

Performance and reviews

Science

Primary Five









First Term

nezakr.natega4dk.net

Introduction

The Ministry of Education and Technical Education recognizes the importance of empowering teachers with effective tools that elevate classroom performance, enhance the quality of education, and improve its outcomes. This is a real response to the voices of teachers, interacting with the feedback channels from the educational field, and meeting the needs of teachers for flexible and comprehensive educational tools that assist them in fulfilling their noble educational mission. This book has been designed to serve as an integrated educational support for teachers, helping them in planning and executing their teaching tasks efficiently. It also facilitates continuous assessment processes.

The content has been designed to offer diverse models of effective classroom performance and educational activities created based on an interactive methodology that enhances active learning. It contributes to a qualitative shift in teaching practices, clearly focusing on the student as the core of the educational process.

The book includes formative and diagnostic questions, as well as purposeful learning tasks that students can complete as homework, enhancing the integration of learning inside and outside the classroom and contributing to the sustainable construction of learning for students. These tools help develop critical and creative thinking, deepen understanding, and support and enhance student motivation, giving them a sense of achievement and excellence.

It also includes short weekly tests and periodic assessments, allowing teachers to measure the extent of learning outcomes and address learning gaps early, providing feedback on the initial results. The performances at the end of each month are concluded with immediate training sessions that help improve student performance. These assessments are gradual, taking into account individual differences and targeting various levels of cognitive development, within a framework of diversity, depth, and integration, preparing students for monthly tests efficiently. This book is a true translation of the Ministry's directions to ease the burdens on parents, provide supporting educational content that enriches the classroom environment, and allow teachers more time for educational innovation and productive interaction with their students. It also forms an effective tool in supporting the Ministry's direction to enhance learning outcomes, achieving a real transformation in the learning environment - from memorization to understanding, from rote learning to application, and from passive reception to active participation. When we place this work in the hands of teachers and students, we hope it will be a valuable contribution to improving academic performance, enhancing the quality of education, and becoming an additional cornerstone in building a generation that is aware and knowledgeable, equipped with the skills and competencies needed for success in a world that demands creativity and innovation. It aims to have a tangible impact in realizing an ambitious educational vision for the future of education in our beloved country.

Allah is the one sought for help, and He guides to the right path...

nezakr.natega4dk.net

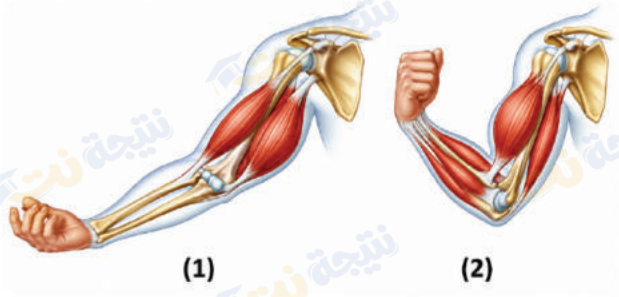
Chapter One Bones and Muscles

1-1 Bones and Muscles

Week ..... Date .....

Classroom Performance

• Exploring the mechanism of muscle work (Contraction and Relaxation)



(1) (2)

1. Observe and complete:

a. when stretching the arm (figure 1): the inner muscle ..... (relaxed / contracted), and its length become ..... (longer / shorter).

b. When bending the arm toward the shoulder (Position 2): the inner muscle becomes ..... (harder and bulges / less hard).

2. Observe the figure and answer: What muscles are used to perform each of the following activities:



(1)



(2)



(3)



(4)

nezakr.natega4dk.net

(1) Kicking the ball: .....

(2) Walking: .....

(3) Drinking a glass of water:.....

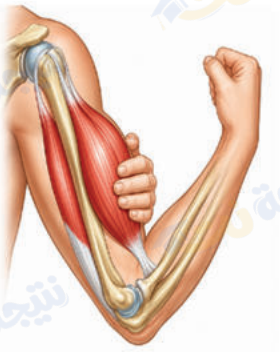
(4) Climbing stairs:.....

Homework Performance

- **Compare in the following table between the state of the muscle during «contraction» and its state during «relaxation»:**

Point of comparison	During Contraction	During Relaxation
Muscle state		

- **Look at the figure opposite, answer the following questions:**



1. What does the figure show when placing the hand on the upper front parts of the arm?

   .....

