pollution can be seen on some buildings: They are turned black over time and have to be cleaned. It even changes the weather.

70% of air pollution is caused by traffic. The fact that traffic is all around where we live work and play makes it a dangerous source of pollution.

Last week we also said there was another type of pollution we are going to investigate and this is called *Particulate Matter*.

Particulate Matter (PM)

Particulate Matter is tiny bits of materials trapped in water or gases in the air. The main source of Particulate Matter is burning fossil fuels – particularly from petrol or diesel used in cars, vans and trucks, and from the wearing down of tyres and brakes.

The most dangerous particulate matter is very small – those which are 10 micrometers or smaller are known as PM₁₀ and those which are 2.5 micrometers or

smaller are known as PM_{2.5}. These particles are equivalent to 2.5-10 millionths of a meter – *at least 10 times smaller than the width of a human hair* (1000 per cm). Because of their small size, they can easily be breathed in, causing both short and long term breathing and heart problems.

It is quite easy to see Particulate Matter so we are going to do a quick investigation.

Particulate matter collects on surfaces that it comes into contact with which means that we can investigate those surfaces. We need two similar surfaces to compare so we are going to check some windows.

[HEAD OUTSIDE]

Part 2 - 30 mins

We are going to use the windows near the Nitrogen Diffusion Tubes.

Task – PM wipes:

Firstly were going to each put on a glove.

Next we are going to each take a cotton pad and wipe it across a window. *Does anyone know what we mean by a fair test?* So that we can compare we need to keep as much as possible the same so we are going to make sure we all wipe the same distance using a ruler.

Once we have done that we need to make sure we keep our samples in one place so we are going to put the first set in this bag.

Now we are going to do the same thing in a different location.

Back in the classroom we will have a look at the results.

Part 3 - 10 mins

Levels of NO₂ and PM have decreased a great deal since the 1950's when environmental protection laws were first introduced in the UK. However, since about 2002 London has struggled to reduce pollution levels further. Part of the reason for this is because of the amount of traffic.

Do you think that your school is on a busy road?

A group of scientists have reported that living next to a road with 10,000 vehicles a day could be responsible for 15 – 30% of all new cases of Asthma in Children. So cars can make you all ill.

Air Aware Toolkit: Lesson 3

Analysis of wipes and traffic survey

1 Hour

Overview: What is the project, what have we done, review and analysis of wipes, further PM evidence.

Resources: Wipes from previous sessions
Two/Three A3 sheets of paper
Two/Three clean cotton pads
Sycamore Leaf (Lichen)
Opal Lichen sheet and any lichen samples
Sticky tape
Candle
Plate
Lighter

Part 1 - 10 minutes

In the two previous sessions we started investigating air pollution.

Question: Who would like to tell me what Air Quality is?

Air Quality is how healthy the air that we breathe is. Air is made up of “good” gases like Oxygen that we need to breathe and “bad” gases like Nitrogen Dioxide that affect our health. To find what our air quality is like, we need to measure the concentration of pollutants (harmful gases and dust) in the air and Air Quality is measured all across London including by you at this school. When we talk about the amount of pollution, the word we use is Concentration.

Can anyone explain what I mean by ‘the Concentration of pollution?’ (Use example of fruit squash drinks)

Pollution is only a small part of the air that we breathe, but it only takes tiny amounts of pollution to make a big difference. Nature can cope with some of our pollution, the chemicals break down or are used up naturally but we are making more pollution than nature can handle.

Question: Can anyone think of a process in nature that is reducing pollution?

Pollution is making a difference to our lives and the lives of other living things. It makes living things (including us) unhealthy - some plants and animals are dying out because of pollution. The effect of air pollution can be seen on some buildings, they are turned black over time and have to be cleaned. It even changes the weather.

Air pollution: what’s the problem?

Air is all around us, we breathe it in and out and scientists call it the atmosphere.

Question: Can anybody tell me what the atmosphere is?

We can't see the air and so we don't think about it very often — we take it for granted. We only really notice it when something goes wrong, when it smells, when it is smoky, when we can't get enough. The atmosphere is a mixture of gases, and most of the gases are in the air because of natural things.

