

# BQIC EPISTEMIC INSIGHT PROJECTS- Oct 2020

For teachers and others in education who are

- Looking for approaches to integrate Big Questions and multidisciplinary investigations into the timetable
- Interested in creating collaborations and links between different subjects and teachers to build students’ understanding of a range of ways of knowing
- Open to trying CPD and action-research opportunities to support and/or mentor personal development in research

**Essential Experiences in Science and Investigating Big Questions for Years 4-7**

**Permeable Walls for Years 7-9**

**Becoming more insightful about real world problems for Years 10-13**

**“Saviour Siblings” for Years 10-13**

The Epistemic Insight Initiative (EI) has developed webinars, activities and resources that can be used in the classroom and at home to ask and explore Big Questions. We are looking for research partners to refine and extend our resources and research.

Please choose one or more of these projects:

*Essential Experiences in Science and Investigating Big Questions* for **Years 4-7** provides investigation cards with hands-on activities for the classroom and home (compliant with Covid-19 health and safety guidance) teach;

- ❖ *Permeable Walls* between curriculum subjects for **Years 7-9** includes a series of 4-6 lessons to examine Big Questions about personhood, AI and the world around us
- ❖ *Becoming insightful about real world problems* offer live interactive webinars for **KS4 and KS5** on moral and societal questions which are examined through the lenses of science, religion and the wider humanities.

The '*Saviour Siblings*' online workshop for **KS4 and 5** discusses real and fictitious cases of families creating a child using IVF to save the life of an older sibling. The workshop considers reasons and evidence from legal, scientific, ethical and faith perspectives

All the projects are adaptable to your setting and can include co-creating resources. The projects aim to help young people to:

- develop their curiosity and capacity to express questions that bridge disciplines including Big Questions (questions about the nature of reality and personhood that bridge science, religion and the wider humanities)
- explain the strengths and limitations of science and other areas of knowledge to answer Big Questions
- demonstrate a growing ability to think more deeply, compassionately and critically about Big Questions and how these relate to everyday life as well as career choices and personal decision-making in and beyond school.

Find out more about the [Epistemic Insight Initiative](#) on our website. The website includes pages specifically for [Church of England schools](#).

Or contact [LASAR@canterbury.ac.uk](mailto:LASAR@canterbury.ac.uk)

Epistemic Insight		Canterbury Christ Church University		Ofsted inspection framework 2019						SIAMS inspection framework 2019						
Epistemic Insight Action-Research Project Offers	Year Group/s	Format	resources, CPD, research team support	Ofsted inspection framework 2019						SIAMS inspection framework 2019						
				quality of education	implementation	impact	behaviours and attitudes	personal development	leadership and management	Vision and Leadership	Wisdom, Knowledge and Skills	Character Development	Community and Living Well Together	Dignity and Respect	SNiC	Personal Development
Essential Experiences in Science	Years 4-7	classroom, home-learning, discussion and hands-on investigations*	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Investigating Big Questions	Years 4-7	classroom, home-learning, discussion and hands-on investigations*	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Permeable Walls	Year 7-9	classrooms, home learning, discussions, optional project-based learning	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Becoming insightful about real world problems	KS4 & KS5	live webinar, online, interactive, links to EPQ	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Saviour Siblings	KS4 & KS5	live webinar, online, interactive, links to EPQ	X	X	X	X	X	X	X	X	X	X	X	X	X	X

## Essential Experiences in Science

Essential Experiences in Science (EES) consists of a set of colourful investigation cards, designed to build children’s understanding of the nature of knowledge. Each card explains how science interacts with one or more disciplines in the humanities. The activities can be carried out in school, for homework or during quarantine/ a local lockdown. Free and simple resources such as a straw and a paper spinner mean that children can carry out the activities independently or collaboratively while socially distanced.

