QUICK QUESTIONS ON CELL BIOLOGY!

1. Give 2 differences between prokaryotic cells and eukaryotic cells.

_____

_____

_____

2. State whether the following cell types are **pro**karyotic or **eu**karyotic.

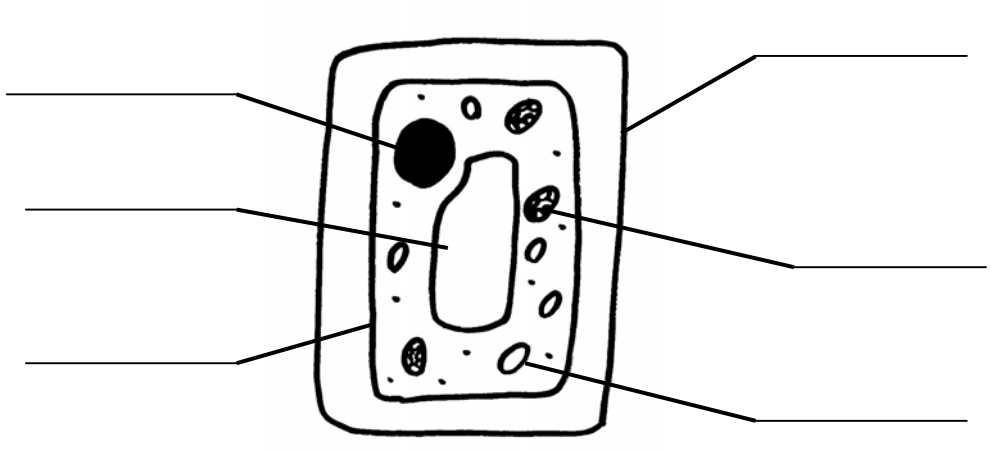
   Animal _____ **Bacteria** _____

   Fungal _____ **Plant** _____

3. State whether the following statements are true or false by writing T or F alongside each statement.

   - **Chloroplasts contain the chemical chlorophyll**.
   - **Fungal cells contain chloroplasts.**
   - **Animal cells have a cell membrane**
   - **Animal cells have a cell wall**
   - **Some bacterial cells have a flagellum**

4. Label the cell organelles



The diagram above is an example of a _____ cell.

5. Complete the paragraph below. Use the words in the box at the end of the paragraph to help you complete the puzzle. But be careful, some of the words are there to catch you out!

All cells can be classified into two groups, they are either _____ or _____ . Animals, plants and fungi are all in different _____. Fungi exist in many forms, including; _____ , _____ and _____ . Some fungi can exist as single-celled organism, an example is _____ . A mushroom is an example of a fruit body produced by fungi, underneath this lies a large network of tiny filaments called _____ . Fungi cannot produce their own food like plants can, they are therefore called _____ , as are animals.
Fungi play vital roles in our every day live. They play important roles in both the _____ and _____ cycles. They have great medical importance, and are used in the production of _____ and _____.

Hyphae	*Moulds*	*Prokaryotes*
Nitrogen	*Antibiotics*	*Heterotrophs*
Kingdoms	*Yeast*	*Carbon*
Chloroplasts	*Cough medicine*	*Statins*
Autotrophs	*Rusts*	*Mushrooms*
Eukaryotes	*Cytoplasm*	*Groups*

QUICK QUESTIONS ABOUT THE WORLD OF FUNGI!

1. Which species has been around on earth longer, fungi or humans?

_____

2. A scientist who studies animals is called a zoologist…but what is the name for a scientist who studies fungi?

_____

3. Can you name each of the 5 Kingdoms of organisms?

_____

_____

4. Yeast is an example of a single-celled fungus, can you give 2 examples of filamentous fungi?

_____

5a. What is the name for the large network of hyphae?

_____

5b. When this network branches out, what is it looking for?

_____

6. Plant cell walls are made from_____ and fungal cell walls are made from _____ .

7. Complete the paragraph. Use the words in the box beneath the paragraph to help you complete the puzzle. But be careful, there are some words in there to catch you out!

Fungi differ from plants in the way that they feed. Plants produce their own food in a process called_____. This process requires cell organelles called_____. Fungi do not have these organelles. Fungi gain nutrients from their surroundings, they secrete _____ from the _____. This breaks down large complex food into smaller soluble food, which is then _____ by the hyphae.

Animal	Enzymes	Spores
Photosynthesis	Mitochondria	Absorbed
Chloroplasts	Chlorophyll	Expelled
Hyphal tip	Mushroom	Cooking

QUICK QUESTIONS ABOUT THE WORLD OF FUNGI!

1. Complete the paragraph. Use the words in the box below to complete the paragraph. But be careful, some of the words are there to catch you out!

   Spores are produced in the _____ in a process called _____ .

   When the spores arrive in their ideal environment they begin to _____, and begin to produce _____.

   The mycelial network grows and further growth produces the _____ and eventually the fruiting body. Spores are released and the process starts again.

