

Modul+ Pro

PBD Science

YEAR
5
KSSR
Semakan

Introducing an AI chatbot
specially designed for teachers



AI Buddy Sains Tahun 5

By Penerbitan Pelangi Sdn Bhd &

Penjana RPH, nota dan praktis

RPH

Nota Pintar

Soalan Berformat
Peperiksaan

Praktis
Pemulihan dan
Praktis Pengayaan

+ Ask anything



Why AI Buddy?



... because every teacher has different PdPc needs.

AI Buddy dynamically generates lesson plans tailored to the topic, teaching duration and learning objectives. **#RPH**

... because every teacher needs different types of notes based on their pupils' needs.

AI Buddy meets these needs by generating notes in the form of mind maps, tables or easy-to-understand explanations.

#Nota Pintar

... because every teacher needs suitable exercises for their pupils.

AI Buddy generates questions based on the examination format, difficulty level and selected learning outcomes.

#Soalan Berformat Peperiksaan

... because every pupil has a different performance level.

AI Buddy generates remedial and enrichment exercises tailored to their needs.

#Praktis Pemulihan dan Praktis Pengayaan



How is AI Buddy used?



LOG IN

Log in to ePelangi+.

<https://plus.pelangibooks.com/>



CLICK

Click the AI Buddy link for this book.

** A ChatGPT account is required.*



ASK

Choose a conversation starter or type a question.



RECEIVE

Edit or use the feedback.

Writing Effective Prompts for Better Results

RPH

1. Create lesson plan for chapter *[number]*, *[number]* minutes, *[BM/DLP]*.
2. Create RPH for *[topic]*, *[number]* hours, *[low/moderate/high]* proficiency pupils.
3. Create RPH for chapter *[number]*, *[Word/PDF]* format.

Nota Pintar

1. Create key notes for chapter *[number]*, *[BM/DLP]*.
2. Generate infographic notes for *[topic]*.
3. Create notes with a quiz for *[topic]*.

Soalan Berformat Peperiksaan

1. Give interactive Section A questions for *[topic]*.
2. Create Section *[A/B/C]* questions, chapter *[number]*, *[low/moderate/high]* level.
3. Create *[number]* Section *[A/B/C]* questions, L:M:H ratio *[ratio]*.

Praktis Pemulihan dan Praktis Pengayaan

1. Give *[number]* *[remedial/enrichment]* questions for chapter *[number]*.
2. Create *[enrichment/HOTS/challenging]* exercises for *[topic]*.
3. Create *[remedial/basic]* exercises with guidance for chapter *[number]*.

Reminder:

AI Buddy is an AI-powered learning support tool. The responses provided may contain errors. You are advised to always verify the information with the textbook, teacher or reliable reference sources.



BOOK FEATURES (PRINTED VERSION)



FORMATIVE PBD PAGE

2 Textbook Page Reference

Cross-reference guide to the textbook.

Science Year 5 Unit 3 Animals

Date: _____

3.1 Survival of Animal Species

Textbook: 50 – 69

1. What is the meaning of survival of the species?

LS

The survival of an animal species is the ability for an animal to maintain their species to avoid extinction.

2. The diagram below shows two types of animals.

LS



(a) State the specific characteristics that are found on animals P and Q which protect themselves from enemies.

Animal P: Hard scales

Animal Q: Has venom

PL1

3 Learning Standard (LS)

Question indicators based on the interpretation of the DSKP.

feels threatened?

PL2

4 Performance Level (PL)

Space to assess pupils' performance level.

7. Observe the comic strip below. Fill in the blanks with the correct answers.

LS

(a) I lay my eggs at the beach. I will dig hole and lay my eggs in the hole. This is how I hide my eggs from being eaten by my enemies.



(b) I will lay a lot of eggs. My eggs are covered in slime and they smell bad too. My enemies will not want to eat my eggs.



Science

PL1

4.

LS

The diagram below shows the adverse effects of rusting. You and a friend were asked to carry out projects to prevent rusting by modifying the object below to make it safer and durable. Present your ideas and suggestions using PowerPoint or other graphical formats in front of the class.



Activity

PAK-21

PL6

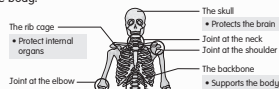
1 Graphic Notes

Concise notes for each chapter to facilitate understanding.

Graphic Notes

Human Skeletal System

The human skeleton is a system that provides support to our body and maintains the shape of the body.



Joints are the places where two or more bones meet to help body movement.

5 Mastering UASA

Integration of UASA-format questions.

6 Science Process Skills

Integration of questions that apply SPS.

4. The diagram shows the changes that occur in a plant.

(a) State two parameters that change according to time based on the diagram.

- (i) Height
- (ii) Number of leaves

PL2

(b) Give a hypothesis for your answer in 4(a)(i) and 4(a)(ii).

- (i) The longer the time, the higher the height of the plant.
- (ii) The longer the time, the higher the number of leaves on the plant.



PL2

7 Science Comic

Comic-based questions for more enjoyable learning.

8 Activity PAK-21

Activities that encourage inquiry-based learning.

9 Let's Create (PL6)

STEM-based questions to assess Performance Level 6.



Let's Create (PL6)

9. A group of students are conducting an investigation on the brightness of bulbs. They have written down their observations in the table below.

LS

6.2.3

6.2.4

6.2.5

Number of bulbs	Brightness of bulbs
1	Bright
2	Bright
3	Bright

Science

Process Skills

Mastering UASA

SUMMATIVE PBD PAGE

Mastery Practice 2

Section A

Unit 3

Animals

1. The diagram below shows an animal.



What specific characteristic does the animal have to protect itself from enemies?

