# 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.
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| **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.
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| **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?
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| **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?
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