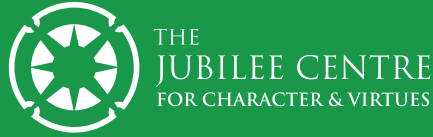


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ITY TEACHING HONESTY RESPECT RESILIENCE CURRIC  
**E CHARACTER**   
RIT THROUGH SUBJECTS MOTIVATION FOCUS OPTIM



# SCIENCE

RICHARD FARNAN  
HARROGATE GRAMMAR SCHOOL



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## Teaching Character Through Subjects – Science Suite 1 Key Information

<b>Teacher</b>	Richard Farnan	<b>School</b>	Harrogate Grammar School
<b>Overview</b>			
<b>Curriculum Area</b>	Science		
<b>Subject Focus</b>	The lessons are mainly stand-alone and I have completed them as an introduction to science with a year 7 group, but they will also be useful as an introduction to science in the real world for older age groups all the way up to year 11		
<b>Identified Key Character Qualities</b>	<p>Respect is covered in the first 2 lessons, with regard to respect for others in human and non-human animal research</p> <p>Empathy is a focus in lesson 3</p> <p>Honesty is the focus of lesson 4</p>		
<b>Character Focus</b>	<p>The students have to identify and define each of the virtues at the start of, or as homework tasks before, the relevant lesson. This is important to establish what the virtues are to help with the caterpillar early processes.</p> <p>The last lesson will be the main way of applying the knowledge from the previous 4 lessons to a summative task.</p> <p>The plenaries in each lesson also aim to engage students in reflecting on their understanding of the virtues and then linking them to what they have learned (the plenary in lesson 3 on empathy being a prime example of this).</p>		
<b>Differentiation</b>	<p>The tasks are very open-ended throughout, with very little subject knowledge required. This was designed for year 7s with very little knowledge of high school science but will also still be applicable for older students, who will be able to then bring in elements that they have learned from other science lessons. Open-ended tasks allow all students to be involved and complete the tasks.</p> <p>Weaker students may prefer to record their feelings rather than write, if this is a barrier</p>		
<b>Adaptability</b>	<p>Age differences explained earlier.</p> <p>If lessons are shorter then writing frames to help with the plenary tasks may be useful to remove time used for extended writing.</p> <p>The lessons had to move at a very quick pace to fit in all of the tasks so if the lessons are longer than 50 minutes then extra time can be given for paired discussions and class discussions, which will extend thinking time for students.</p>		

<b>Affect on School Priorities</b>	Hard to tell straight away as this is a year 7 group whose first 5 lessons were on character (so it's difficult to judge their virtues previous to this) but several students have used the virtue definitions in later lessons and have also been able to apply them to new topics (respect has often come up as a behavior management tool and honesty has been used a lot when conducting practical work).
<b>Things That Worked Well</b>	<p>Students using the key terms consistently well.</p> <p>Engagement was high throughout and they enjoyed looking at the more 'grown-up' topics which were introduced</p> <p>Real maturity was shown in the empathy lesson where students really engaged with the dilemmas presented</p>
<b>Things That Might Be Improved</b>	The final lesson could have more structure so that the students are using the knowledge they have developed throughout the lessons previous. This could be done by getting them to self-assess or peer-assess the plenary exercises so far.

## Lessons

<b>Subject Focus</b>	<p>Lesson One: Animal research</p> <p>Lesson Two: Human research and phobias</p> <p>Lesson Three: Implications of scientific research</p> <p>Lesson Four: Publication bias and honesty in science</p> <p>Lesson Five: The ethics of scientific research</p>
<b>Character Focus</b>	<p>Lesson One: Respect for animals in science</p> <p>Lesson Two: Respect for humans used in scientific research</p> <p>Lesson Three: Empathy for how scientific research affects people in society</p> <p>Lesson Four: Honesty in scientific research</p> <p>Lesson Five: Summary of all virtues</p>

<p><b>Notes on Differentiation and Adaptability</b></p>	<p>Lesson One: Lower ability – focus on description of animals’ feelings in the research and applying the definition of respect. Greater structure needed for plenary task</p> <p>Lesson Two: Lower ability – plenary task might prove difficult as includes abstract thinking. Explain in more detail the link between Albert’s conclusions and the phobia treatment that has been developed to enable this</p> <p>Lesson Three: Lower ability – role model one of the plenary dilemmas, with students providing descriptors of how the individuals may feel. Then choose one to work on individually, with guidance towards the easier option (depression, as it has been scaffolded throughout the lesson)</p> <p>Lesson Four: Lower ability – plenary task is quite abstract. Could be changed so that students have to identify the outcomes of researchers saying that Dr. pepper is good for you / formula is best for babies, rather than the other way around</p> <p>Lesson Five: Lower ability – more structure provided in poster tasks. Provide prompts as to which virtues a good or bad scientist may have and ask students to draw these</p>
<p><b>Other Points Worth Noting</b></p>	<p>One thing that could improve the cohesion of the lessons would be to keep a glossary of key terms in the students’ books, as well as completing the plenary exercises so that they are written in full sentences and well organized/labelled so when it comes to time for reflection the students can easily look back at previous work.</p>