- A Has scales
B Can sting
C Has sharp thorns
D Has hard shell

[LS 3.1.1 / Level L / Remembering]

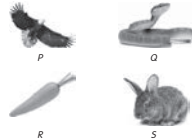
2. Which of the following is true?

Animal	Specific animal characteristic used to protect from extreme weather
A 	Has a thick skin

B 	Hibernates
C 	Migrates
D 	Has a hump

[LS 3.1.2 / Level L / Understanding]

3. The diagram below shows several living things in a habitat.



Which of the following is a food chain that can be built from the living things above?

- A $P \rightarrow Q \rightarrow R \rightarrow S$
B $S \rightarrow R \rightarrow Q \rightarrow P$
C $R \rightarrow S \rightarrow Q \rightarrow P$
D $R \rightarrow S \rightarrow P \rightarrow Q$

[LS 3.2.2 / Level M / Understanding]

© Penerbitan Pelangi Sdn. Bhd.

44

Mastery Practice

10

Topical tests that meet the item-writing standards of the Ujian Akhir Sesi Akademik (UASA).

LS 9.1.1 / Level L / Remembering

Context

Assessment topic based on the DSKP

Difficulty Level

- Low (L)
Can be answered by most pupils.
- Moderate (M)
Can be answered by some pupils.
- High (H)
Can be answered by only a few pupils.

Construct

- Remembering ► Understanding
- Applying ► Analysing
- Evaluating ► Creating
- Science Process Skills

Ujian Pertengahan Sesi Akademik (UPSA)

Score

50

Section A

[10 marks]

Answer all questions.

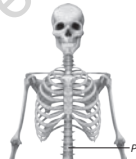
1. Which organ is responsible for gas exchange in the human respiratory system?

- A Heart
B Lungs
C Stomach
D Kidney

2. The diagram below shows the heart and lungs.



3. The diagram below shows a part of the human skeletal system.



What is the function of P?

- A Allows the movement of the chest
B Allows the movement of the head
C Protects internal organs
D Supports the body

4. The diagram below shows two

Ujian Akhir Sesi Akademik (UASA)

Score

50

Section A

[10 marks]

Answer all questions.

1. What happens during the process of exhalation?

- A Oxygen enters the lungs.
B Carbon dioxide is removed from the body.
C The heart stops pumping blood.
D Food moves into the stomach.

2. What is a joint?

- A A joint is a place where the muscle is attached to.
B A joint is a place that joins bone to muscle.
C A joint is a place that joins two or more bones.
D A joint is a place that transports oxygen and nutrients in the body.

4. The diagram below shows two types of plants.



The plants have a similar characteristic to protect themselves from their enemies. What is the similar characteristic?

- A Sharp leaves
B Sharp thorns
C Sticky latex

JSU Provided

11

Ujian Pertengahan Sesi Akademik (UPSA) / Ujian Akhir Sesi Akademik (UASA)

Complete model papers prepared according to the UASA format and the criteria of the Jadual Spesifikasi Ujian (JSU).

DIGITAL SUPPORT MATERIALS QR CODE



Info

Links to information from various sources to support pupils' understanding.



Video

Links to videos from various sources to support PdPc.



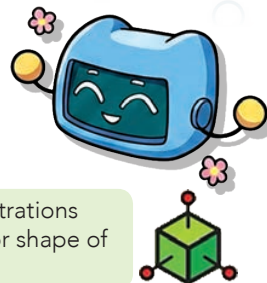
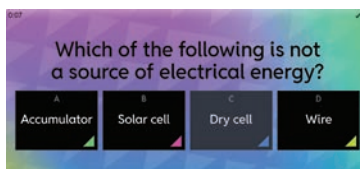
Simulation

Multimedia tools to simulate scientific processes, concepts and phenomena.



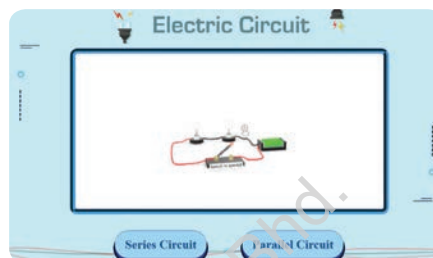
Gamified Quiz

Wordwall activities to test pupils' understanding.



3D Model

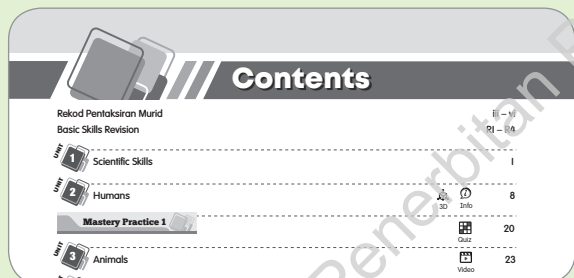
Three-dimensional illustrations showing the structure or shape of an object in science.



PREFIXES AND SUFFIXES

Contents

Contents page highlighting book sections with references to digital support materials.



Rekod Pentaksiran Murid

Table for recording pupils' performance levels.



