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| **Topic** | Hormonal and nervous systems | **Level** | GCSE (or any course for students aged 14-16) |
| **Outcomes** | To compare and contrast the hormonal and nervous systems of animals | | |

**The Hormonal and Nervous Systems of Jack and John**

Jack and John are aliens and live on a planet far, far away called Zog. They both have brains. Their bodies are made from cells, organs and tissues, just like humans. But there is one difference.

Jack is like John except he doesn’t have a nervous system. Everything in his body is controlled by his hormonal system.

John is like Jack except he doesn’t have a hormonal system. Everything in his body is controlled by his nervous system.

**Jack**

**John**

1. Jack and John stand on a drawing pin. How would their responses be different?
2. What tests could a doctor do to identify who was Jack and who was John?
3. Jack and John drink a bottle of coke containing lots of sugar. Sketch a graph to show **what you think** will happen to their blood sugar level.

The graph has been started for you.

John’s blood

Sugar (AU)

time

Jack’s blood

Sugar (AU)

time

1. How would John and Jack’s lives be different?

Use information from the table below in your answer.

|  |  |  |
| --- | --- | --- |
| **Feature** | **Nervous System** | **Hormonal System** |
| Signal | Electrical impulses | Chemical impulses |
| Pathway | Neurones | Blood |
| Speed of information | Fast | Slow |
| Duration of effect | Short lived | Longer lived |
| Type of action | Voluntary or involuntary | Always involuntary |
| Target | Specific cells | Many cells |

**Progress:** further resources on body system are available here: <http://thescienceteacher.co.uk/organ-systems/>