Key Stage/s	Years 4-7
<p>What is involved in working with this research project?</p>	<p>Activities and processes include:</p> <ul style="list-style-type: none"> <li>• teachers facilitating a short survey to be completed by children in the class before and after activities</li> <li>• free printed investigation cards, resources and equipment designed to be used in the classroom</li> <li>• investigations that can be adapted for home learning (and for provision in case of lockdown and/or quarantine)</li> <li>• free CPD webinars for teachers, trainee teachers and TAs</li> <li>• support and guidance from an Epistemic Insight research lead and experienced teacher to develop their own lesson plans</li> <li>• feedback on the results of surveys to support planning and to be used as evidence for SDP and performance management</li> </ul> <p>Engagement with Epistemic Insight research can be tailored to suit school timetables and schedules. CPD and teacher support will run through to Autumn 2021. Participating in research with us:</p> <ul style="list-style-type: none"> <li>• teachers, trainee teachers, TAs and educators attend either the live or recorded CPD webinar sessions, completing a short survey</li> <li>• receive sets of free cards and resources to implement the investigations with their children</li> <li>• Book onto as many of the webinars as they wish through <a href="https://www.eventbrite.co.uk/o/lasar-centre-at-cccu-30754621852">https://www.eventbrite.co.uk/o/lasar-centre-at-cccu-30754621852</a> and contact <a href="mailto:Lasar@canterbury.ac.uk">Lasar@canterbury.ac.uk</a>, if they are interested to be a teacher researcher in their school, placement or at home if a home-schooler.</li> </ul>

<p>Key ideas for teachers and students</p>	<p><b>Curriculum</b> Builds understanding of science curriculum pivotal phrases like observe, measure and research and other ways of 'working scientifically'. The curriculum explains that children should appreciate the importance of accurate measurements and should experience a range of equipment, including thermometers, rulers and measuring beakers. Students can then compare science as a way of knowing with how they enquire in other disciplines.</p> <p><b>Ways of thinking</b> Each investigation card activity is designed to build children's epistemic insight and understanding of science as a discipline that asks and investigates questions about the natural world. Through the investigation cards we address bridging questions which link science, history, English and mathematics to consider how different perspectives compare and inform our understanding of reality. This provides opportunities for rich questioning including exploring the strengths and limitations of science and other ways of knowing.</p>
<p>Links between project and inspection criteria</p>	<p>Supporting and responding to Ofsted/SIAMS inspection criteria By participating in Essential Experiences in Science schools will be able to evidence:</p> <ul style="list-style-type: none"> <li>• designing a curriculum that is ambitious and gives all learners access to knowledge and cultural capital that will support developing interests and aspirations in successful pathways in life, including STEM career opportunities</li> <li>• providing effective support for those teaching outside their field of expertise</li> <li>• real-world issues presented clearly with discussions enabling misperceptions to be identified and clarified</li> <li>• learners exploring knowledge that can be integrated into larger concepts</li> <li>• contributing to a learning environment that invites positive learner engagement and focus on learning</li> <li>• supports personal development, SMSC and elements of PSHE</li> </ul> <p>Specific links of Essential Experiences in Science to the SIAMS inspection criteria include:</p> <ul style="list-style-type: none"> <li>✓ offering opportunities for learners to reflect on and respond to beliefs, values and profound human experiences from a range of faith perspectives</li> <li>✓ developing wisdom, knowledge and skills through group activities</li> </ul>

## Investigating Big Questions

Investigating Big Questions (IBQ) engages key elements of RE (theology, philosophy and human/social sciences) as well as supporting the science curriculum.

Students have opportunities to raise and talk about Big Questions relating to faith and science such as “How do we make sense of the weather – given what we know via science?” “If God exists, why do tornados and cyclones hurt and kill people?” “Can the natural world including the weather sometimes be a ‘sign’ from God?” and “How do we explain rainbows when we compare science and religious texts?”

Resources include investigation cards and a ‘discovery bag’ designed to be taken home. Children use the equipment in the bag to explore natural features of the world around us, which can be observed and investigated scientifically. The back of each card presents a talking point to stimulate a conversation at home about how science and religion inform the ways we understand ourselves and reality.

An example of an activity involves investigating the weather through science by observing and measuring the force of the wind (using an anemometer in the discovery bag), and discussing people’s beliefs about ways that God might use natural events and phenomena to communicate with people.

Key Stage/s	Years 4-7
What does working with this project involve?	<p>Project activities and materials include:</p> <ul style="list-style-type: none"> <li>• teachers facilitating a short survey to be completed by children in the class before and after activities to measure the impact of the resources on children’s opportunities to ask and investigate Big Questions at home.</li> <li>• free ‘discovery bag’ resources</li> <li>• free guides for teachers, trainee teachers and TAs</li> <li>• support and guidance from the Epistemic Insight research team</li> <li>• feedback on the results of surveys to support planning and to be used as evidence for SDP and performance management</li> </ul>
Key ideas for students and teachers	<p>Establishes parent-school partnerships designed to support children’s wellbeing and academic progression. The project will develop activities to raise and address faith related questions which can begin in the classroom and then go home to strengthen the home-school partnership. Teachers, parents/carers and children will develop confidence to investigate Big Questions, drawing on science and religion to answer in an epistemically insightful manner, understanding</p>

