4 A wildlife photographer stores their digital images on a computer.

(a) Complete the table by defining each term about images.

Image term	Definition
pixel	....
resolution	....

[2]

(b) One of the images has a resolution of 1000 × 1000 and a colour depth of 2 bytes.

Calculate the file size of the image. Give your answer in bytes.

Show your working.

Working space .....

.....

.....

.....

File size ..... bytes

[2]

(c) The photographer decides to purchase a solid-state storage device to back up their images.

Complete the description of solid-state storage.

Use the terms from the list.

Some of the terms in the list will **not** be used. You should only use a term once.

binary denary electrons grid neutrons

non-volatile RAM star transistors virtual volatile

Solid-state storage is ..... . This means that the data is **not** lost when the power is turned off.

Solid-state storage is made of ..... that are laid out in a ..... .

Gates are used to control the flow of the ..... through the transistors. This changes the data in the transistors from 1 to 0, or from 0 to 1.

[4]

(d) The photographer compresses an image file before it is emailed.

Give **one** reason why a file is compressed.

.....

..... [1]