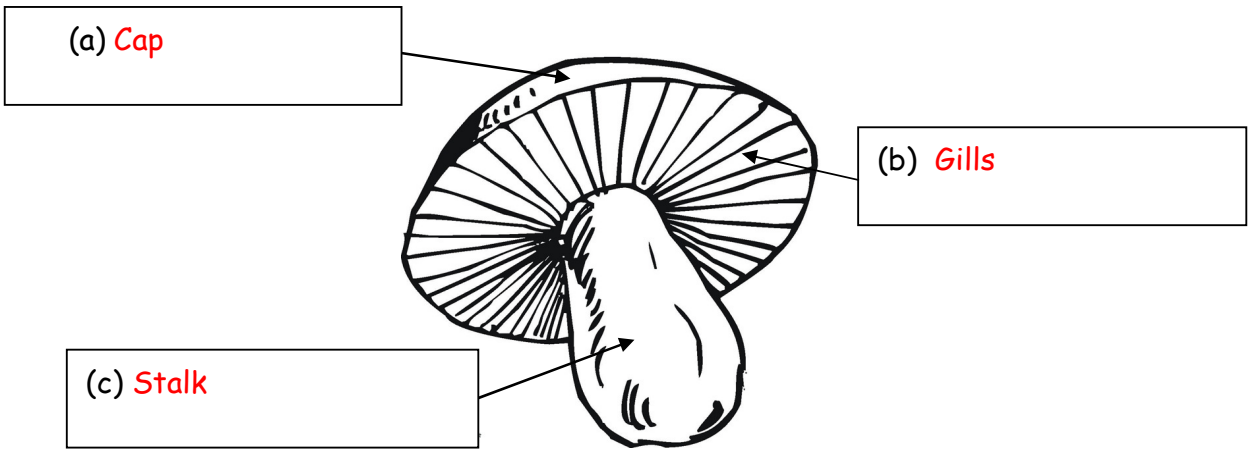
Mushrooms

1. This is a mushroom. Label the 'cap', ' stalk' and 'gills' of the mushroom by filling up the correct boxes.



2. Mushrooms and toadstools belong to the ___fungi_____ kingdom.

3. Fungi are dispersed by ___spores___ which are invisible to our naked eye. These spores may remain dormant for weeks or months. An increase in moisture, usually brought by ___rain__, will trigger their rapid blooming to life.

4. They have an important role to perform in the ecosystem – ___decomposition_____ . Without them, the ground will pile up with tons of dead leaves and branches every day. The job of the fungi is to __break__ ___down____ all of this valuable organic matter and unlock the nutrients so that they may be re-used by other living plants.

5. The edible fungi are readily consumed by a host of creatures like beetles, flies, cockroaches, snails, slugs, terrapins and monkeys.

Answer Key

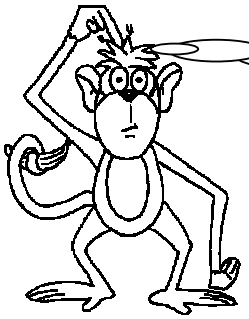
Challenges confronting biodiversity

Climate change has brought about many changes in weather. Use the helping words in the box to complete the blanks.

fires	rainfall	flooding
droughts	hotter	frequent

There have been prolonged (1) _____droughts___ that led to widespread (2) ___fires___  as well as intense (3) _____rainfall_____  in some tropical areas leading to extensive (4) _____flooding____  events. Many lives were lost and numerous people were displaced from their homes in the affected regions.

With increasing climate change, Singapore could experience (5) _hotter___ days and nights and also more (6) _____frequent_____ heavy rainfall.



When the environment of my habitat changes, will I be able to survive?

Match some of the factors affecting organisms' survival rate to the correct descriptions.

Factors	Descriptions
Resilience	How mobile is the species able to venture beyond the traditional boundaries and move to new habitats?
Habitat	How well can the species tolerate drastic changes in environmental conditions?
Reproduction	Is there an alternative water source if streams in rainforests are reduced to a trickle?
Diet	- Is breeding behaviour triggered by any particular environmental cue? - How many offspring are produced per mating? - How regular is the species known to breed?
Water	Is there sufficient shade or shelter to hide from the heat?
Mobility	What is the relative availability of food? Does the organism have a generalist or specialist diet?

Roles of Rainforests – 3 'C's

Conservation of the rainforests in Singapore is important for many reasons. Rainforests play a supporting role in combating climate change. Fill in the blanks below with suitable words.