Science Year 5

REKOD PENTAKSIRAN MURID

Teacher's name:

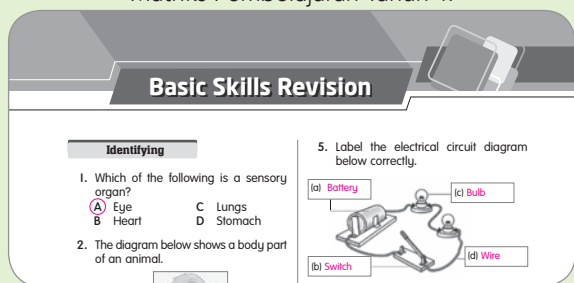
Pupil's name:

Class:

Unit	Performance Level	Descriptor	Page	Achievement	
				Achieved	Not Achieved
SCIENCE					
1 Scientific Skills	1	Recall the science process skills.	2		
	2	Describe the science process skills.	2- 6		
	3	Apply the science process skills to perform a task.	2-4, 6		
	4	Analyse the science process skills to solve problems or to perform a task.	7		

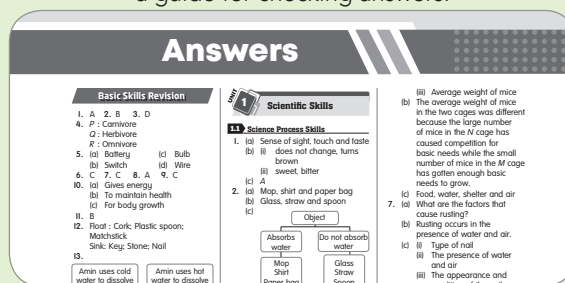
Basic Skills Revision

Intervention exercises after the Matriks Pembelajaran Tahun 4.



Answers

Complete answers for the book are provided as a guide for checking answers.



INTERACTIVE TEACHER'S EDITION (i-TE)

On the **ePelangi+** platform, teachers who have adopted the Modul Pro PBD series are given one year of exclusive access to i-TE and Extra PdPc Teaching Aid.

What is i-TE?

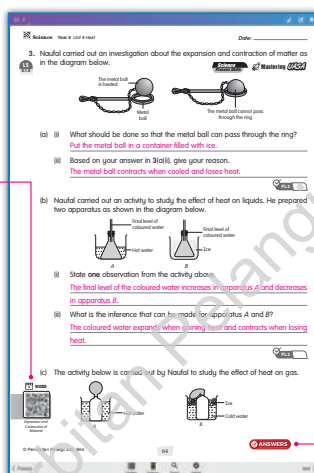
i-TE is the digital and online interactive version of the Modul Pro PBD Teacher's Edition. This version optimises the use of technology in teaching, maximises the benefits of PdPc and encourages a fun and enjoyable atmosphere in the classroom.



Sample Pages i-TE

Click **QR code** to access the materials such as Audio, Video, Simulation, 3D Model and Gamified Quiz.

Choose the page display mode (single / double page) through **Settings**.



Support tools provided:

- Pen
- Sticky Note
- Unit Converter
- Ruler
- Calculator
- Bookmark

Click the **ANSWERS** button to show or hide answers during PdPc.



ePelangi+

How do I access ePelangi+ materials?



Step 1

ACCOUNT REGISTRATION

For new ePelangi+ users, scan the QR code above or visit plus.pelangibooks.com to create a new account.

Check the registered email and click the link given to activate your account.

Step 2

ENROLMENT

LOG IN to the ePelangi+ account. Search for book titles under *Primary SK [Full Access]*.

Enter the Enrolment Key to enrol.

Please contact Pelangi Representative to get Enrolment Key.

Step 3

ACCESS DIGITAL RESOURCES

Click the material to download, edit or play it.



AI Buddy

Customisable AI chatbot tailored to teachers' PdPc needs and contexts.

AI Buddy Sains Tahun 5

Cikgu, berikut RPH DLP English yang disusun berdasarkan Unit 2: Humans, Buku Teks Sains Tahun 5 dan DSKP. Untuk tempoh 60 minit, fokus PDP dicadangkan pada 2.3 Perkaitan antara Sistem dalam Tubuh Manusia, khususnya hubungan antara sistem rangka, pernafasan, pencernaan dan peredaran darah. DSKP menetapkan SP 2.3.1-2.3.4 dan tahap penguasaan sehingga TP6 untuk komunikasi kreatif dan inovatif.

Convert chat to PDF

Edit

DAILY LESSON PLAN (RPH)

SCIENCE YEAR 5 – DLP

Item	Details
Class	5 Alpha
Number of pupils	20 pupils
Pupils' level	Moderate
Subject	Science

UASA Extra

A complete set of model papers prepared according to the UASA format.

Nama: _____

MODUL LENGKAP PBD

SAINS Tahun 5

Ujian Akhir Sesi Akademik (UASA)

Bahagian A
(10 marks)
(10 marks)

Masa: 1 jam 15 minit

Jawab semua soalan.
Answer all questions.

1. Rajah di bawah menunjukkan perbualan dua adik-beradik.
The diagram below shows the conversation of two siblings.

Hari nak hujan.

Apakah fungsi organ ini?
What is the function of this organ?

A Menghasilkan darah
Produces blood

B Mengangkut darah ke seluruh tubuh
Carries blood all over the body

e-RPH

Daily Lesson Plan in MS Word format.

DAILY LESSON PLAN

CLASS		WEEK	
THEME	Inquiry in Science	DATE	
UNIT	1.0 Scientific Skills	DAY	
TITLE	Science Process Skills	TIME	

LEARNING OBJECTIVES

At the end of the lesson, pupils will be able to:

1. Observe by using the five senses and appropriate tools, where necessary, to make qualitative observations in describing phenomena or changes that occur.
2. Measure and use numbers by using appropriate measuring instruments and standard



DIGITAL SUPPORT MATERIALS COLLECTION

Scan the QR codes to access or download the digital materials provided.

DIGITAL LEARNING SUPPORT MATERIALS

Info



Video



Simulation



3D Model



Gamified Quiz



Let's explore digital materials aligned with the Digital Education Policy!



TEACHER'S DIGITAL RESOURCES

ePelangi+

e-RPH



JSU



Please access

ePelangi+

to get the exclusive digital materials!

