*BTEC Firsts (Level 2) in Applied Science*

*UNIT 2 - Energy and Our Universe*

*ASSIGNMENT 4 – The Solar System and Our Universe*

***Student Name: Teacher:***

***Date assignment issued: Final Completion Date:***

**Introduction**

In order to finish this unit you need to complete an assignment. To make sure you finish on time and meet all your deadlines the assignment has been broken down into tasks and will be spaced over the course.

Each task will start with the part of the grading criteria that the task relates to, example P1, P2. It will finish with a deadline for the task to be completed by.

**The learning outcomes for this assignment:**

* Know the components of the solar system and the way the universe is changing.

**Brief**

You are an employee of NASA space centre and are over in the U.K. to give a number of presentations to Secondary school children about Space and the ways the universe has been changing. Your need to cover the following topics:

* Present a 3D model which outlines the main compostion of the solar system.
* Using a range of images of our solar system identify the evidence that shows the universe is changing.
* Research websites to describe and explain the main theories of how the universe has changed.

Task 1

1. - Model

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| **Working on P9**  Describe the composition of the solar system. | Research the composition of the solar system and make a model with labels.  Think about what different space objects we find in our solar system  Eg. star, planets, dwarf planets and natural satellites, comets meteors and asteroids.  [Solar%2520System%2520Model](http://www.google.com/imgres?imgurl=http://www.exporting-india.co.in/Solar%20System%20Model.jpg&imgrefurl=http://www.exporting-india.co.in/product_services.php&usg=__BOoliVyAR--c6UkSdEFqbEcGa7o=&h=273&w=400&sz=37&hl=en&start=10&itbs=1&tbnid=P5Fjm7DTit9nBM:&tbnh=85&tbnw=124&prev=/images?q=sloar+system+model&hl=en&sa=G&gbv=2&tbs=isch:1) [solar_system_big](http://www.google.com/imgres?imgurl=http://teachers.eusd.k12.ca.us/dvallee/solar_system_big.gif&imgrefurl=http://teachers.eusd.k12.ca.us/dvallee/Science%20solar_system.htm&usg=__2Qf-LUdOeHHImL1G3_TtSsZ0l5s=&h=320&w=550&sz=56&hl=en&start=14&itbs=1&tbnid=ItMTNVxJHGZwyM:&tbnh=77&tbnw=133&prev=/images?q=solar+system&hl=en&sa=G&gbv=2&tbs=isch:1) | **Deadline for Task 1a:** |

Task 2

1. – Story board

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| --- | --- | --- |
| **Working on M5**  Describe the main theory of how the universe was formed. | Research different theories of how the universe was formed.  For example how the planets, stars and galaxies were formed.  Prepare a story board highlighting the events which took place. Make sure you annotate your story board with clear descriptions.  [See full size image](http://blackmaps.files.wordpress.com/2010/03/universe-death-961241-sw.jpg) | **Deadline for Task 2a:** |

Task 2

1. - Evaluation

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| **Working on D5**  Evaluate the main theory of how the universe was formed. | Add a paragraph to your story board which evaluates the main theory of how the universe was formed.  Evaluate means review the information then bring it together to form a conclusion. Give evidence for each of your views or statements.  Think about the evidence behind the theory and how realiable it is.  [20uo6du](http://www.google.com/imgres?imgurl=http://i40.tinypic.com/20uo6du.jpg&imgrefurl=http://cinemalibre.wordpress.com/2009/02/&usg=__K8xnEBem48YHb8HLJ6d8hfZh7Q0=&h=400&w=500&sz=30&hl=en&start=1&itbs=1&tbnid=0fywwfCILu6-WM:&tbnh=104&tbnw=130&prev=/images?q=theories+of+universe+changing&hl=en&gbv=2&tbs=isch:1) [plasmawormhole](http://www.google.com/imgres?imgurl=http://i74.photobucket.com/albums/i259/avmichaels/plasmawormhole.jpg&imgrefurl=http://surfingthetao.vox.com/library/post/the-electric-universe-psychedelic-wormholes-and-the-spiders-on-mars.html&usg=__vltvL9kap3d3qS6OJnuafB6WrbI=&h=375&w=500&sz=21&hl=en&start=18&itbs=1&tbnid=iqSTnfEetjpfHM:&tbnh=98&tbnw=130&prev=/images?q=theories+of+universe+changing&hl=en&sa=G&gbv=2&tbs=isch:1) | **Deadline for Task 2b:** |