People make a big difference to the air: we build and live in houses, we drive cars and lorries, we fly in aeroplanes, and we make things in factories. All of these activities make waste and some of that waste goes into the air as pollution.

Part 2 - 20 mins

Lichen

Using the Opal sheet, go over what Lichen is and how it is an indicator of Air Quality. Lichen is made up of two organisms living together, fungus and alga. They are usually found on trees but can also be found on other surfaces like pavements. Lichen is typically either nitrogen sensitive or nitrogen loving. Some lichen do not depend on air quality.

Discuss the three types of Lichen – Bushy, Leafy and Crusty and show pictures to pupils. Ask them if they can point out the different types.

Discuss lichen on leaves and focus on the Sycamore tree leaf. Bring an example to show them.

Part 3 - 20 mins

Analysing the Data

In last week's sessions we did some surface wipes to look for evidence of Particulate Matter.

- Did we have any predictions of what we would see?
- How would you describe the two sites?

Now we need to analyse the results.

Task: Analysing the surface wipes.

Firstly in two groups we are going to stick the wipes onto a piece of paper in order of how dirty they seem to be.

As a group decide which are the dirtiest and put them in order from cleanest to dirtiest.

There is another key thing when performing science investigations and experiments. A control. *Does anyone think they can tell me what a 'control' is?* A control is a way of showing a 'normal' result, i.e. one that is not subjected to the experiment or investigation which we can use to compare against the results.

Now we need to identify any errors or 'outliers'. Do any of the results seem very out of place. Do we think that there was an error? If so, what might have caused the error?

Now we need to compare the two different sites.

- Does one site seem to have wipes with more particulate matter on than the other?
- Why might that be?
- What differences between the two sites do we think might be factors?
- Do we think we can come to any conclusions?

Can I smell burning?

When things burn they sometimes give off smoke and it is obvious that the air is being polluted. When anything burns it gives off chemicals into the air, usually carbon dioxide and water vapour. You cannot always see these chemicals being burnt off, but they are there.

Our cars and bussed burn fuel. You don't see it but in the engine of a vehicle there is a small fire.

Demonstration:

In this demonstration the candle is our fuel the candle wick is our engine. This clean plate is our lungs.

Light a candle and blow it out – note that a smell is given off which means something must be in the air.

Re-light the candle and hold a plate over the flame. Note the residue that has appeared. *Where did it come from?* Demonstrate that the residue can be wiped off – the plate has not burnt but note that we cannot just wipe our lungs clean.

Part 4 – 10 mins

Collection of Tubes

Task: collect tubes

To find out if we were right we need to send our tubes off to the scientists to find out how much Nitrogen Dioxide there was.

Head outside, collect tubes and replace caps, label tubes – add details to chart. Put in the envelope.

Air Aware Toolkit: Lesson 4

Tube collection and an introduction to campaigns

1 Hour

Overview: Review of PM, collection of tubes, consideration of actions and campaigns.

Resources: Padded envelope for tubes
Idling images sheet
'Should I switch off my engine' sheet
AirAware artwork

Part 1 - 15 mins

In the previous sessions we spoke about Particulate Matter.

Question: Who would like to tell me what Particulate Matter is?

We also spoke about the atmosphere and air quality. **Can someone tell me about that?**

- How have we been trying to find out about Nitrogen Dioxide?
- Why did we put tubes in different places?
- What do you think the air quality will be like next to a busy road?
- What do you think the Air Quality will be like in a Park?

What did we learn about Lichen?

- What are the different types?
 - What 3 characteristics identify the different types?
 - Why is Lichen an indicator of air quality?
-

Part 2 - 35 mins

Now we have done our investigations we need to think about how things can change.

- What do we think happens when people breathe in air in the most polluted places?
- What could be done to reduce the amount of pollution in the air?
- What could they do to limit their exposure to air pollution?

Group activity:

In groups of 4 make a list of recommendations based on our findings including:

- Short term (e.g. take a different route to school).
- Medium term (eg. campaign to reduce idling outside school gates, develop a school travel plan)
- Long term (eg. reduce traffic, redesign engines to use less petrol, promote electric cars)

Also think about who might be responsible for our suggestions for example government, car manufacturers, the school, parents, children.

