



**Hubble Academy Log (HAL)**  
**Level 4: Identify a Mystery Object**

**I. Review questions:**

1. What is the difference between a galaxy and a star?

---

---

2. What does the color of a galaxy indicate?

---

---

3. What does the shape of a galaxy indicate?

---

---

4. Why isn't a galaxy's size alone useful in determining its distance from Earth?

---

---

5. Explain why the same galaxy can appear to have different shapes to different observers.

---

---

*Level 4, continued*

6. Describe the process used by astronomers to estimate the number of galaxies in the universe. Be sure to explain what mathematical operations must be performed.

---

---

7. Why is it better to observe the sky from space rather than from Earth?

---

---

**II. Hubble Deep Field Academy final challenge: Identify the HDF object**

1. What does the color of the “oddball” object tell you?

---

---

2. What does the shape of the “oddball” object tell you?

---

---

3. What do you think this object is? Justify your answer.

---

---