2. What are the hard parts of the body that the muscles pull shown in the figure to allow us to walk, run, and write?

   .....

3. How do muscles work together to move bones at the joints?

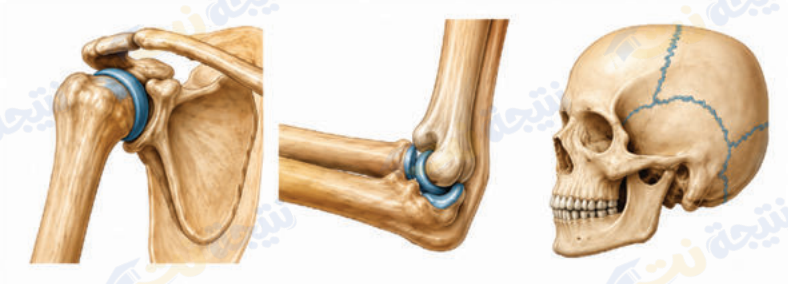
   .....

1-2 Structure of Bone

Week ..... Date .....

Classroom Performance

- **Observe and Answer**



nezakr.natega4dk.net

1. Look at the explanatory drawing of some joints in the human body; identify by name each of the following:

a. A joint that moves in one direction only: .....

b. A joint that moves in a circular motion in all directions: .....

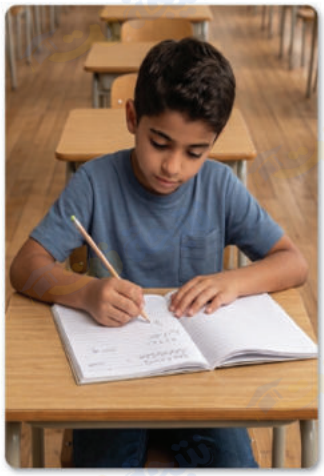
- **Moving Comparison Table**

Move your arm and leg, then complete the following table to classify the following joints into (Freely movable / Limited movable): (Shoulder joint - Elbow joint - Knee joint - Skull joint).

Freely movable	Limited movable

- **Search for Joints in My Body**





By tracking the child's movements in the images, state the name of each of the following:

a. A very small joint used by the child to hold the pen when he write his observations .....

b. The joint he used when bending at the waist .....

nezakr.natega4dk.net

Homework Performance

1. Answer the following:

What are the main functions of bones in the human body, and how are they connected?

.....

2. What happens if:

Cartilage between the knee bones of a person completely wears away due to a certain disease? How will this affect their daily life?

.....

3. Mention the function of each of the following:

a. The joint: .....

b. The cartilage: .....

4. Write the scientific term for:

a. A structure that protects bones from erosion. (.....)

b. The site where two or more bones meet. (.....)

1-3 Whole Body Skeleton

Week ..... Date .....

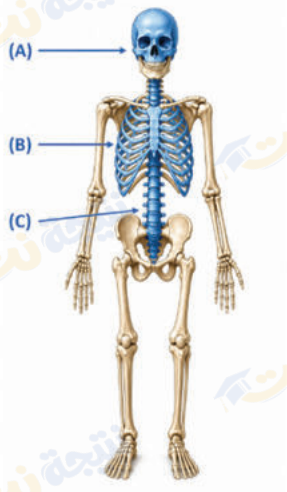
Classroom Performance

- **Skeletal System**

1. Bend forward then raise your arms up; follow the movement of your backbone and deduce the importance of this skeleton.

Conclusion: .....

.....



2. Observe the image then answer the following:

(A) ..... its function.....

(B) ..... its function .....

(C) ..... its function.....

nezakr.natega4dk.net

3. Extract from the image of the skeletal system a structural diagram showing how small bones in the backbone connect to allow the body to bend, and draw it in the following chart:

Homework Performance

1. State three of the most important functions that the skeletal system provides to the human body.

.....

2. Explain the support provided by each of: (The skull - The ribs) in protecting the body.

.....

3. What is the function of the vertebral column in human body?

.....

.....

1- 4 Animal Bodies

Week ..... Date .....

Classroom Performance

- **A Skeleton Protects Me and Supports Me**

1. Observe the «Animal Skeletons» in the following image:

a. Do the skeletons of all these animals are similar?