- AI Buddy
- i-TE
- Teacher's Edition PDF
- UASA Extra

Contents

Rekod Pentaksiran Murid

iii – vi

Basic Skills Revision

RI – R4

UNIT 1	Scientific Skills		I
UNIT 2	Humans	 	8
Mastery Practice 1			20
UNIT 3	Animals		23
UNIT 4	Plants		35
Mastery Practice 2			44
UNIT 5	Electric		52
UNIT 6	Heat		61
Mastery Practice 3			68
Ujian Pertengahan Sesi Akademik (UPSA)			75
UNIT 7	Rusting		84
UNIT 8	Matter		88
Mastery Practice 4			96
UNIT 9	Phases of the Moon and Constellation		103
UNIT 10	Machine		108
Mastery Practice 5			115
Ujian Akhir Sesi Akademik (UASA)		 JSU / UASA Extra	120

Answers

AI – A8

REKOD PENTAKSIRAN MURID

Teacher's name: Pupil's name: : Class:

Unit	Performance Level	Descriptor	Page	Achievement	
				Achieved	Not Achieved
SCIENCE					
1 Scientific Skills 1.1 Science Process Skills	1	Recall the science process skills.	2		
	2	Describe the science process skills.	2– 6		
	3	Apply the science process skills to perform a task.	2– 4, 6		
	4	Analyse the science process skills to solve problems or to perform a task.	7		
	5	Evaluate the science process skills to solve a problem or to perform a task.	7		
	6	Design an experiment to solve a problem systematically and be responsible to oneself, peers and environment.	7		
2 Humans 2.1 Human Skeletal System 2.2 Human Blood Circulatory System 2.3 Relationship between the Systems in Human Body	1	Label the main human skeleton.	9, 10		
	2	Describe the function of each main part involved in blood circulatory system.	14, 15		
	3	Sketch the pathways of human blood circulation.	15		
	4	Provide reasoning on the importance of skeletal system and blood circulatory system inhuman body.	11, 12, 16		
	5	Generate ideas on the importance of taking care of all the systems in human body.	18, 19		
	6	Communicate creatively and innovatively on the relationship between the systems in the human body.	19		
3 Animals 3.1 Survival of Animal Species 3.2 Create Animal Model	1	State the characteristics and specific behaviours of animals to ensure the survival of their species.	24		
	2	Describe the characteristics and specific behaviours of animals to ensure the survival of their species.	24, 26		
	3	Explain with examples the characteristics and specific behaviours of animals to ensure the survival of their species.	24 – 27		
	4	Build a graphic organiser on the characteristics and specific behaviours of animals to ensure the survival of species.	28, 29		

Basic Skills Revision

Identifying

- Which of the following is a sensory organ?
☒ A Eye C Lungs
☐ B Heart D Stomach
- The diagram below shows a body part of an animal.



What is the name of this body part?

- Mouth
 - ☒ Beak
 - Nose
 - Tongue
- Which of the following is a basic need of a plant?
☐ A Fertilizers
☐ B Stone
☐ C Flower pot
☒ D Sunlight
 - The diagram below shows the eating habits of a lion, a cow and a chicken.



P



Q



R

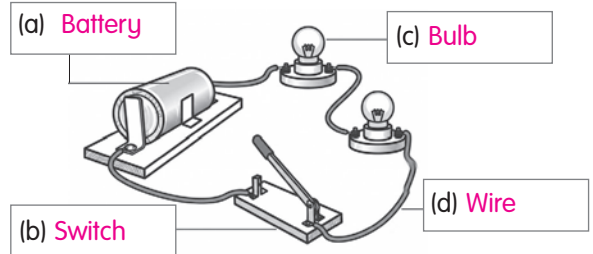
Based on the diagram above, state the eating habits.

P : **Carnivore**

Q : **Herbivore**

R : **Omnivore**

- Label the electrical circuit diagram below correctly.



Stating the Function

- The statement below is about a simple machine.

This machine can help to lift objects to the third level of building under construction.

Based on the statement above, what is the simple machine?

- Wedge
 - Lever
 - ☒ Pulley
 - Screw
- The statement below refers to a type of tooth.

Used for cutting food

What type of tooth is it?