	<p>how each discipline looks at a Big Question in a different way. The activities are motivated by research which highlights that, "There is an absence of any conversations about the spiritual dimension of life for many children in the home." This finding is from "The faith in the Nexus project" by NICER (the National Institute for Christian Education Research).</p>
<p>Links between project and inspection criteria</p>	<p>Supporting and responding to Ofsted/SIAMS inspection criteria By participating in Investigating Big Questions schools will be able to evidence:</p> <ul style="list-style-type: none"> <li>• designing a curriculum that is ambitious and gives all learners access to knowledge and cultural capital that will support developing interests and aspirations in successful pathways in life, including STEM career opportunities</li> <li>• providing effective support for those teaching outside their field of expertise</li> <li>• real-world experiences and observations facilitated with discussions enabling misperceptions to be identified and clarified</li> <li>• learners exploring knowledge that can be integrated into larger concepts</li> <li>• contributing to a learning environment that invites positive learner engagement and focus on learning</li> <li>• supports personal development, SMSC and elements of PSHE</li> </ul> <p>Specific links of Investigating Big Questions to the SIAMS inspection criteria include:</p> <ul style="list-style-type: none"> <li>✓ offering opportunities for learners to reflect on and respond to beliefs, values and profound human experiences from a range of faith perspectives</li> <li>✓ developing wisdom, knowledge and skills through group activities</li> <li>✓ a core focus on relationships, participation in communities and the qualities of character that enable people to flourish together</li> <li>✓ the breadth of experiences available to all learners through curricular and extracurricular activities</li> <li>✓ how well the school offers opportunities for learners to reflect on and respond to beliefs, values and profound human experiences from a range of faith perspectives</li> </ul>

# Permeable Walls

Questions that are pertinent to science, RE and other school curriculum subjects are explored using Epistemic Insight tools to ensure students can access and conduct investigations about personhood and the nature of reality. This includes discussing and examining belief, knowledge and moral agency in scholarly ways. The aim is to help students to become more able and confident rational and compassionate individuals and citizens. We recommend that two or more subject teachers and in particular the science and RE teacher teach the unit together.

Big questions are an excellent way of engaging students' curiosity and encouraging a range of responses in the classroom. Through a series of sessions, students use Epistemic Insight tools to consider how science and RE might investigate the same big questions to extend and deepen their understanding of the nature of knowledge. Questions that schools have shown to be effective include "What does it mean to be "human"? "Why did human life begin?" "Can a robot be a person?"

Key Stage/s	Years 7-9
<p>What would be involved to work with this research project?</p>	<p>Being involved can be extensive or light touch as we are seeking schools to co-create the research that establishes how this can work best in schools. For example, some schools are working to create a scheme of work for Year 7 that forms part of their transition learning and development of their critical thinking skills. Other schools are re-visiting how they teach RE and Philosophy, whereas others are developing shorter term activities over a month or term that involve a research project as part of their standard curriculum across a couple of departments. These resources could be tailored to being delivered in a 'drop-down' day.</p> <p>Activities and processes include:</p> <ul style="list-style-type: none"> <li>• teachers from at least two different subjects to participate in the delivery of the project</li> <li>• teachers fill in an initial survey and facilitate a short survey to be completed by children in the class before and after activities,</li> <li>• free photocopiable resources with activities designed to be used in the classroom and suitable for independent home learning – these resources can be adapted and developed with a member of the research team to suit particular lines of enquiry for those involved</li> <li>• a free CPD session for teachers, trainee teachers and TAs to enable you to use Epistemic Insight tools and support students' learning activities</li> </ul>



