**Science and theCatholic Faith –**

**Origins of the universe and Human Life**

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| **Lesson topic: Science and religion lesson 2 “Ex Nihilo”** |
| Teacher  |  | Date |  |
| Year |  | No. of students |  |
| Set/MA |  | Support staff |  |

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| **Learning objectives** | To understand the concept of ex Nihilo as it applies to Theology and Science |
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| **RECD:** | ***Revelation: the Church’s teaching about faith (e.g. gift, virtue) and the place of reason in the search for God.*** |
| Meeting the individual needs of the students (details of students with SEN/G&T etc…) | Students will come to this lesson with a broad range of experiences of GCSE Science. The profile of the group will be an important factor in establishing a seating plan. There will be students who did not do well in GCSE Science, those with a good pass at GCSE and those who have taken science at A level. Consider groupings that have a mix of the three. Your data manager should be able to provide details. |
| **Pre-supposed knowledge/ possible concepts/ misconceptions** | Knowledge of the creation story in Genesis from GCSE RE. Knowledge of the Big Bang theory from GCSE Core science. Creation may be perceived as a point of conflict between RE and Science, this view should be discouraged. |
| **Resources:** | PowerPoint presentation, Lesson 2 pages in Workbook, access to an interactive whiteboard to show a YouTube clip. Possibly Bibles. |

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| **Sequence of learning activities** | **T& L activities** | **Differentiation:** (planned stretching / simplifying activitiesReference to: SEN; G&T; underachievers; relevant dept target groups (name students here) | **Sign post for progress**(when is progress going to be assessed and how? What alternative activities are planned if students do not understand?) |
| **Starter** | Do the ‘Visio Divina’ on the blank slide.Pupil share their descriptions of the blank slide.   | Students will require differing levels of introduction to Visio depending on their experience of it. An alternative image might be used to begin with, possible the Hubble Deep field. (Search this on Google Images) | How many of the students describe the blank screen in the way suggested in slide 4 |
| **Development**(Break down the lesson into a variety of teaching activities that are both engaging and appropriate to the KS/level of the course.) | Introduce the ‘Ex Nihilo’ concept and get students to read and discuss the Genesis passage on slides 8 and 9. Get feedback on pupil responses. Introduce slide 10 and give out the handout for students to read and highlight. any ex nihilo statements or ideas in one colour. In another colour, highlight words or ideas that are new to you or that you don’t understand.Go through slides 11-13. Emphasising the point that the conditions of the universe and Earth are just so to allow life to exist. This leads some to believe it cannot be by chance, and therefore there is a creator God. Use slide 14 to introduce the YouTube clip about the multiverse idea.As they watch the clip that follows, think about which of the models might match the idea of ours being the Universe that is ‘just right’ for life. Space for notes in the workbook. Get into groups of four.Discuss the answer to the question:“Did God create the Universe ex nihilo?”One person from each group needs to feedback the groups ideasSlide 16 provides optional further discussion questions | Have Bibles available so that students can read beyond verse 3. The word ‘void’ may need explanation for some studentsThere are alternatives to the handout if students find it too complex. For example:<https://www.youtube.com/watch?v=lH4f2V9zQ-U>Perhaps model highlighting on the board. Be ready to answer questions about words or phrases in the clip that students cannot engage withTeacher might need to stop the clip periodically to explain and model notes for the workbooks. Take care with groupings, see meeting the needs box aboveAs above | Get students to feedback their responses to slide 9, assess their understanding of the Ex Nihilo concept before proceedingCirculate to help students access the sheet, especially any complex words. Teacher should have pre-read the sheet and if necessary, discussed it with a science teacherPupils feedback responses. Use feedback to assess understandingAs aboveUse feedback to assess understanding |

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| **Assessment opportunities and homework** |
| Written and discussion tasksThe questions on slide 16 could be used as a homework task if that was deemed appropriate in the context of the teaching. |
| **Opportunities for SMSC** |
| Other religions creation stories could be used in addition to the creation story if the class composition suggested that sensitivity to people from different ethnic and religious backgrounds were desirable.Opportunities to reflect on the origins of life and the role of a creator. Reflection at the end of the lesson on Psalm 8:3-5 |