Specialised Cells

Complete the table to compare the different types of specialised cells. Use the information from the posters around the classroom.

Name of Cell	Plant or Animal?	Function	Adaptive Structures

Specialised Cells **Answers**

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Name of Cell	Plant or Animal?	Function	Adaptive Structures
sperm	**animal**	**The sperm cell carries genetic information/DNA/ chromosomes to fertilise an egg cell.**	**The flagella/tail allows the sperm cell to move.** **There are lots of mitochondria to release energy to fuel the sperm cell.** **The nucleus contains the genetic information.**
nerve	**animal**	**The nerve cell carries electrical impulses throughout the body or the brain.**	**The myelin sheath insulates the axon so the impulse can be carried further.** **The dendrites connect the nerve cells to each other and to muscles or sensory cells.**
smooth muscle	**animal**	**The muscle cells allow movement of the body.**	**The muscle cells are connected to the skeleton.** **They contain filament bundles which make the cell contract or relax.**
red blood cell	**animal**	**The red blood cell transports oxygen and carbon dioxide.**	**It has a biconcave shape to increase the surface area available for diffusion of gases.** **The cell contains haemoglobin which binds to oxygen.**
ciliated cell	**animal**	**A ciliated cell is important for protecting the body from disease.**	**The hair-like cilia increase the surface area for mucus secretions and can waft dirt through the airway.** **The cell is tall and narrow so many cells together form a lining.**

root hair cell	**plant**	**The root hair cell absorbs water from the ground through the roots.**	**The extended cell membrane creates a large surface area for absorbing more water.** **The cell does not contain any chloroplasts as there is no light underground to photosynthesise.**
xylem	**plant**	**The xylem transports water in the plant.**	**The xylem is not living.** **The xylem are strengthened with lignin to help support the plant.** **The xylem forms a hollow tube because there are no cell walls or cell membranes at the ends of the cells.**
phloem	**plant**	**The phloem transports dissolved sugars in the plant.**	**Phloem cells form sieve tubes which are joined at sieve tube plates. They allow the fast transport of sugars.** **The companion cells contain many mitochondria to release energy for active transport.**