.....

b. which parts help them to move and protect their internal organs?

.....



nezakr.natega4dk.net

• The Mystery of Similar Skeletons



1. Consider the figure; if humans and dogs have similar bony parts, why is our movement different from theirs?

   .....

2. Some animals have a backbone and a skeleton similar to humans; in your opinion, does this similarity mean we can make the same motor activities?

   .....

3. Is the presence of bones alone enough for us to stand or run? What is missing from these skeletons in the picture to be abl to move?

   .....

Homework Performance

• Answer the following:

1. Imagine if the human body has no joints, how would our ability to perform daily tasks be affected?

.....

.....

2. Compare between each of:

a. A dog's limbs and rabbit limbs in terms of structure and function.

Comparison points	Dog Limbs	Rabbit Limbs
Structure		
Function		

nezakr.natega4dk.net

b. The role of bones and the role of muscles in completing movement.

Point of Comparison	Bones	Muscles
Role in Completing Movement		

c. The elbow joint in human and the leg joint in dog (in terms of their method of working in facilitating movement).

Point of Comparison	Human's elbow joint	Dog's leg joint
Method of Work in Facilitating Movement		

.....

Weekly Assessment Week .....

Test (1)

1. **Complete:** When the muscle connected to the bone contracts, it becomes .....
2. **Write the scientific term for the following sentence:** Bone that form a cage which protect the heart and the lungs. (.....)
3. **Give a reason:** The presence of cartilage between joints is essential.
.....
4. **What happens if there were no bones in humans body?**
.....
5. **Correct the following sentence:** Muscles work by pushing bones.
.....

Test (2)

1. **Complete:** Skull bones protect .....
2. **What the following sentence indicates::** A soft, flexible cushion found at the ends of bones to reduce friction and protect them from wear and tear.
(.....)
3. **Give reason:** Rabbit needs a strong long hind limb.
.....
4. **What would happen if:** muscles disappeared from the human body?
.....
5. **Correct the following sentence:** The shoulder joint can bend in one direction only.
.....

nezakr.natega4dk.net

Test (3)

1. **Complete:** The bones of the rib cage protect two vital organs within ....., ...

2. **What the following sentence indicates:** The state in which the muscle becomes short, thick, and hard to pull the bones. (.....)

3. **Give a reason:** The backbone consists of small connected bones rather than a single long bone.
.....

4. **What happens if:** The muscle attached to the bones relaxes are no longer able to contract?
.....

5. **Correct the following sentence:** There is a joint between the bones to act as a smooth cushion that restricts movement and prevents wear.
.....

nezakr.natega4dk.net

Chapter Two Changes in the Seasons

2-1 Changes over a Year

Week ..... Date .....

Classroom Performance

• **Journey of a Luffa Plant Across Seasons**

First Station: Accuracy of observation (Use pictures)



Study the figure carefully of the Luffa plant growth stages, then answer:

• **Numbers Mystery: In the figure, there are six numbered stages:**

a. Which number represents the stage where « seeds» begin to form inside the fruit?
Stage number (.....)

b. Color Mystery: Looking at the image; why does the color of the Luffa fruit change from bright green to pale brown?

.....

Second Station: Scientific Mystery (Guess Who am I?)

Mystery 1: «I am small, dark in color, hide inside the dry Luffa fruit, and wait for warmth and water to begin a new journey of life…. So who am I?» (.....)

Mystery 2: «I am a yellow, beautiful part of the luffa plant that appears after the wide leaves grow, and my role is to prepare the appearance of fruits... Who am I? (.....)

nezakr.natega4dk.net

Mystery 3: «I am the process of growth and changes in the appearance throughout seasons of the yar by the plant Who am I?» (.....)

Third Station: (Be a Young Scientist)

Based on what you read in the figure under the title **«How does Weather Affects Plants»:**

A. Smart Prediction:

If we plant luffa seeds at very cold winter instead of warm weather, are the seeds sprout immediately? And why?

.....

Fourth Station: «Arrange My Life cycle» Game

magine that the stages of the plant luffa life cycle are scattered, rearrange them by putting numbers from (1 to 5):

( ) Appearance of yellow flowers then formation of the fruit..

