



Classifying the Universe

Learning to separate the structures of the Universe

Activity - Before visiting the Observatory

Material List:

- 12 picture-cards and 12 word-cards handed out by the teacher

Outline

In this activity you will be tested in your knowledge of how to classify different objects that can be observed in the universe, so that you are well-equipped for observing these structures on your own.

You should beforehand have been presented by the teacher with different ways of identifying each kind of structure. A reminder of these can be seen at the end of this hand-out under Further Resources.

Procedure:

- Divide into groups of two.
- Lay all 12 picture-cards on a table, such that the word-side is facing the table and the picture-side is facing upwards for you to see. They don't need to be arranged by structure. The more randomly they are distributed, the better.
- Put the remaining 12 word-cards in a pile and take turns drawing one word-card from this pile.
- When a card has been drawn from the pile, the student who has drawn it must then find a picture-card with an object that corresponds to the word-card.
- Once a picture-card has been chosen, it can be flipped to see on the back, whether the word corresponds to the word-card.
- If the match is correct, the picture-card is removed and this now belongs to the student along with the word-card and counts as one point.
- If the match is incorrect, the picture-card is flipped back, so that the picture faces upwards again and the word-card is put at the bottom of the word-card pile.

The online observatory collaboration consists of the following partners:

Baldone Observatory, Brorfelde Observatory, Cardiff University, Harestua Solar Observatory, Helsinki Observatory

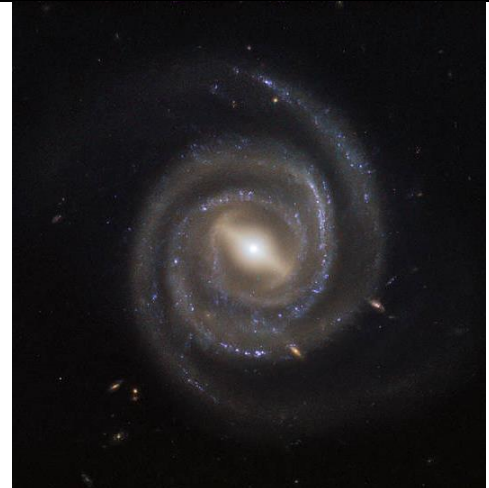
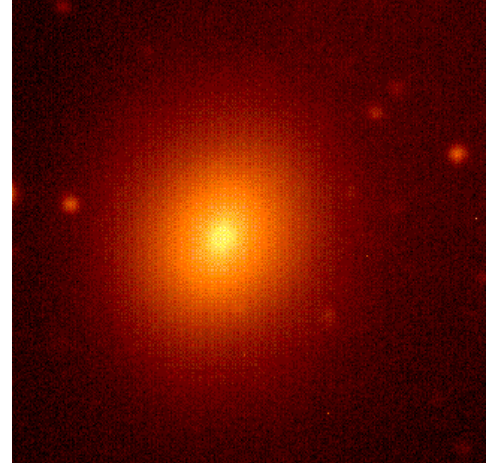


- The game continues until all of the picture-cards have been matched up with a word-card and the student with the most points win.

Assessment:

- Which structures were hard to identify and why?
- Were there any structures that you repeatedly misidentified?
- Can you come up with other ways of separating and identifying the types of objects?

Further Resources:

	<p><u>Spiral Galaxies</u> Typically flat, round objects with noticeable spiral-texture. Very bright center.</p>
	<p><u>Elliptical Galaxies</u> Lit, spherically looking objects with bright centers. Typically hard to discern individual stars.</p>



	<p><u>Open Star Clusters</u> Area with abundance of stars, that can easily be discerned, but without a particular shape.</p>
	<p><u>Globular Star Clusters</u> Spherical area with abundance of stars, that can easily be discerned form each other.</p>
	<p><u>Nebulae</u> Colourful areas of the sky, mostly without noticeable stars.</p>