

IELTS PRACTICE TASK

The amazing brains of babies

Recent scientific techniques have challenged our beliefs about the way that babies think.

In the past three decades remarkable discoveries have been made about the way babies think and the development of their brains. It was previously thought in the scientific community that babies and young children were amoral and therefore unable to understand the perspective of other people, and that they were also quite irrational; unable to make sense of the world around them. However, new scientific techniques have proved otherwise. From an evolutionary point of view, one of the most fascinating things about humans is that they take a very long time to develop all the skills and knowledge required to survive independently of their parent. In other words, humans experience a far longer childhood than any other species. Nevertheless, this does, in fact, benefit them in the long run.

Of course, the young of some animal species can fend for themselves within hours or days of being born. Known as 'precocial' species, these animals enter the world with specific innate capabilities that allow them to survive in a particular set of environmental circumstances. They can move with agility, search for food, and avoid predators intuitively – without conscious thought. In other words, they just *know* what to do. 'Altricial' species behave rather differently. They must learn how to co-ordinate their limbs, need feeding by their parents, and must be protected from enemies. But while all this is happening, learning is still occurring in their very flexible brains. Neurons, or nerve cells as they are also known, are the cells in the brain that process and transmit information through electrical and chemical signals. These signals between neurons happen via synapses, specialized connections with other cells. It is now known that the brains of babies have many more connections between neurons than adults. The area of the brain called the prefrontal cortex takes a particularly long time to develop, however. In an adult, this region allows a person to focus on achieving internal goals, and to work out which actions are most likely to achieve them quickly and effectively. It is also the area which allows a person to control their feelings and moderate their social behaviour. On the surface, therefore, it may seem that the slow development of the prefrontal cortex is a disadvantage, but actually it may aid the process of learning. The prefrontal cortex also restricts irrelevant thoughts or behaviours, and in a baby, because they are uninhibited in this way, it may encourage them to explore freely and learn flexibly, giving them an eventual advantage over other species.

What are the implications of this for the way we raise our young children? Science has certainly demonstrated how vitally important a child's early years are, and some policy makers have responded to this by insisting on the establishment of early education programmes and continual testing. Many parents are also anxious to give their children a head start by enrolling them in extra classes and paying for out-of-school tuition. Yet science suggests that children learn best from normal daily interaction with other people and things, and from playful exploration of their environment within a safe setting. This is when all those neurons get excited the most.

TASK TYPE 10 Summary Completion (2)

Questions 1–6

Complete the summary using the list of words, **A–I**, below.

Write the correct letter, **A–I**, below.

How babies think

Thirty years ago, scientists believed that human babies lacked **1** and had no sense of right and wrong. Today the common belief is quite different. Scientists have realised that human babies' period of **2** has an evolutionary advantage. Unlike precocial species which are born with **3** , humans belong to altricial species which rely on gradual learning to function well as adults. In humans, the prefrontal cortex, responsible for efficient action and **4** , takes a particularly long time to develop. This slow development of the prefrontal cortex, however, allows **5** in babies instead. What some scientists have concluded, is that the most effective learning in young children occurs when they take part in as many **6** as possible.

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| A emotional balance | B academic situations | C instinctive abilities |
| D communication strategies | E basic logic | F everyday experiences |
| G extended immaturity | H creative thinking | I intellectual development |