	<ul style="list-style-type: none"> <li>• support and guidance from an Epistemic Insight research lead and experienced teacher</li> <li>• feedback on the results of surveys to support planning and to be used as evidence for SDP and performance management</li> </ul>
<p>Potential impact on teachers and students</p>	<p>Through dialogue and the use of evidence, these sessions encourage and develop students' capacity to think critically, analyse arguments, assess information and compare approaches to problem-solving. Skills developed will support preparations for Level 2 (and 3) extended project qualifications as well as identifying links between subjects across the school.</p>
<p>Links between project and inspection criteria</p>	<p>Supporting and responding to Ofsted/SIAMS inspection criteria</p> <p>Permeable Walls offers schools a significant opportunity to evidence a commitment to key elements of the Ofsted Framework 2019; personal development, SMSC, PSHE and offering encounters that are interesting and engaging students in higher level questioning as well as understanding disciplinary approaches to the nature of knowledge.</p> <p>Specific links of this project to the SIAMS inspection criteria include:</p> <ul style="list-style-type: none"> <li>✓ the breadth of experiences available to all learners through curricular and extracurricular activities</li> <li>✓ offering opportunities for learners to reflect on and respond to beliefs, values and profound human experiences from a range of faith perspectives</li> <li>✓ Wisdom, Knowledge and Skills: enabling discipline, confidence and delight in seeking wisdom and knowledge, and developing talents in all areas of life</li> <li>✓ <b>Character Development: Hope, Aspiration and Courageous Advocacy</b> enabling healing, repair and renewal, coping wisely when things go wrong, opening horizons and guiding people into ways of fulfilling them</li> <li>✓ Community and Living Well Together: a core focus on relationships, participation in communities and the qualities of character that enable people to flourish together</li> <li>✓ Dignity and Respect: the basic principle of respect for the value and preciousness of each person, treating each person as a unique individual of inherent worth</li> </ul>

## Becoming insightful about real world problems

'Becoming insightful about real world problems' webinars offer opportunities to engage with key elements of RE (theology, philosophy and human/social sciences) as well as in the context of the science curriculum.

This series of six webinars will get students thinking across disciplines about real world topics and problems like the nature of time, artificial intelligence, pollution and the challenges created by coronavirus. We will explore the strengths and limitations of different and sometimes contrasting perspectives when engaging with major global challenges and scientific advancements in medicine and technology. Students will discuss ideas such as that scientists and faith traditions have similar goals – working to enable human life to flourish as individuals and part of a wider community. Workshops develop student's epistemic insight – i.e. their knowledge and understanding of how knowledge is formed.

**Key Stage/s**    **KS4 and KS5**

Being involved with this project

Activities and processes include:

- delivery of free live webinars via to schools through to the summer term 2021 – choose which your students attend
- two short questionnaires (approx. 10-15 mins each, preferably online), to be completed by students before and after participation in the webinars
- a free online CPD session which will introduce teachers to Epistemic Insight and equip them to help facilitate discussions
- The involvement of the teacher as facilitator in the session/s, to distribute and collect 'exit slips'

How do we expect of schools who engage with this research?

Participating in research with us:

- Schools can opt in and out of the project at any time but we ask that students please fill in a 'final survey' before finishing.
- Permission and information letters are provided by the research team.
- Teachers will be supported if they choose to be involved with further action-research as part of their performance management and school development plans.

Key ideas for teachers and students

Skills, abilities and knowledge

Through dialogue and the use of evidence, these sessions encourage and develop our capacity to think critically, analyse arguments, assess information and compare approaches to problem-solving. Skills developed will support preparations for Level 2 and 3 extended project qualifications as

	<p>well as identifying links between subjects across the school. Appreciating ways that science can work with other ways of knowing including religion when investigating big questions about personhood and the nature of reality. Helps students to identify and examine their own and their peers' assumptions. Students are encouraged to develop rational and compassionate approaches to addressing complex real-world problems.</p>
<p>Links between project and inspection criteria</p>	<p>Supporting and responding to Ofsted/SIAMS inspection criteria                  These webinars offer schools a significant opportunity to evidence a commitment to key elements of the Ofsted Framework 2019; personal development, SMSC, PSHE and offering encounters that are interesting and engaging students in higher level questioning as well as understanding disciplinary approaches to the nature of knowledge.</p> <p>Specific links of this project to the SIAMS inspection criteria include:</p> <ul style="list-style-type: none"> <li>✓ the breadth of experiences available to all learners through curricular and extracurricular activities</li> <li>✓ offering opportunities for learners to reflect on and respond to beliefs, values and profound human experiences from a range of faith perspectives</li> <li>✓ Wisdom, Knowledge and Skills                         <ul style="list-style-type: none"> <li>• enabling discipline, confidence and delight in seeking wisdom and knowledge, and developing talents in all areas of life</li> </ul> </li> <li>✓ <b>Character Development: Hope, Aspiration and Courageous Advocacy</b> enabling healing, repair and renewal, coping wisely when things go wrong, opening horizons and guiding people into ways of fulfilling them</li> <li>✓ Community and Living Well Together                         <ul style="list-style-type: none"> <li>• a core focus on relationships, participation in communities and the qualities of character that enable people to flourish together</li> </ul> </li> <li>✓ Dignity and Respect                         <ul style="list-style-type: none"> <li>• the basic principle of respect for the value and preciousness of each person, treating each person as a unique individual of inherent worth</li> </ul> </li> </ul>