# Lesson Plan

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| **Title:** Galaxy Classification | **Date:** |
| **Learning objective/s:**   * To understand that galaxies come in a variety of shapes and sizes. * To understand how galaxies are classified. * To understand how to critique a classification system. | **Curriculum links:** |
| **Learning outcomes**  **I want evidence children can:**   * Use the Hubble Classification Scheme. * Discuss why they categorised a galaxy as they did. * Discuss the pros and cons of the Hubble Classification Scheme. | |
| **Notes on children who have exceeded the performance expected:** | **Action to be taken:** |
| **Notes on children who did not achieve the performance expected:** | **Action to be taken:** |
| **Essential vocabulary:**  Galaxy, classification, elliptical, spiral, lenticular, irregular | **Possible misconceptions:**  Galaxies that appear completely side on to us are difficult to classify, not because they are necessarily irregularly shaped but because we cannot see them from a different angle and therefore have limited information. |
| **Cross curricular links:**  Mathematics, ICT, physics. | |
| **Teacher resources including ICT:**   * Galaxy Classification PowerPoint * Galaxy List spreadsheet (answers) * Galaxy Images data files * Student Worksheet PDF | **Children’s resources including ICT:**   * Student Worksheet PDF * Printed versions of the galaxy images |

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| **Organisation and class management:** | **Teaching points:** | **Notes:** |
| **Introduction:**  Whole class discussion | * Introduce the task and the learning objectives. * What are galaxies? Do they all have the same shape and appearance? * Why can we not get an image of a galaxy from a different angle? * Use the PowerPoint presentation to work through the different types of galaxy. * Discuss how galaxies are classified and demonstrate with a few examples. |  |
| **Main phase:**  Independent work | * Children work independently studying various galaxy images and using the Hubble Fork to classify them. * Children record their work highlighting any they found particularly difficult to classify together with reasons why. * Encourage small groups to discuss their answers, were there any they disagree on? Why? |  |
| **Plenary/Conclusion:**  Whole class discussion | * As a class go through the answers and discuss any disagreements. * Highlight the fact there is an element of subjectivity and that this is one of the failings of the system. Are there any other failings the children can think of? * How could the system be improved? |  |