( ) Planting seeds in warm weather.

( ) Drying of the fruit and formation of fibers and new seeds.

( ) Germination of the seed and appearance of a small plant.

( ) Growth of climbing stems and wide leaves.

Fifth Station: Comparison Challenge (Home Activity)

Use the following table. Choose another plant present in your home or garden (such as tomatoes or basil) then compare it with Luffa plants.

Point of Comparison	Luffa Plant	..... Plant
Start of the life cycle		
When flowers appear		
Shape of the ripe fruit		

nezakr.natega4dk.net

Homework Performance

- **Answer the following:**

1. **«If the leaves are welt and bcomes brown doesn't mans that story is end»** Explain this statement in light of what you learned about seeds.

.....

2. Explain the stages of the life cycle of the luffa plant, starting from the seed until the formation of new seeds.

.....

.....

3. Describe the changes that occur in the shape and color of the luffa fruit from the beginning of its formation until it becomes ready to extract fibers from it.

.....

.....

4. If we plant Luffa seeds in the very cold winter season, what are the expectations for their growth? And how will that affect its life cycle?

.....

2-2 Animals and Temperature

Week ..... Date .....

Classroom Performance

- **«Adaptation Challenge»**



1. «Why do birds migrate to Egypt in winter?»

.....

nezakr.natega4dk.net

2. Imagine and Predict: If the climate changes in Egypt and the winter season became extremely cold, how would that affect the timing of migration of birds like «flammingos and ducks» that migrate to Egypt in winter?

.....

Homework Performance

• Answer the following:

1. Describe the relationship between temperature and the activity of animals (such as lizards) in the summer and winter seasons.

.....

2. Clarify the concept of «Hibernation» in some animals like snakes and frogs, and what is the main aim of this behavior?

.....

3. Compare between the adaptations of living organisms to the temperature:

Point of Comparison	Luffa Plant (in Winter)	Lizards (in Winter)	Birds (in Winter)
State / Behavior			
Purpose of the Behavior	Survival of seeds for the next year	Energy conservation	Searching for food and reproduction

.....

Weekly Assessment Week .....

Test (1)

1. **Complete:** Some animals enter the ..... state, to conserve their energy in cold weather.

2. **What the following sentence indicates:** The set of stages that the plant goes through during a complete year, affected by the change of seasons and temperature to ensure its survival. (.....)

3. **Give a reason:** Luffa plants wilt at the end of the growing season.

.....

nezakr.natega4dk.net

4. **What happens if:** Shadows and rock cracks disappear from the desert environment in the summer season?

.....

5. **Correct the following sentence:** Plants die completely in the winter season and leave no trace of life for the next year.

.....

Test (2)

1. **Complete:** The luffa plant does not die completely in winter, but leaves ..... inside the fruit to ensure the survival of its life in the next year.

2. **What the following sentence indicates:** The main factor in the different seasons of the year that changes the appearance of plants and the activities of animals (such as lizards and frogs). (.....)

3. **Give a reason:** Some animals, like lizards, remain dormant in rock cracks or under the soil during the winter season.

4. **What happens if:** The temperature in the environment surrounding the tomato plant decreases.

.....

.....

5. **Correct the following sentence:** Summer plants need very low temperatures to start germination and growth.

.....

Test (3)

1. **Complete:** the process by which plants grow and change throughout the year according to seasonal changes is known as .....

2. **What following sentence indicates:** A period of time spent by animals in complete dormancy to conserve energy during winter. (.....)

3. **Give a reason:** Plants start to bud and grow rapidly at the beginning of the spring and summer seasons.

.....

nezakr.natega4dk.net

4. **What happens if:** Migratory birds faced extreme winter in their original regions?

.....

5. **Correct the following sentence:** In the winter, plants begin to wilt, but they make flowers at the next generation.

.....

.....

nezakr.natega4dk.net

3

Chapter Three

Conditions of Germination

3-1 Inside the Seed

Week ..... Date .....