- Milk tooth
- Canine
- ☒ Incisors
- Molar

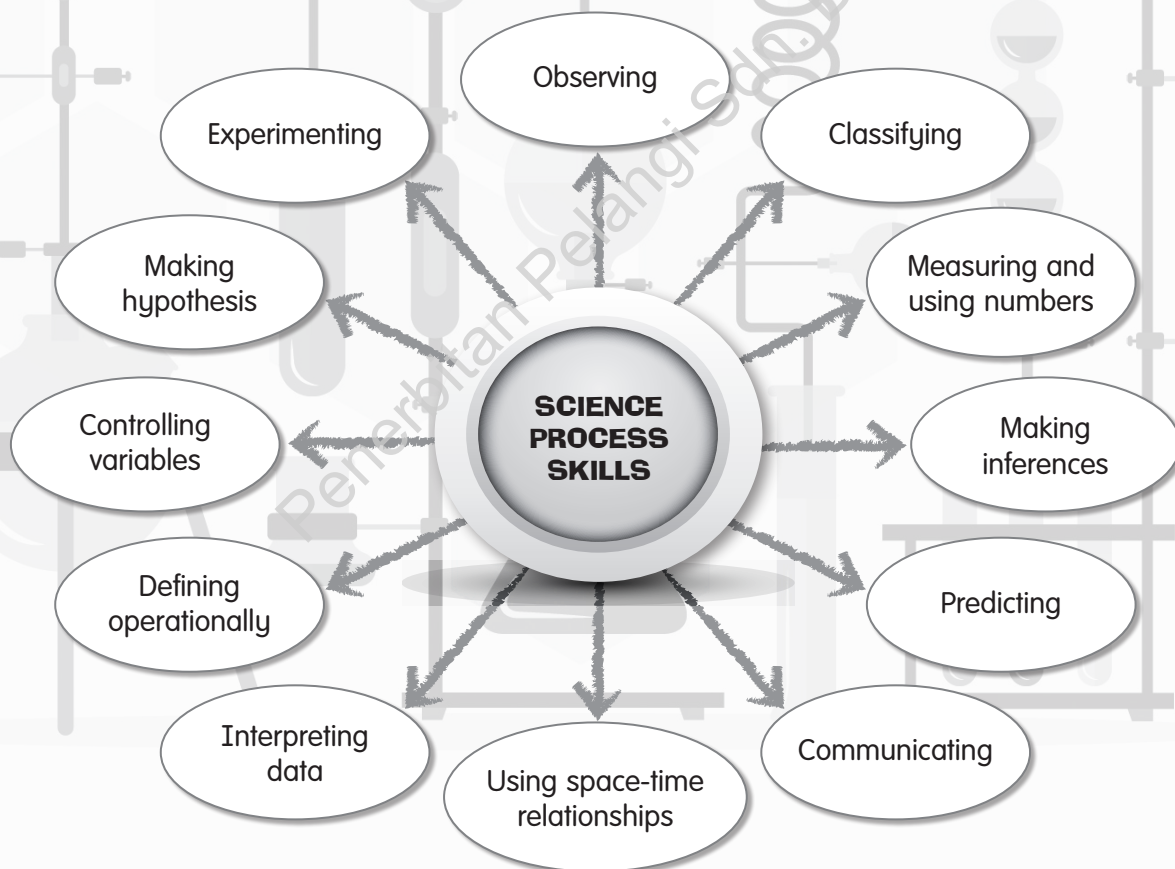
Scientific Skills



Graphic Notes



Science process skills are a set of scientific skills used to help in solving problems.

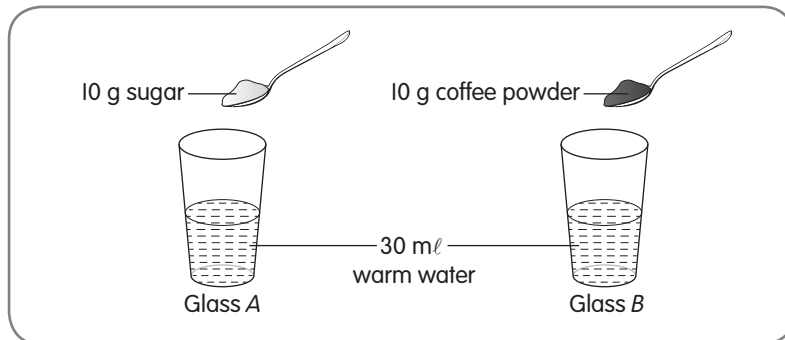


1.1 Science Process Skills

Textbook: 2 – 13

LS
1.1.1
1.1.3

- I. Atiqah carries out an investigation to observe the changes that occur to two substances, sugar and coffee powder, when added into water. She puts in 10 g sugar and 10 g coffee powder into glass A and glass B, which contain 30 ml warm water.



Science
Process Skills

- (a) State all the senses involved in making observations on the changes that have occurred.

Sense of sight, touch and taste.

✓ PL1

✓ PL2

- (b) State the qualitative changes observed in the investigation above.

(i) The colour of the water in glass A does not change whereas the colour of the water in glass B turns dark brownish black.

(ii) When tested with the tongue, the solution in glass A is sweet, while the solution in glass B is bitter.

✓ PL3

- (c) Tick (✓) the suitable tool to measure the volume of water before and after the investigation above.



✓ PL1

✓ PL2

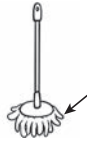
✓ PL3

2. The diagram below shows several objects that were collected by Noah.

LS
1.1.2
1.1.4

Mastering **UASA**

Science
Process Skills



Mop



Shirt



Glass



Straw



Spoon



Paper bag

(a) State the objects that absorb water.

Mop, shirt and paper bag

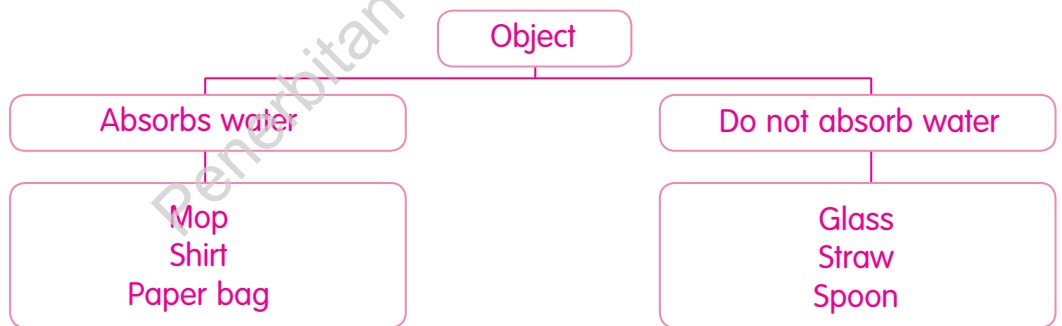
✓ PL2

(b) State the objects that do not absorb water.

