Science Starters - Life Science
Cells & Multicellular
Answer Sheet

1 – How to Complete Science Starters
Day 1: Answer C
Day 2: Answer D
Day 3: Answers will vary.

Describes only how to answer an extended response question.	Describes how to answer both extended response and multiple choice questions.	Describes only how to answer a multiple choice question.
• Answer should restate the question • It is possible to have more than one correct answer	• Answers will be written in full sentences • A student should write as much as they know in their answer.	• Student will first choose the correct answer of the ones that are listed • There is only one correct answer

Day 4: Answer B
Day 5: Answers will vary. A correct answer will restate the question, be written in complete sentences and include a thorough description of what the student thinks science is.

2 – Cell Theory
Day 1: Answer A
Day 2: Answer B
Day 3: Answer C
Day 4: Answer D
Day 5: The butterfly is alive. Answers could vary for the explanation. The butterfly is made up of cells, the water is not. The cells that make up the butterfly come from other cells, which initially came from other butterflies. The cell is the basic unit of the butterfly. The butterfly is a multicellular organism.

3 – Cell Parts
Day 1: Answer A
Day 2: Answer D
Day 3: Answer E
Day 4: Question 1 – Answer C
Question 2 – Answer B
Day 5: Answers could vary.
Cell Wall – Castle walls around island – The cell wall supports the cell and gives it some protection. Castle walls around the island would protect the island from the ocean and give the island support during storms.
Vacuole – Water tower – The vacuole stores food, water and waste. A water tower would store water for the island to use.
Chloroplast – Solar Panels – Chloroplast collects energy from sunlight to carry out photosynthesis. Solar panels would collect energy from sunlight to provide electricity to the island.

© 2013 Teachforteach.com

4– Cell Overview

Day 1: Answer C
Day 2: Answer D
Day 3: Answer A
Day 4: Answer C
Day 5: Modern Cell Theory 1. All living things are composed of cells. 2. The cell is the basic unit of life. 3. Cells come from other cells. (any order)
Single Celled Organisms – Reasons for Cell Division – Reproduction
Multicellular Organisms – Reasons for Cell Division – 1. Repair 2. Growth (any order)

5 – Cell Nucleus

Day 1: Answer C
Day 2: Answer A
Day 3: The nucleus is rarely near the cell membrane because it is a more dangerous area. If the cell is being attacked the cytoplasm between the nucleus and the cell membrane acts as a buffer from the attack.
Day 4: Answer D
Day 5: During mitosis the chromosomes replicate themselves. One set of chromosomes eventually are located in each of the daughter cells. The nuclear membrane must be dissolved because the chromosomes must be pulled apart after they replicate themselves. The chromosomes are pulled to opposite ends of the cell. The cell is then pinched off in the middle so that two daughter cells are formed.

6 – Cell Membrane

Day 1: Answer C
Day 2: Answer B
Day 3: Answer D
Day 4: Part A – The salt level in the cell would increase because there is a difference of minus .2% in the cell (compared to the outside of the cell) at the beginning of the observation.
Part A – The salt level in the cell would decrease because there is a difference of plus .1% in the cell (compared to the outside of the cell) at the beginning of the observation.
Day 5: Question 1 – Answer C
Question 2 – Cell B could absorb water through its membrane quicker than Cell A because it is larger. Since it is larger it has more surface area. The more surface area the cell has the quicker it can absorb water.

7 – Cell Reproduction

Day 1: Answer B
Day 2: Answer C
Day 3: Answer A
Day 4: The student should draw two separate cells. During the last stage of mitosis the two halves of the cell are pinched in the middle. Two new cells are formed, each with its own nucleus with genetic material inside of it.
Day 5: Part A – The genetic material is located in the nucleus.
Part B – It is important for the genetic material to replicate because this will allow each of the daughter cells (new cells) to have a full set of genetic material. Having a full set of genetic material will allow the cell to carry out any function it needs to.

© 2013 Teachforteach.com

8 – Levels of Organization (Correct answers could vary with an accurate explanation.)
Day 1: Answer D (circulatory)
Day 2: Answer B
Day 3: Answer A
Day 4: Answer C
Day 5: Giraffe – Organism – A giraffe is an entire living thing that can carry out all the functions of life. It is made up of several organ systems.
Muscle – Tissue – A muscle is made up of muscle cells, which all work together to produce movement.
Digestive – Organ System – The digestive system is made up of several organs (mouth, throat, esophagus, stomach, small intestine, large intestine…) that work together to carry out digestion.
Heart – Organ – The heart is made up of several tissues that work together to carry out a specific task. (pumping blood)

9 – Body Structures
Day 1: The bee has bilateral symmetry. Having bilateral symmetry benefits the bee by allowing it to have wings and legs on both sides of its body. This enables the bee to fly and walk. (Answers could vary.)
Day 2: The jellyfish has radial symmetry. Having radial symmetry benefits the jellyfish by allowing it to have tentacles around the whole radius of its body. This enables the jellyfish to sting predators and prey at any location around its body. (Answers could vary.)
Day 3: Answers will vary.

Similarities in Body Structure of Bees and Jelly Fish	Differences in Body Structure of Bees and Jelly Fish
• Both organisms have patterns on their body • Both organisms have stingers to fight off predators • Both organisms have a mouth to ingest food	• Bees have legs for locomotion; jellyfish have no legs • Bee has wings which allow them to fly, jellyfish have no wings • Jellyfish can move their whole body to push through the water • Jellyfish have long tentacles that can capture prey in a large area

Day 4: Answer B – The bird has long legs that allows it to stand in shallow waters. Its beak is long which allows it to probe the mud in the water for prey.
Day 5: Answer will vary.
Butterfly and Snail – Both have antenna for sensing their environment.
Duck and Frog – Both have webbed feet to allow for easier movement in water.
Catfish and Butterfly – Catfish has whiskers and butterfly have antenna to sense their environment.
Catfish and Duck – Both have patterns on their skin to blend in with their environment.
Frog, Catfish and Duck – All have bones to support their body.

© 2013 Teachforteach.com

10 – Body Tissues
Day 1: Answer D
Day 2: Answer A
Day 3: Answer B
Day 4: Answer C
Day 5:

Material	Similar To Which Body Tissue	Description of How Material and Tissue are Similar
Wet Suit That A SCUBA Diver Wears	Epithelial Tissue	The wet suit covers the body just like skin (epithelial tissue).
Duct Tape	Connective Tissue	Duct tape can hold things together just like connective tissue.
Fiber Optic Telephone Line	Nerve Tissue	Fiber optic telephone line can be used to send data (messages) just like the nerve tissue
Piston to Open An Automatic Door	Muscle Tissue	The piston is used to move something just like muscle tissue.

11 – Using a Microscope
Day 1: Answer C
Day 2: Answer C
Day 3: Answer B
Day 4: Answer A
Day 5: Objective Lenses – The objective lenses have different magnification powers. They are attached to the nose piece. The nose piece can be turned to change the magnification of the microscope.

Stage – The stage is where the slide (or specimen) is placed when it is being viewed with the microscope.

Arm – The arm connects the ocular lens to the base. When carrying the microscope one hand should be on the arm and one hand should be on the base.

Coarse Adjustment Knob – The coarse adjustment knob is the first knob that is turned to focus the image being viewed with the microscope. This knob should be turned until an image can be seen.

Fine Adjustment Knob – The fine adjustment knob is the second knob that is turned to focus the image being viewed with the microscope. The knob should be turned until the image is clearly focused.

© 2013 Teachforteach.com