

Name _____ Class _____

Cells Alive summary sheet

Use the wordbanks in bold to complete the summary.

Life, stage, stains, cells, stage, focusing, eyepiece, nucleus(2), cytoplasm(2), cell membrane, vacuole(2), chloroplasts (2), cell wall (2), leaves, enters, objective.

All living things are composed of tiny 1 cells. They are the basic units of 2 life. Cell samples can be viewed under a microscope.

The parts of a microscope include: 3 eyepiece lens, 4 focusing dial, objective lens, 5 stage and mirror.

The magnification of microscope can be calculated by multiplying the 5a objective lens power by the eye piece power.

e.g. power of objective lens = x70 power of eye piece lens = x10 Magnification = 5b 700

6 Stain can be used to make cells more visible under the microscope, e.g. iodine solution.

Cells have structures/organelles with specific jobs. The 7 cytoplasm is a jelly-like substance where chemical reactions take place. The 8 nucleus controls the cell's activities.

The cell membrane - controls what 9 enters and 10 leaves the cell. The 11 vacuole - contains a liquid called cell sap. The 12 cell wall - gives the plant cell shape and support. The 13 Chloroplasts - contain a green chemical called chlorophyll which allows green plants to photosynthesise.

Plant and animal cells both have a 14 nucleus, 15 cell membrane and 16 cytoplasm. In addition plant cells have a 17 cell wall

18 Chloroplasts and have a large 19 vacuole.

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Root, muscle, specialised, tissues, digestive.

Plants and animals are made up of lots of different types of cells all doing different jobs. Cells are therefore said to be 20 specialised. Similar cells are grouped together to form

21 tissues. Some examples of this are muscle cells joining to make 22 muscle tissue and in plants root cells make 23 root tissue. Different

tissues join together to make an organ. Organs work together to make up a body system e.g. - stomach, liver, pancreas and intestines work as the 24 digestive system. This relationship can be summarised as:

Cells → tissues → organs → organism

pointed, smooth, extensions, sperm, red, infection, oxygen

Specialised cells include 25 red blood cells which have a 26 smooth shape to squeeze past other cells and carry 27 oxygen round the body. 28 Sperm cells have a tail to move quickly through liquids. Nerve cells have long 29 extensions to carry messages for long distances. Muscle cells are long and thin with 30 pointed ends to slide over each other.

White blood cells fight 31 infection and disease.

Round, microscope, thousands, disinfectant, autoclave, faster, pressure

Microbes are very small and a 32 microscope can be used to see them. Microbes are found in different shapes including rod, 33 round and spiral. 34 Thousands of microbes can exist on the tip of a pin. E coli is a type of bacteria which can cause food poisoning and doubles in number every 15 minutes. If a piece of meat is found to have 300 E coli bacteria on it at the beginning, there would be 35 4800 E coli after 1 hour. To kill bacteria 36 disinfectant or antibiotics can be used. In warmer temperatures the microbes grow 37 faster. However, if the temperature is too hot then the microbes will die. An 38 autoclave is used to kill microbes using a very high temperature and 39 pressure.

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39 pressure.

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Sterilise, flame, disinfectant, bacteria, seal, agar, fungi, label, athletes, control.

Sterile Technique is used to inoculate agar plates. The first step is to 40 sterilise the equipment, wash hands and wipe down the work area with 41 disinfectant. The second step is to 42 flame the loop to kill any bacteria on the loop. Third step is to run the loop across the surface the 43 bacteria are on. Fourth step is to run the loop across the 44 agar in the petri dish. Final step is to flame the loop and then 45 seal the petri dish with cello tape and 46 label the petri dish. A 47 control is often used to see what happens when there is no disinfectant or antibiotics. Antifungals are used to reduce the spread of 48 fungi such as 49 athletes foot.

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