Now we are going to try and bring all our suggestions together to help form our action plan.

Take feedback from the groups and write up a class list of recommendations on a large sheet of paper.

Part 3 – 10 mins

Idling

Something that we can easily do is stop idling. Idling is when we leave our engines running when we are not going anywhere. There have been many campaigns over the years regarding Idling and much of the work is educating people to the problem and in many cases dispelling incorrect myths!

Here is some detail from a campaign, do a couple of people want to come up to the front and read it out to the group?

SHOULD I SHUT OFF THE ENGINE WHEN I'M IDLING MY CAR

HERE'S THE RULE OF THUMB: If you're in a drive-through restaurant/business line or waiting for someone and you'll be parked and sitting for 10 seconds or longer... turn off your car's engine.

Why??

For every two minutes a car is idling, it uses about the same amount of fuel it takes to go about one mile. Research indicates that the average person idles their car five to 10 minutes a day. People usually idle their cars more in the winter than in the summer. But even in winter, you don't need to let your car sit and idle for five minutes to "warm it up" when 30 seconds will do just fine.

But you're not going anywhere. Idling gets ZERO miles per gallon.

The recommendation is: If you are going to be parked for more than 30 seconds, turn off the engine. Ten seconds of idling can use more fuel than turning off the

engine and restarting it. And when you start your engine, don't step down on the accelerator, just simply turn the key to start.

An alternative to idling is to park your car, walk inside, do your business and then go back to your car.

Here are some other Myths associated with idling.

Myth #1: The engine should be warmed up before driving. Reality: Idling is not an effective way to warm up your vehicle, even in cold weather. The best way to do this is to drive the vehicle. With today's modern engines, you need no more than 30 seconds of idling on winter days before driving away.

Myth #2: Idling is good for your engine. Reality: Excessive idling can actually damage your engine components, including cylinders, spark plugs, and exhaust systems. Fuel is only partially combusted when idling because an engine does not operate at its peak temperature. This leads to the build up of fuel residues on cylinder walls that can damage engine components and increase fuel consumption.

Myth #3: Shutting off and restarting your vehicle is hard on the engine and uses more gas than if you leave it running. Reality: Frequent restarting has little impact on engine components like the battery and the starter motor. Component wear caused by restarting the engine is estimated to add £10 per year to the cost of driving, money that will likely be recovered several times over in fuel savings from reduced idling. The bottom line is that more than ten seconds of idling uses more fuel than restarting the engine.

Air Aware Toolkit: Lesson 5 Assembly preparation and Nitrogen Diffusion Tube results

1 Hour

Overview: Review of project to date, diffusion tube results, assembly preparation

Resources: PM wipe sheets
Art work
Action plan
Diffusion tube results

Part 1 – 10 mins

Diffusion Tube Results

We now have the results of the Nitrogen Diffusion Tubes.

- What was our prediction?
- What are the results?

Task calculate percentage difference between the different sites:

((Higher – lower) divided by lower) times by 100.

The European Union has set a legal limit of 40 micrograms per square meter of NO₂

- Has this limit been breached?
-

Part 2 – 30 mins

Production of artwork

Communicating such information isn't easy.

People say that an image speaks a thousand words. Here are some examples of images to get the message across.

[Show Idling Images on screen and/or hand outs.]

Now I would like you all to design a poster. Perhaps it could show some of the things in your local area that cause air pollution.

Come up with captions for the artwork

Part 3 – 20 mins

Assembly Preparation

We now need to make sure you have everything ready for your assembly.

Task – assembly preparation:

- Introduction
- PM wipes
- Nitrogen Diffusion Tubes
- Conclusions
- Actions

Pupils are free to choose their own assembly formats. For example they can choose to do a play or a simple presentation with the above format. Discuss with teacher as well as pupil. Assemblies different from the above are the responsibility of the school to ensure the work is ready and time is allowed to prepare after this session.