Glass, straw and spoon

✓ PL2

(c) Based on your answer in 2(a) and 2(b), build a mind map to classify the objects above into objects that absorb water and objects that do not absorb water. **HOTS** Applying



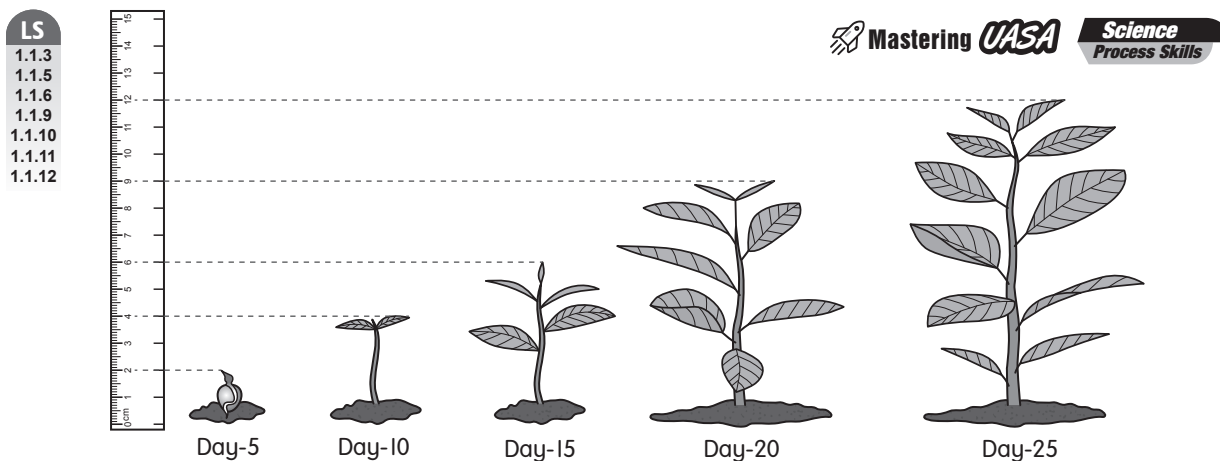
✓ PL3

(d) Which material is best used to make a raincoat? Give your inference. **HOTS** Evaluating

Plastic, because plastic does not absorb water.

✓ PL5

3. The diagram below shows an investigation to observe the growth of a young plant.



(a) State **two** responding variables in this investigation.

The number of leaves and the height of the young plant.

✓ PL2

(b) Predict the height of the plant and the number of leaves it has by day-30.

15 cm and 14 leaves

✓ PL2

(c) State the hypothesis that is being tested in this investigation.

As the number of days increases, the height of the plant and the number of leaves also increase.

✓ PL2

(d) What is the operational definition for the growth of the young plant in this investigation?

The growth of the young plant is the height and the number of leaves.

✓ PL3

(e) Record the data shown in the diagram above in a table.

Number of days	Height (cm)	Number of leaves
5	2	0
10	4	2
15	6	5
20	9	8
25	12	11

✓ PL3

LS
1.1.7
1.1.11
1.1.8

4. The diagram shows the changes that occur in a plant.

 **Mastering UASA** **Science Process Skills**

- (a) State **two** parameters that change according to time based on the diagram.

- (i) Height
- (ii) Number of leaves

 PL2 



- (b) Give a hypothesis for your answer in 4(a)(i) and 4(a)(ii).

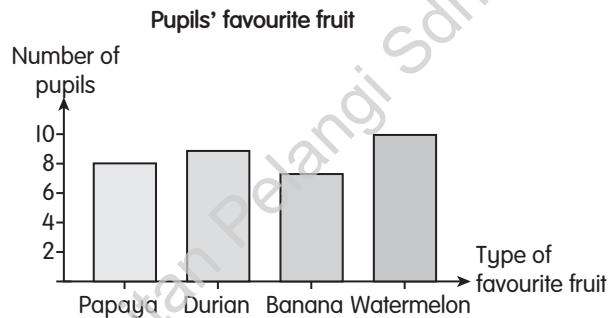
- (i) The longer the time, the higher the height of the plant.
- (ii) The longer the time, the higher the number of leaves on the plant.

 PL2 

5. The diagram below shows the results of an investigation carried out by the pupils in Year 5 Amanah.

LS
1.1.8

 **Mastering UASA** **Science Process Skills**



- (a) Based on the bar chart above, what is the most preferred fruit by the pupils?

Watermelon

 PL2 

- (b) How many pupils prefer papaya?

8 pupils

 PL2 

- (c) Which fruit is the least preferred?

Banana

 PL2 

LS
1.1.10

6. Ahmad carried out an investigation. 4 mice were placed in cage *M* and 12 mice were placed in cage *N*. The size of the cages was the same, and the number of male and female mice was the same for each cage. The mice were given the same amount of food and water daily. The weight of each mouse over three weeks was recorded in the table below. The average weight for each mouse was measured.

Mastering UASA Science Process Skills

Cage	Number of mice	Average weight
<i>M</i>	4	72 g
<i>N</i>	12	50 g

- (a) In this investigation, state the:

- (i) Manipulated variable

The number of mice in cage

- (ii) Constant variable

The size of cage, quantity of food and water

- (iii) Responding variable

Average weight of mice

✓ PL2

- (b) Why the average weight of the mice in both cages were different?

The average weight of mice in the two cages is different because the large number of mice in the *N* cage has caused competition for basic needs while the small number of mice in the *M* cage has gotten enough basic needs to grow.

✓ PL3

- (c) State the basic needs of an animal.