1 Cool

A combination of tall trees, dense vegetation and multiple layers in the rainforest helps to block out _____heat_____ and ____light___ from the sun, keeping the temperature in the rainforests cool.

2 Carbon Sink

Rainforests capture large quantities of _____carbon_____ _____dioxide_____, a greenhouse gas from the environment, through the process of photosynthesis. Cumulatively, our rainforests act as significant ____carbon____ sinks, storing excess carbon quantities and only releasing them progressively with the _____decomposition_ process.

3 Catchment

The forests that surround our central reservoirs serve as a _____water_____ catchment. Numerous streams meander through these rainforests, purifying the water which eventually enters the ____reservoir___. Without the rainforests, these fragile streams cannot be sustained and will be choked with silt and run dry.

(A)Malayan Colugo's adaptation mechanisms

	Mechanism	Type of adaptation (Structural/ Behavioural?)	How this helps the species in its survival
1	It has a very large, flexible membrane that acts like a parachute.	Structural	The membrane is able to act like a parachute to help it glide a long distance so that it can escape predators easily.
2	It has fur which blends with the colour of the tree bark.	Structural	The colour of fur helps it to camouflage with the surroundings so it is not easily detected by the predators.
3	It stays motionless on the tree in the day.	Behavioural	Staying motionless on the tree helps it to avoid detection by the predators.
4	It is active at night.	Behavioural	There are fewer predators at night, so this behaviour increases its chance of survival.

B) Pangolin's adaptation mechanisms

	Mechanism	Type of adaptation (Structural/ Behavioural?)	How this helps the species in its survival
1	It has strong claws.	Structural	The strong claws help to break into ants' and termites' nests so that they can get their food easily.
2	It has a long, sticky tongue.	Structural	The long, sticky tongue helps it catch insects for food.
3	It has scales.	Structural	The scales protect the pangolin from ant bites.
4	It can roll up into a ball when threatened.	Behavioural	This behaviour protects them from the attacks by the predator.
5	It is active at night.	Behavioural	There are fewer predators at night, so this behaviour increases its chance of survival.

C) Assassin Bug's adaptation mechanisms

	Mechanism	Type of adaptation (Structural/ Behavioural?)	How this helps the species in its survival
1	It has a flexible, segmented proboscis that delivers potent toxin into the victim's body.	Structural	The toxin immobilises the victim so that the bug can devour its prey easily.
2	At the juvenile stage, certain nymphs cover themselves with debris (above).	Behavioural	This adaptation helps to camouflage the bug and aids in sneaking up on unsuspecting prey.

D) Moth's adaptation mechanisms

	Mechanism	Type of adaptation (Structural/ Behavioural?)	How this helps the species in its survival
1	It looks brown like dried leaves.	Structural	The colour helps it to camouflage in the forest so that predators will not see it.
2	It is active at night.	Behavioural	There are fewer predators at night, so this behaviour increases its chance of survival.

5 ways to combat climate change..... (Suggested ways)

- Reduce your carbon footprint.
- Plant a tree. Trees help to slow down climate change because they absorb carbon dioxide during photosynthesis. Trees also provide shade, which helps keep streets and houses cooler in the summertime and reduces the need for air conditioning. (Join GreenWave 2012)
- Spread the word. Give a presentation to your family, school, or community group that explains how their actions can cause or reduce climate change.
- Bring reusable bags when you go shopping.
- Don't leave the refrigerator door open! This lets cold air escape, making the refrigerator work harder and use more energy. Decide what you want before you open the door.
- Don't run the dryer for just a few things; dry a full load. A household dryer uses an average of 750 kWh per year, which means a lot of energy is used to dry your clothes!
- Only wash clothes when you have a full load of laundry, using cold water when possible
- Pack a waste-free lunch to school. Waste requires energy for disposal, so packing your lunch with reusable or recyclable items can help save energy and reduce greenhouse gas emissions.
- Consider buying locally grown food. The further your food travels, the more greenhouse gas emissions are produced in transporting the food from the farm to your plate.
- Turn off lights when you don't need them—when light bulbs burn out, replace them with energy-efficient bulbs.
- Do not waste water.
- Recycle.
- Encourage your parents to drive fuel-efficient cars.

5 ways to save the rainforests..... (Suggested ways)

- Teach others about the importance of the environment and how they can help save rainforests.
- Restore damaged ecosystems by planting trees on land where forests have been cut down.
- Encourage people to live in a way that doesn't hurt the environment.
- Establish parks to protect rainforests and wildlife.
- Support companies that operate in ways that minimise damage to the environment.
- Use recycled paper.