You took part in a creative workshop to learn about your incredible brain and what can go wrong with dementia. Can you explain to an adult what your brain does?

We have around 100 billion neurons in our brain responsible for all we think, and feel. They control our body and hold a life-time of memories. Each neuron can have thousands of connections with others, and communicate through electricity and chemicals. Messages are passed on or stopped through tiny switches (synapses) seen as tiny bumps on the neuron. Neurons are 3D and look like trees.

While half our brain is made of neurons, cells in between are called glia (“glue”) which are important too. There are different types of glia including microglia (middle) which remove waste. Microglia can get too enthusiastic and damage neurons in dementia. Scientists hope microglia could be calmed down or used to clear up damage. ‘Star’ shaped astrocytes (top) may help protect neurons from damage while oligodendrocytes (bottom) make a special coating allowing neurons to conduct electricity. Understanding cells brings hope for treating or preventing dementia in future.

Drawings by Dr Lizzie Burns are based on looking at real specimens. Add colour to make these cells unique. You also met a scientist from the Alzheimer’s Research UK Network.

Find out more including games: https://kids.alzheimersresearchuk.org/

www.oxfordsparks.ox.ac.uk/content/discovering-life-changing-dementia-treatments