Task 3

a)- Presentation

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| **Working on P10**  Identify evidence that shows how the universe is changing. | Research evidence for the theories of origin.  Create a power point slide **identifying** evidence that shows how the universe is changing. This could be as a list.  [See full size image](http://bwzone.files.wordpress.com/2009/03/grand_universe_by_antifan_real.jpg) | **Deadline for Task 3a:** |

Task 3

b)– Presentation continued..

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| **Working on M6**  Explain how the evidence shows that the universe is changing. | Add to your power point presentation a section which **explains** how the evidence which you have researched shows that the universe is changing.  [across-the-universe](http://www.google.com/imgres?imgurl=http://www.madtomatoe.com/wp-content/uploads/2008/02/across-the-universe.jpg&imgrefurl=http://www.madtomatoe.com/across-the-universe-day/&usg=__QTjW0xppxfKNVFxcHAASShyy7Ko=&h=381&w=468&sz=80&hl=en&start=8&itbs=1&tbnid=-VRIH9KAROwmJM:&tbnh=104&tbnw=128&prev=/images?q=universe&hl=en&sa=G&gbv=2&tbs=isch:1) | **Deadline for Task 3b:** |

Task 3

1. – Presentation continued ...

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| **Working on D6**  Evaluate the evidence that shows how the universe is changing. | Prepare a slide **evaluating** the evidence from M6.  Evaluate means review the information then bring it together to form a conclusion. Give evidence for each of your views or statements.  Think about the evidence behind the theory and how realiable it is.  [WhenStarsExplodeTheUniverseDrinks_](http://www.google.com/imgres?imgurl=http://i42.photobucket.com/albums/e311/Wordmariner/WhenStarsExplodeTheUniverseDrinks_.jpg&imgrefurl=http://sambissell.wordpress.com/tag/universe/&usg=__zrMGnc1hReSnXj1hTOxIcOSm77s=&h=592&w=800&sz=252&hl=en&start=16&itbs=1&tbnid=EXbTUmb5y35uoM:&tbnh=106&tbnw=143&prev=/images?q=universe+stars&hl=en&gbv=2&tbs=isch:1) | **Deadline for Task 3c:** |

**Self Assessment Checklist**

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| --- | --- | --- |
| **Task** | **What you will have produced** | **Deadline** |
| **1a linked**  **to P9** | * A 3D model with labels, outlining the composition of the solar system .   **(MODEL)** |  |
| **2a linked**  **to M5** | * Prepare a storyboard highlighting the events which took place in the formation of the universe.   **(STORY BOARD)** |  |
| **2b linked**  **to D5** | * Add a paragraph which evaluates the main theory of how the universe was formed.   **(EVALUATION)** |  |
| **3a linked**  **to P10** | * Create a power point presentation identifying evidence that shows how the universe is changing.   **(PRESENTATION)** |  |
| **3b linked**  **to M6** | * Add to your power point presentation a section which explains how the evidence which you have researched shows that the universe is changing.   **(PRESENTATION)** |  |
| **3c linked**  **to D6** | * Add a slide evaluating the research from M6.   **(PRESENTATION)** |  |

**Final things:**

* + Page number your portfolio (make sure it is all in the correct order)
  + Include a bibliography stating all your sources
  + Use appendices to store any additional information e.g. your screen dumps or newspaper articles
  + Make sure you create your own front cover with your name, the BTEC details and the unit details plus your teacher’s name.