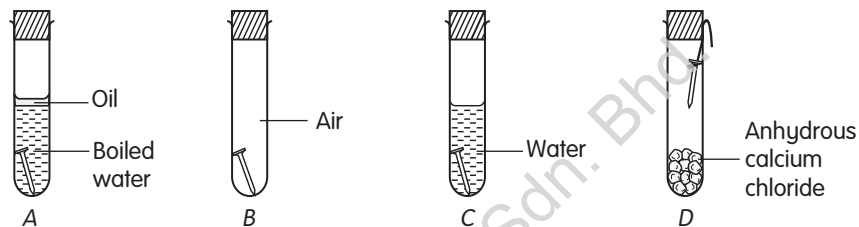
Food, water, shelter, and air

✓ PL1

LS
1.1.12Science
Process Skills

7. Plan and carry out an experiment to investigate the factors that cause rusting. Then, write a simple report in the space below.

- (a) Problem statement: What are the factors that cause rusting?
- (b) Hypothesis: Rusting occurs in the presence of water and air.
- (c) (i) Constant variable : Type of nail
 (ii) Manipulated variable : The presence of air and water
 (iii) Responding variable : The appearance and condition of the nail
- (d) Apparatus and materials: Sandpaper, test tubes, iron nail, water, oil, boiled water, cork, and anhydrous calcium chloride
- (e) Procedures:



- (i) Four iron nails are cleaned with sandpaper.
- (ii) The set up is prepared as shown above.
- (iii) The set up is put aside for one week.
- (iv) The condition of the iron nails are observed and recorded after one week.
- (f) Observations:

Test tube	A	B	C	D
Condition of nail	Not rusting	Rusting	Rusting	Not rusting

- (g) Conclusion:
The factors that cause rusting are the presence of air and water. The hypothesis is accepted.

✓ PL4

✓ PL5

✓ PL6

ACHIEVED (✓)

PL1

PL2

PL3

PL4

PL5

PL6

Mastery Practice 1

Section A

UNIT 2

Humans

1. The diagram shows a man who fell when climbing a tree.

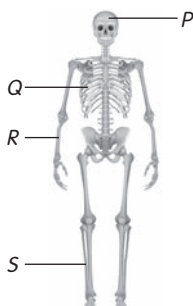


What systems in his body will be affected if he breaks his arm?

- A Digestive system and respiratory system
- B Respiratory system and excretory system
- C Respiratory system and skeletal system
- ☒ D Blood circulatory system and skeletal system

LS 2.3.1 / Level M / Understanding

2. The diagram below shows a human skeletal system.

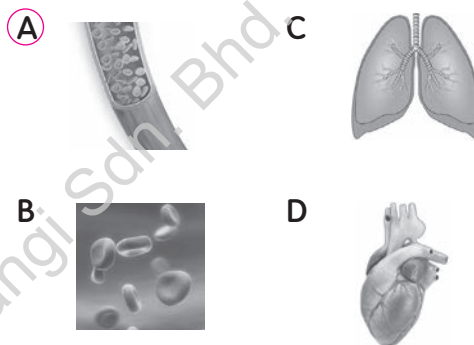


Which of the following parts functions to protect internal organs?

- A P
- ☒ B Q
- C R
- D S

LS 2.1.1 / Level L / Remembering

3. Which of the following parts functions to transport blood to the entire body?



LS 2.2.1 / Level L / Remembering

4. The diagram below shows a part of the human skeletal system.



Which of the following is its function?

- ☒ A Protects the brain
- B Protects the neck muscles
- C Protects the eyes and nose
- D Protects the facial bones

LS 2.1.1 / Level L / Remembering



Section

B

UNIT 2

Humans

- I. (a) The diagram below shows the different ways one can take care of the systems inside the human body.



P



Q



R



S

Match the human body systems below with the correct ways to take care for systems P, Q, R and S above. Two of the systems have been matched for you.

Skeletal system	Respiratory system	Blood circulatory system	Digestive system
Q	P	R	S

LS 2.3.1 / Level L / Understanding [2 marks]

- (b) Fill in the blanks with the correct word.

digestive	liver	bones	lungs
-----------	-------	-------	-------

- (i) The intake of food rich in calcium can strengthen bones. [1 mark]
(ii) Drinking enough water can help your digestive system. [1 mark]

LS 2.3.2 / Level L / Remembering

Section

C

UNIT
2

Humans

1. A study was carried out by a group of pupils to investigate the effects of different physical activities on the number of heartbeats per minute. The table below shows the heart rate for different activities over a period of one minute.

Type of activity	Number of heartbeats per minute
Resting	70
Walking slowly	90
Running	140

- (a) The number of heartbeats per minute depends on the type of activity performed by a person.

State **one** hypothesis based on the statement above.

The more vigorous the type of activity performed by a person, the higher the number of heartbeats per minute.

LS 2.3.1 / Level M / Making Hypothesis [2 marks]

- (b) State:

- (i) manipulated variable:

Type of activity performed

- (ii) responding variable:

Heart rate

LS 2.3.1 / Level M / Controlling Variables [2 marks]

- (c) What conclusion can be made based on the function of the heart in the human circulatory system?

The heart pumps blood throughout the body to supply oxygen and nutrients to all body cells.

LS 2.3.1 / Level M / Experimenting [2 marks]

**GAMIFIED
QUIZ**



Unit 1 – 2

Ujian Pertengahan Sesi Akademik (UPSA)

Score

50

Section A

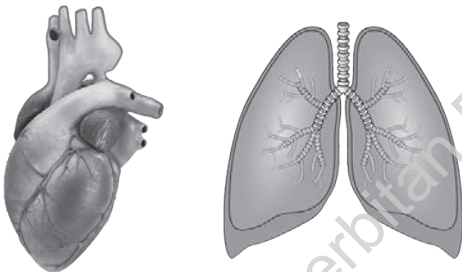
[10 marks]

Answer all questions

1. Which organ is responsible for gas exchange in the human respiratory system?

A Heart
☒ B Lungs
 C Stomach
 D Kidney

2. The diagram below shows the heart and lungs.



Which of the following bones can protect both organs?

