**What is our Universe made of?**

**Part 1:** Watch the youtube video “[What is the Universe made of?](https://www.youtube.com/watch?v=CBZH4dMac-Q)” to answer the following questions.



**Inside the Sun**

1. What object in the Universe has made all the molecules present today?
2. Describe briefly the “Big Bang”
3. List the two elements that the early Universe was composed of?
4. Explain how stars are formed?
5. How do stars produce light?
6. Stars are a careful balance between two forces – Gravity and Radiation. Draw a diagram to illustrate this.
7. Massive stars can make all the elements of the Periodic Table up to?
8. Identify what happens to large stars when their nuclear fuel runs out.
9. How are the heavier elements in the Periodic Table formed?
10. Describe how planets like Earth are formed and how are they different to stars.

**Everything is made of atoms that were created inside stars – even human beings.**

**Part 2: Building a Solid Picture of what our Universe is filled with.**

**Use the internet, your textbook and other resources to respond to the following questions**

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| --- | --- |
| Group of 4 | Group of 3 |
| 1. Q11, 12 and 13
2. Q 14 and 15
3. 16 and 17
4. 18
 | 1. Q11, 12 and 13
2. 14 and 15
3. 16 and 18
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1. Outline what a nebula is.
2. Provide the name and an image of a nebula.
3. What is a galaxy?
4. Draw a simple diagram of the Milky Way showing the spiral arms AND label where the Solar System is placed.
5. Draw a diagram of the Solar System showing all EIGHT planets AND the asteroid belt.
6. Why is Pluto no longer called a planet? What is its new definition? Hint: Your answer will need to identify the three conditions for an object to qualify as a planet.
7. Draw a diagram of the inside of Pluto, showing what it is composed of AND the diameter of Pluto.
8. Describe some other objects that are found in Our Universe

Possible website: <http://www.universetoday.com/13573/why-pluto-is-no-longer-a-planet/>



The Horsehead Nebula