Classroom Performance

• Observe and Discover



a. Look closely at the opposite figure that shows « Inside the Seed « while examining it with a magnifying glass:

b. Here is a kidney bean seed split in half, showing a tiny growth in the middle and two cotyledons. Based on your reading and observation of the figure, answer the following:

1. What is the name of the miniature structure that resembles a very small plantlet inside the seed and waits for appropriate conditions to be able to grow? (.....)
2. Think and discuss with your classmate: The two cotyledons make up most of the seed›s size. What is the magical function that the cotyledons provide for this small organism in its early days and before green leaves appear?
3. Function of the two cotyledons:

.....

• Chemical Colors Mystery:

«I am a chemical solution with a distinct color, if drops of me are placed on a non-germinated bean seed, my color suddenly turns to dark blue to prove to scientists the presence of starch, whereas if you place me on a germinated seed for several days, I do not find this color clearly!»

1. So, who am I? (.....)
2. Think and discuss: Where did the stored food in the cotyledon go in the case of the germinated seed for several days?

Reason: .....

.....

nezakr.natega4dk.net

Homework Performance

• Answer the following:

1. Give a reason why the «two cotyledons» are considered the most important part of the bean seed in its early growth stages?

.....

.....

2. Describe the scientific steps you follow to make sure starch substance exists in plant seeds.

.....

.....

3. Imagine that you tested a seed using iodine solution and the color did not change to dark blue, what is your conclusion?

.....

.....

4. Compare between:

Seed contents (Embryo and Cotyledon) in terms of function.

Point of comparison	Embryo	Cotyledon
Function		

3-2 Water and Germination

Week ..... Date .....

Classroom Performance

• Comparison Under Identical Conditions

1) Before you are a laboratory experiment in which seeds were placed in two cups: Cup (A) contains moist cotton, and Cup (B) contains completely dry cotton, and they were placed in warm room conditions and exposed to dry air.



1. Identify the only condition to change in this experiment: (.....)

nezakr.natega4dk.net

2. Identify the conditions to keep the same to ensure the accuracy of the experiment. (.....)

3. What is the expected result after a few days?

- Cup (A): (Germinates / Does not germinate)

- Cup (B): (Germinates / Does not germinate)

2) Classify the following components into (An essential condition for starting germination) and (Nutritive elements stored inside the seed): [Starch - Appropriate temperature].

1. Essential condition for germination: .....

2. Nutritive element inside the seed: .....

• «Who Am I?» (Scientific Puzzle - Seed Structure and Germination Conditions)

1. «I am a tough outer coat, I protect what is inside me of an embryo, and if you drop me in water, it is easy to strip me, so who am I?» (.....)

2. «We are two parts representing the largest part in a bean seed, and we work as a food store until leaves capable of making food by themselves are formed, so who are we?» (.....)

3. «I am a very small part that grows inside the seed when appropriate conditions are available to become a new plant, so who am I?» (.....)

4. «I am a stored nutrient substance inside the two cotyledons, and if drops of iodine solution are placed on me, I turn into dark blue, so who am I?» (.....)

Homework Performance

1. What is your scientific explanation?

a. Why do kidney bean seeds successfully germinate inside moist cotton in their first few days without the need for agricultural soil?

.....

b. What happens to the experiment›s results if we change two factors at the same time?

.....

2. If you performed a seed germination experiment in a warm place, but you forgot to water it with water, predict what will happen to the seed after 5 days with mention of the reason.

.....

.....

.....

nezakr.natega4dk.net

3. Mention a condition for seed germination you have studied, and clarify its importance.

.....

.....

4. Explain the effect of drought on plants and germination.

.....

.....

Weekly Assessment Week .....

Test (1)

1. **Complete:** The part responsible for storing food (starch) inside the kidney bean seed consists of .....

2. **Write the scientific term for the following sentence:** The process of the small plant emerging from the seed and the starting of its grow. (.....)

3. **Give a reason:** Iodine solution is considered important in seed experiments.

.....

4. **What happens:** when bean seeds are placed in a completely dry environment (without water)?

.....

5. **Correct the following sentence:** The color of starch changes to bright red when adding a few drops of iodine solution.

.....

Test (2)

1. **Complete:** When examining the seed, the part that later grows to form roots and stem is called .....

2. **Write the scientific term for the following sentence:** The parts that make up most of the seed›s size and store starch. (.....)

3. **Give a reason:** The necessity of keeping all factors constant (such as temperature and light) when studying the effect of water on germination.

.....

