



**Christ Church Action Plan for Science**

**2016 – 2017**

**Overall Aims:**

- **To promote a love and shared enthusiasm for science in order to increase aspirations for STEM education and careers (raise the profile);**
- **To improve assessment and tracking of pupil progress in science;**
- **To adopt a progressive way to undertake, record and assess working scientifically throughout whole school;**
- **To ensure appropriate storage, maintenance and safe use of scientific equipment/resources in order for greater use as teaching and learning aid;**
- **Increase capacity and capability for good science teaching and learning.**

<b>What do we want to achieve? Objectives</b>	<b>What are we going to do? Strategies</b>	<b>Who will be involved and what staff development implications are there</b>	<b>How will we know if we have achieved our objective?</b>	<b>What are the financial implications and how is it to be funded</b>	<b>Review Date</b>
To promote a love and shared enthusiasm for science in order to increase aspirations for STEM education and careers (raise the profile).	Develop links with STEM Ambassadors through MOSI to bring experts in to school to share and promote science and spark children’s interest.  Science-related after-school clubs (currently Primary Engineers; possibility of STEM club	WP to inform teaching staff of the STEM ambassador process through MOSI.  WP and SS - Primary Engineers/STEM club.  Pupils	Increase in use of STEM ambassadors within school.  Pre and post questionnaire to be completed by a sample of children showing improved attitudes to science.	STEM ambassadors are a free service provided by MOSI.  Cost of equipment/resources for after-school clubs.	Ongoing.  So far, 2 STEM ambassadors have been into school to work with classes in KS1.  Primary Engineers club undertaken with ks1 from September to December. The club will start with

	<p>in future to be discussed).</p> <p>School science week.</p> <p>Recruitment and training of pupil 'Science Technicians'.</p> <p>Termly project for children to complete at home.</p>		<p>Pupils will talk with enthusiasm.</p> <p>High number of pupils will become involved with projects.</p>		<p>KS2 from February to July.</p> <p>School Science Week ideas discussed in Curriculum Team meetings (provisional date for Science week: 19-06-17). Possible links with Maths to create Science and Maths week.</p>
<p>To improve assessment and tracking of pupil progress in science.</p>	<p>Adoption of Rising Stars half-termly assessments for science.</p> <p>Use of year-appropriate "I can...I need to" speech bubble statements to support teacher judgement of assessment level (1-6) for termly Essentials data.</p>	<p>All staff. INSET needed to inform staff of assessment procedure.</p>	<p>All staff undertaking half-termly Rising Stars assessment within their class.</p> <p>Evidence from staff questionnaires carried out in Spring 2 suggested assessment in science was an area that needed improvement. Send out questionnaire later in year to monitor/evaluate changing views on assessment in science, if any.</p>	<p>Cost of Rising Stars Science package (KS1 - £250; KS2 - £500).</p>	<p>Summer 2017</p> <p>INSET training delivered to inform staff of the Rising Stars assessment (22/11/16).</p> <p>Adoption of Rising Stars assessments throughout school from Spring 1.</p> <p>I can statements distributed to all teaching staff.</p> <p>Working towards, expected, and exceeding examples and frameworks for assessment distributed to staff (discussed in INSET on 24/1/17).</p>
<p>To adopt a progressive way</p>	<p>Undertaking and</p>	<p>WP, CH, All staff</p>	<p>Evidence of investigations</p>	<p>Order several more large</p>	<p>Summer 2017</p>

<p>to undertake, record and assess working scientifically throughout whole school.</p>	<p>recording working scientifically: Introduce Post-it planning sheet for scientific investigations at KS1. Continue to use throughout school. This process needs to be modelled by teacher initially, progressing to children working in groups to plan own investigation.</p> <p>Different ways to recording: less emphasis on writing &amp; recording the whole investigative process – this can be laborious, take several lessons and decrease enjoyment. Instead focus on one particular aspect of the process, e.g recording results and producing a table.</p> <p>Utilise different ways of recording conclusion, e.g. pictures.</p> <p>Assessing working scientifically: Use of year-appropriate “I can...I need to” speech bubble</p>		<p>recorded in books.</p> <p>Increased use of Post-it planning sheet within lessons, leading to improved teacher confidence in using the resource.</p> <p>All teachers have copies of the assessments documents frameworks for assessing science, and are confident in using them.</p>	<p>(A1/A0) planning sheets?</p>	<p>INSET training (22/11/16) included advice on recording investigations in a variety of different and creative ways and links to useful resources (e.g. STEM website). Need to monitor books to evidence this.</p> <p>INSET training (24/1/17) went over process of planning investigations using the Post-it planning sheet.</p>
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	<p>statements to support teacher judgement of assessment level (1-6) for termly Essentials data.</p> <p>Use of 'Working Scientifically in the primary classrooms: Progression of Enquiry skills from EYFS to KS3' document and 'Herts for Learning' document.</p> <p>The above documents will need to be provided to all teaching staff, and explained by WP.</p>				
<p>To ensure appropriate storage, maintenance and safe use of scientific equipment/resources in order for greater use as teaching and learning aid.</p>	<p>Audit resources.</p> <p>Store together (learning hub).</p> <p>Recruit and train a team of pupils from KS2 pupils as 'Science Technicians'. In a similar way to the PE monitors they will be able to gather and bring equipment to the appropriate class. They 'technicians; can also be used to maintain</p>	<p>WP, CH, All staff, Pupils</p>	<p>Science adequately resourced and equipment maintained.</p> <p>All staff and pupils aware of appropriate health and safety information for practical science lessons. WP to advise/direct teachers to look at CLEAPPS website/get in contact with CLEAPPS for advice about any potential health and safety issues within science lessons.</p>	<p>Cost of new resources. Definitely need data loggers/data logging software on iPads as this is a requirement at KS2.</p>	<p>Spring 2</p>

	<p>equipment (e.g. check light bulbs are working, etc.) as part of Primary Engineers/STEM club or weekly lunch time.</p> <p>Highlight importance of health and safety during practical science lessons/demonstrations. Refer to CLEAPPS website/handbook for guidance.</p>				
Increase staff capability and confidence to teach science well	<p>Deliver INSETs, team training.</p> <p>Discuss and create targets for the improvement of science within school.</p> <p>Address common misconceptions in science – distribute 'Misconceptions in Primary Science' book to all teaching staff.</p> <p>Share good practice between staff throughout school.</p> <p>Incorporate ELKLAN strategies within</p>	All staff.	<p>Teachers feel confident delivering the skills and knowledge.</p> <p>Teachers able to address own and, in turn children's, common misconceptions.</p> <p>Work produced.</p> <p>Lesson observations.</p> <p>Staff and pupils using appropriate scientific vocabulary accurately and more widely in class and discussions and written work.</p>	Cost of 'Misconceptions in Primary Science' book for each teacher.	<p>Ongoing.</p> <p>INSETs delivered on 22/11/2016 and 24/1/17.</p> <p>'Misconceptions in Primary Science' books distributed to each phase.</p> <p>Key scientific vocabulary distributed for each year/topic to all teaching staff.</p>

	science/provide all staff with year appropriate scientific vocabulary and key words.				
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