A Skull
☒ B Rib
 C Hand bone
 D Backbone

3. The diagram below shows a part of the human skeletal system.



What is the function of P?

A Allows the movement of the chest
 B Allows the movement of the head
 C Protects internal organs
☒ D Supports the body

4. The diagram below shows two animals.



How do these two animals protect their eggs?

A By laying eggs in a nest
 B By incubating the eggs
 C By bringing the eggs with them
☒ D By burying their eggs in the ground

Ujian Akhir Sesi Akademik (UASA)

Score

50

Section A

[10 marks]

Answer **all** questions.

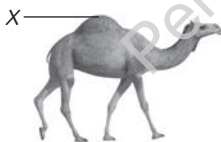
1. What happens during the process of exhalation?

- A Oxygen enters the lungs.
- ☒ B Carbon dioxide is removed from the body.
- C The heart stops pumping blood.
- D Food moves into the stomach.

2. What is a joint?

- A A joint is a place where the muscle is attached to.
- B A joint is a place that joins bone to muscle.
- ☒ C A joint is a place that joins two or more bones.
- D A joint is a place that transports oxygen and nutrients in the body.

3. The diagram below shows an animal.



What is the use of the body part labelled X?

- A To cool down its body
- B To prevent infections
- C To scare away other animals
- ☒ D To store fat

4. The diagram below shows two types of plants.



The plants have a similar characteristic to protect themselves from their enemies. What is the similar characteristic?

- A Sharp leaves
- B Sharp thorns
- C Sticky latex
- ☒ D Fine hairs

5. Why is the metal cap on a glass bottle easier to open after being soaked in hot water?

- A The metal contracts when heated.
- ☒ B The metal expands when heated.
- C The glass expands more than the metal.
- D The hot water removes the bottle cap.

Answers

Basic Skills Revision

1. A 2. B 3. D
4. P : Carnivore
Q : Herbivore
R : Omnivore
5. (a) Battery (c) Bulb
(b) Switch (d) Wire
6. C 7. C 8. A 9. C
10. (a) Gives energy
(b) To maintain health
(c) For body growth
11. B
12. Float : Cork; Plastic spoon;
Matchstick
Sink: Key; Stone; Nail
13.

Amin uses cold water to dissolve sugar.

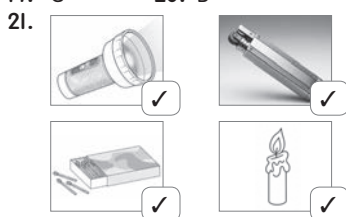
Amin uses hot water to dissolve sugar.

Dissolves quickly

Dissolved slowly

Amin does not stir the sugar mixture.

Amin stirs the sugar mixture.
14. B
15. (a) The flower plant will grow healthily.
(d) The flower plant gets sufficient air.
(e) The flower plant will not wilt because it gets sufficient water.
16. (a) Object Z (c) Z, Y, X
(b) Object X
17. B
18. (a) Plant Q grew healthily and plant P wilted.
(b) Plant Q grew healthily because it was watered every day, whereas plant P wilted because it was not watered.
19. C 20. B



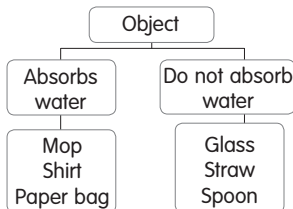
22. Nose; Tongue



Scientific Skills

1.1 Science Process Skills

1. (a) Sense of sight, touch and taste
(b) (i) does not change, turns brown
(ii) sweet, bitter
(c) A
2. (a) Mop, shirt and paper bag
(b) Glass, straw and spoon
(c)



- (d) Plastic, because plastic does not absorb water.
3. (a) The number of leaves and the height of the young plant.
(b) 15 cm and 16 leaves
(c) The higher the number of days, the taller the plant is and the more the number of leaves it has.
(d) The growth of the young plant is the height and the number of leaves.
(e)

Number of days	Height (cm)	Number of leaves
5	2	0
10	4	2
15	6	5
20	9	8
25	12	11

4. (a) (i) Height
(ii) Number of leaves
(b) (i) The longer the time, the higher the height of the plant.
(ii) The longer the time, the higher the number of leaves on the plant.
5. (a) Watermelon
(b) 8 pupils
(c) Banana
6. (a) (i) The number of mice in the cage
(ii) The size of a cage, quantity of food and water

- (iii) Average weight of mice
- (b) The average weight of mice in the two cages was different because the large number of mice in the N cage has caused competition for basic needs while the small number of mice in the M cage has gotten enough basic needs to grow.
- (c) Food, water, shelter and air
7. (a) What are the factors that cause rusting?
(b) Rusting occurs in the presence of water and air.
(c) (i) Type of nail
(ii) The presence of water and air
(iii) The appearance and condition of the nail
(d) Sandpaper, test tubes, iron nail, water, oil, boiled water, cork, and anhydrous calcium chloride
(e) (i) Four nails are cleaned with sandpaper.
(ii) The set up is prepared as shown above.
(iii) The set up is put aside for one week.
(iv) The condition of the nails are observed and recorded after one week.
(f) A: No rusting
B: Rusting
C: Rusting
D: No rusting
(g) The factors that cause rusting are air and water. The hypothesis is accepted.



Humans

2.1 Humans Skeleton System

- I. (a) Skull – Protect the brain
(b) The backbone – support the body
(c) Leg bone – Support and movement
(d) The rib cage – Protect the internal organ
(e) Hand bone – Support and movement