4. **What happens if:** We placed drops of iodine solution on a green plant leaf containing starch?

.....

nezakr.natega4dk.net

5. **Correct the following sentence:** The germination process does not require the presence of water.

.....

Test (3)

1. **Complete:** The color of iodine solution changes to ..... in the presence of starch.

2. **Write the scientific term for the following sentence:** A miniature structure resembling a very small plant inside the seed. (.....)

3. **Give a reason:** The importance of soaking the seed in water before dissecting it.

.....

4. **What happens if:** We change more than one factor (like water and temperature together) in a single experiment?

.....

5. **Correct the following sentence:** The embryo inside the seed consists of the cotyledon only.

.....

3-3 Air and Germination

Week ..... Date .....

Classroom Performance

- **«Submerged Simulation»**

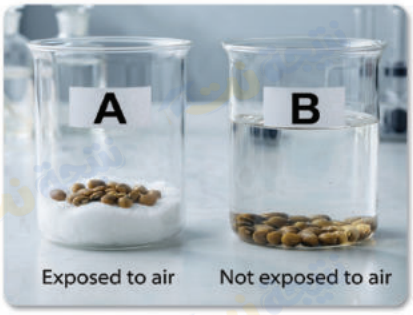
a. Place seeds in two beakers (A) and (B). Beaker (A) contains moist cotton.

b. Beaker (B) is filled completely with water.

- **Predict the results:**

.....

.....



nezakr.natega4dk.net

Homework Performance

- **Answer the following:**

a. Can seeds to germinate in space? (Assuming the presence of water and appropriate temperature, but with the absence of air).

.....

b. Compare between: Seeds exposed to air and seeds submerged in water: in terms of ability to germinate - the reason?

.....

Point of comparison	Seeds Exposed to Air	Seeds Submerged in Water
Ability to Germinate		
Reason		

3- 4 Temperature and Germination

Week ..... Date .....

Classroom Performance

- **Observe and Experiment:**

Observe the following figures then answer:



There are three cups for seed germination:

- **Cup (1):** Contains moist cotton and placed in the refrigerator (very cold temperature).
- **Cup (2):** Seeds are completely immersed in water and placed in a warm place.

nezakr.natega4dk.net

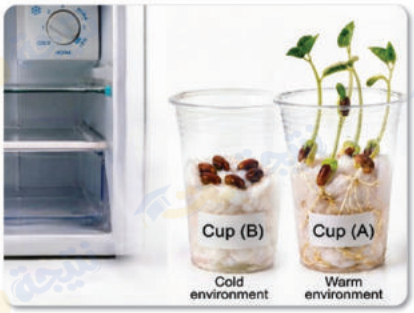
• **Cup (3):** Has wet cotton, placed in a warm place, and exposed to air.

a. Which of the previous cups will provide all basic conditions for the germination process? And why?

b. Cup number: (.....) because it provides: .....

c. What does cup number (1) lack? (.....)

• Observe and Conclude:



1. Here is a drawing showing an experiment of bean of germination kidney bean seeds in two different environments: Environment (A) wet cotton in a warm place, and Environment (B) dry cotton in a cold place.

2. Look at the picture: In which of the two environments did the seeds germinate successfully after a few days?
- Environment (.....)

3. Think and discuss: What is the main factor that was absent from the other environment and caused the non-germination of seeds? What does this factor represent to the seed?

- The missing factor: .....

- Represents the seed: .....

Homework Performance

• Answer the following:

1. Briefly explain: How can we prove that seeds need an appropriate temperature (warmth) for germination using two similar setups?

.....

.....

2. **Compare between each of:** Seeds in a warm environment and seeds in the refrigerator: How does temperature affect the speed of germination?

Point of comparison	Seeds in a warm environment	seeds in the refrigerator
The effect of temperature on germination		

nezakr.natega4dk.net

3. Clarify the effect of the factors you studied on germination and plant growth.
.....
.....

4. **Study the statement carefully then Think and Answer:** There are factors among those studied for germination that you found unnecessary.
.....