Appendix B Action Plans

Judith Kerr Primary School

Action	Description	Who?	When?
ENGINE IDLING (CONSTRUCTION)	Make sure builders are aware that engine idling is illegal and ensure the builders on site are aware they cannot leave their engines running	Headteacher and School Council	Feb 2016
ENGINE IDLING (SCHOOL)	Yr 4 class to design and make posters on engine idling to be displayed around the school to raise awareness	Yr 4 class, school council and Head/Class teachers	July 2016
PLANTING	Speak to school governors about adding more plants to the school both externally and internally to help improve the air quality	School Council and Headteacher	May 2016
KEEP CLEAN WEEK/ WALK TO SCHOOL WEEK	Include a theme for one of these events where the focus is on air awareness for the week	Head teacher and School Council	May/Oct 2016
EMAIL TO PARENTS	Email sent to all parents informing them that engine idling is illegal and to turn off their engines outside the school during Drop-off and pick up times	School Council and Headteacher	Sept 2016
AIR TEXT	School to sign up to air text (www.airtext.info) and put someone in place to let other staff know when there is a poor air quality day.	Headteacher	Sept 2016

Ivydale Primary School

Action	Description	Who?	When?
POSTERS	Design and put up engine idling posters around the school to raise awareness. Remind everyone it is illegal	Air Aware Group	June 2016
LETTER	Letter sent to parents/guardians about the schools participation in the Cleaner Air for Schools programme and to inform them of engine idling.	Headteacher, Sapphire Class School Office	May 2016
SCHOOL ASSEMBLY WITH QUIZ	Pupils to put together an assembly and quiz about the Cleaner Air for Schools project	Sapphire class, Miss Nichols	June 2016
LEAFLETS	A leaflet to hand out outside the school about engine idling and the law	Headteacher, Sapphire class	Sept 2016
AIR TEXT	School to sign up to air text (www.airtext.info) and put someone in place to let other staff know when there is a bad air quality day	Headteacher	Sept 2016

Bellenden Primary School

Action	Description	Who?	When?
AIR AWARE CLUB	An air awareness group that is responsible for raising awareness amongst the pupils and lasts 3 months. Meets once a week.	Head teacher, Deputy	Sept 2016
POSTERS	Engine idling and walk to school/cycling posters to be produced by Air Aware club and year 4 students. Posters to be distributed around the school.	Air Aware Club, Yr 4 students	May 2016
SHORT FILM	Air Aware club to make a short film about the Air Aware project	Air Aware Club, Head and Deputy	July 2016
LETTER	A letter to be sent to all parents about engine	Miss Adgebaite,	Sept 2016

	idling	Air Aware Club	
AIR TEXT	School to sign up to air text (www.airtext.info) and put someone in place to let other staff know when there is a bad air quality day	Headteacher	Sept 2016

St Judes CE Primary School

Action	Description	Who?	When?
WEBSITE	Put information about the Air Aware project and the diffusion tube results on to the website. Also include an engine idling announcement	Mr Evans, Miss Robinson, Air Aware Class	Sept 2016
POSTERS	Engine idling posters to be produced by pupils and distributed around the school.	Air Aware Class, Miss Robinson	July 2016
RAP	Pupils to work on a rap with Miss Robinson which can be performed at the school assembly about engine idling	Air Aware Class, Miss Robinson	April 2016
AIR TEXT	School to sign up to air text (www.airtext.info) and put someone in place to let other staff know when there is a bad air quality day	Headteacher	Sept 2016

Cobourg Primary School

Action	Description	Who?	When?
POSTERS	Class to produce posters on engine idling as well as other topics covered within the Air Aware project (e.g. particulate matter etc)	Air Aware Class	May 2016
SCHOOL ASSEMBLY	Air Aware class to deliver a school assembly covering each of the 5 sessions so that other pupils can benefit.	Air Aware Class, Miss Pangbourne	June 2016
POEM/SONG	Class to work together on putting together a poem or song about engine idling.	Air Aware class, Miss Pangbourne	June 2016
NEWSLETTER	A newsletter to be sent to all parents about engine idling and the results from the diffusion tubes.	Miss Pangbourne, Air Aware Club	Sept 2016
AIR TEXT	School to sign up to air text (www.airtext.info) and put someone in place to let other staff know when there is a bad air quality day	Headteacher	Sept 2016