Hyphae	*Stem*	*Germinate*
Soil	*Hyphal Knot*	*Decompose*
Sporulation	*Photosynthesis*	*Fruiting Body*

2. Fungi can reproduce both asexually and sexually but which is which? After each sentence write whether it is correct for **asexual** or **sexual** reproduction.
   - **Produces genetically identical offspring.**
   - **Process includes only mitosis.**
   - **Involves the mixing and recombination of genetic material from 2 parents.**
   - **Produces genetically different offspring.**
   - **Involves copies of only a single parent.**

3. Name the 4 different methods by which fungal spores can be distributed.

   _____

4. What does a food web show?

5. Briefly describe 2 reasons why fungi may be in decline.

1.

2.

6. Can you give 2 solutions to the conservation problems facing fungi?

1.

2.

QUICK QUESTIONS ABOUT THE WORLD OF FUNGI!

1. Complete the paragraph. Use the words in the box below to complete the paragraph. But be careful, some of the words are there to catch you out!

When industries use microbes such as fungi to make substances, it is known as _____ . In industry, yeast fermentation is used to produce_____and _____. Yeast is a _____celled fungus. Yeast can respire in 2 ways, it can use oxygen, and this is called _____ respiration or it doesn't use oxygen, and this is called _____ respiration. Myco-protein produces a product often eaten by vegetarians, _____. Myco-protein is not a yeast nor a mushroom but instead is a _____ fungus.

Quorn	Bread	Multi
Aerobic	Biology	Anaerobic
Alcohol	Vinegar	Filamentous
Photosynthesis	Single	Butter

QUICK QUESTIONS ABOUT THE WORLD OF FUNGI!

1. Some fungi, as well as some bacteria and viruses, can cause disease, but what is the scientific name for these disease-causing microorganisms?

   a. Germs? b. Pathogens? c. Polysaccharides?

2. Complete the paragraph. Use the words in the box below to complete the paragraph. But be careful, some of the words are there to catch you out!

Fungi can cause _____, not only in humans, but also in animals and plants. Plants can be affected in one of two ways – either in the ground by _____ pathogens or above ground by _____ pathogens. Examples of plant diseases caused by fungal infection are _____, _____ and _____. Human diseases caused by fungi are called _____. The diseases are divided into three sorts, these are: _____, _____ and _____.

disease	mycoses	mildews
soil	soil-borne	superficial
subcutaneous	skin	infection
air-borne	rusts	blights
systemic	ground	pathogens

3. Human fungal diseases are divided according to where they occur on the body. Can you match up the group name to the correct area of the body?

Superficial	Deep layers of the skin
Subcutaneous	Lungs, blood stream and then other organs
Systemic	Skin, nails and hair

4. Most human fungal infections are caused by opportunistic pathogens. Can you briefly describe what opportunistic means?

5. Complete the paragraph. Use the words in the box below to complete the paragraph. But be careful, some of the words are there to catch you out!

Fungi produce toxins called _____and the diseases they cause are called _____. Food items that are particularly susceptible to fungal disease are _____, _____ and _____. When they are stored in the wrong conditions, mycotoxins can be found as a result of fungal growth (_____). The most widespread and dangerous of these toxins are the _____ which are carcinogenic, this means they can cause _____. The mould can grow on badly stored grain and animal food. When eaten, the toxin is stored in the _____.

bread	aflatoxins	liver
cancer	stored grains	mould
mycotoxins	skin	infection
air-borne	mycotoxicoses	cereals

QUICK QUESTIONS ABOUT YOUR FAVOURITE FUNGI!

1. Which of the following kingdoms would you put fungi in?

   a. Animal b. Protist c. Plant d. None of these

2. Most fungi are filamentous. The main body of the fungus is made up of thread-like filaments called _____ which form the _____.

3. Approximately how many species of fungi have been discovered to date?

   a. 5,000 b. 10,000 c. 100,000 d. 100

4. Fungi are not able to produce their own food like plants do. **True** or **false?**

5. Fungi are only able to reproduce sexually. **True** or **false?**

6. The products of reproduction are spores. What are spores dispersed from?

7. Can you name some of the useful products produced because of or using fungi?

8. Fungi and a type of termite found in Africa live together in symbiosis (they both benefit form their association). This occurs with the Ambrosia beetle also. Choose one of them and describe how they both help each other.

9. Fungi can infect human, plants and animals. Infections in plants have names which describe the symptoms. Can you name any?

10. Human fungal infections are divided into three groups according to which part of the body is affected.

    The first group is superficial infections. These are infections of the outer layers of skin, the hair and the nails. Can you give an example of a superficial infection?

    The second group is subcutaneous infections. These are infections which affect deeper layers of skin. Where do most of these infectious fungi live in nature?

    The final group is systemic mycoses. Infection is caused by the inhalation of fungal spores. These infections are usually caused by opportunistic fungi. Can you describe what is meant by **opportunistic**?