Monthly Exercise (1)

- **Complete the following sentences:**

1. Muscles in the body usually work in pairs; where one muscle contracts and another muscle relaxes to .....
2. The skeleton of an adult human consists of about ..... bones.
3. Joints work on connect bones together and allow ..... the body in an organized and safe manner.
4. Bones in joints are covered with ....., which is a smooth substance that reduces friction and protects bones from wear and tear.
5. For seeds to germinate, they need three basic conditions: water, air, and ....
6. When placing seeds in the refrigerator, they do not germinate because the temperature is ..... very much.
7. In the summer, the temperature is high, which helps the seeds of some plants to begin to .....»**
8. The process in which the seed begins to grow and exits from the dormancy state is called ..... process.
9. The seed relies at the beginning of its life on food ..... inside it for growth.
10. The seed's needs in the germination stage differ from the adult plant›s needs, as the seed does not need ..... to carry out photosynthesis process.

- **Write the Scientific Term:**

1. A process that occurs when a muscle contracts to become shorter and harder to pull the attached bone. (.....)
2. The meeting place of two or more bones in the body. (.....)
3. Strong and amazing engines hidden under the skin cover most parts of our body and help us move. (.....)

nezakr.natega4dk.net

4. A skeletal system consisting of about 206 bones approximately, supports the body and protects internal organs. (.....)

5. Plants grow and change their appearances throughout the year according to seasonal changes and temperature degrees. (.....)

6. A state of complete dormancy resorted to by some animals in winter to conserve their energy. (.....)

7. The behavior followed by some birds to move to warmer places where food and water are available. (.....)

8-A hard bony box surrounding the brain, to protect it from shocks. (.....)

- **Give reasons for each of the following:**

1. Humans have joints in various parts of their bodies instead of the skeletal frame being a single solid piece.
.....

2. The importance of the presence of the thoracic cage in the human body.
.....

3. The shapes, lengths, and muscle strengths differ from one animal to another.
.....

4. The color of cotyledons turns into dark blue when adding drops of iodine solution.
.....

5. Seeds do not germinate if we submerge them completely in a cup filled with water.
.....

6. The remaining conditions must be identical in cups (A) and (B) when conducting comparison experiments.
.....

- **What happens if...?**

1. Muscles connected to bones contract.?
.....

2. There are no bones around the brain?
.....

3. Body muscles stopped working?
.....

4. There were no joints at the meeting places of bones in the living organism›s body?
.....

5. Temperature degrees stopped changing and remained constant throughout the year?
.....

nezakr.natega4dk.net

6. Temperature rose suddenly in the winter season regarding lizard activity?
.....

7. Lizards could not find rock crevices or soil to hide in during winter?
.....

8. We placed a seed in a warm and appropriate place and provided it with water and air?
.....

9. We planted bean seeds in completely dry cotton and did not water them with water?
.....

10. Seeds were placed in a vacuum bag and air was provided for the seed, but air access was prevented?
.....

11. The skull bones were flexible or soft?
.....

3-5 Summary of Germination

Week ..... Date .....

Classroom Performance

- **Diversity Notice:**

1. Collect different types of plant seeds (wheat, corn, chickpea) in different cups, and compare their shapes and colors, then make a «Display Board» for these seeds in the classroom and classifying them by color, shape, and texture, and write your expectations about whether these seeds will need the same conditions for germination or not.

- **«Observation Recording Table» Before the experiment and the results obtained after several days.**

Cup	Shapes and Colors Before Experiment	Shapes and Colors After Several Days	Notes
Cup (1)			
Cup (2)			
Cup (3)			

nezakr.natega4dk.net

2. Write about an embryo inside a bean seed. Then, write a « daily diary» describing the conditions that this embryo waits for from the outside world to begin its journey in growth to become a plant.

.....

.....

Homework Performance

• Answer the following:

1. Why do we not need «fertilizers» or «sunlight» in the germination stage, while we need them intensely after plant growth?

2. Correct the error (Science Challenge Game):

a. «Seeds need only water to germinate.»

.....

b. «If we submerge seeds completely in water, they grow at a faster rate.».

.....

c. «The refrigerator is the best place for seeds to grow faster.

.....

3. Summarize what you learned about the conditions of seed growth and germination in points, explaining what the conditions are, their effect on the plant, and what happens if any condition is not available.

.....

4. Draw the stages of seed and plant growth as you learned and record data for each stage.

nezakr.natega4dk.net

4

Chapter Four

Conditions for Growth

4-1 Sunlight and Growth

Week ..... Date .....

Classroom Performance



• Simulating «Light Lab»

- Observe the shape in front of you then predict the result before uncovering the box from pot (B), then compare expectations with scientific reality.

.....

.....

• Observe and Answer:

1. Observe the figure in front of you then answer:



• Three experimental cups were prepared:

- **Cup No. (1):** Bean seeds placed in moist cotton and exposed to air and light.
- **Cup No. (2):** Bean seeds completely submerged in water until air access was blocked.
- **Cup No. (3):** Bean seeds placed in completely dry cotton and exposed to air and light.

a. Identify the cup in which seeds will germinate successfully: Cup No. (.....)

b. State the scientific reason for the non-germination of seeds in cup no. (1):

.....

nezakr.natega4dk.net

c. State the scientific reason for the non-germination of seeds in cup no. (2):

.....

Homework Performance

- **Answer the following:**

1. Why dark green plant leaves turn dark green when exposed to sunlight?

.....

2. Compare between the following:
   Plant condition: (The one that got light, and the one deprived of light).

Point of comparison	Plant That Received Light	Plant Deprived of Light
Color of Leaves		
Stem Strength		
Ability to Make Food		

4-2: Fertilizer and Growth

..... Date .....

Classroom Performance

- **Debate «The Integrated Plant»**

«If the plant had the freedom to choose its living place, would it prefer nutrient-rich soil or abundant light, and why?»

.....

- **Scientific Mystery (Test Your Mind)**

a. «I am like vitamins for humans, granting the plant strength and size, so who am I?» (.....)

b. «If I am absent from the plant, its leaves turn yellow, and if I am present, its stems become strong and capable of bearing air, so who am I?» (.....)

- **Think and Discuss (Nutritional Relationships in Germination)**

a. The small plant (embryo) feeds at the beginning of its life and before the appearance of green leaves on the food stored in the cotyledons.

b. **Discuss with your classmate:** What will happen to the embryo if we carefully remove the cotyledons before planting the seed?

Expected result: .....

nezakr.natega4dk.net

Homework Performance

1- Answer the following:

a. What happens to a plant if we feed it with fertilizer but completely hide light from it? Give a reason your answer.

.....

b. Why is fertilizer considered a «helpful element» for growth and not a substitute for water?

.....

2- Choose the correct answer from the following:

(1) The main factor that helps the plant make food is:

a. Water only.

b. Sunlight.

c. Sandy soil.

(2) When comparing two plants, one of them watered with water only and the other with water and fertilizer, we expect the plant that get fertilizer to be:

a. Shorter and weaker.

b. Faster in growth and larger in size.

c. Nothing will change.

.....

Weekly Assessment Week .....

Test (1)

1. **Complete:** The plant needs two main factors after germination: sunlight and .....
2. **Write what the following sentence indicates:** Useful materials added to the soil to help the plant grow larger and stronger. (.....)
3. **Explain:** The necessity of plant exposure to sunlight after its emergence from the seed.

.....

4. **What happens if:** A small plant was placed in a closed box where light does not reach it?

.....

5. **Correct the sentence:** «Fertilizer is the only source that the plant depends on make its food.».

.....

nezakr.natega4dk.net

Test (2)

1. **Complete:** The plant uses sunlight to manufacture ..... which is necessary for its growth.
2. **Write what the following sentence indicates:** The state in which plant leaves are, when the plant gets its sufficiency of light and fertilizer. (.....)
3. **Explain:** «Scientists recommend not adding too much fertilizer to agricultural soil.».

   .....
4. **What happens if:** Two plants were cultivated, one watered with water only and the other with water and fertilizer (where other conditions fixed)?

   .....
5. **Correct the sentence:** «The plant does not need air to grow well.»

   .....

Test (3)

1. **Complete:** To make stems grow and become strong and withstand air, ... must be provided for the plant.
2. **Write what the following sentence indicates:** The stage following the emergence of the seed from the soil and the plant begins to rely on external factors. (.....)
3. **Give a reason:** Why do plant leaves turn yellow and its stems weaken when light is hidden from it?

   .....
4. **What happens if:** We added a very large amount of fertilizer to the plant all at once (critical thinking)?

   .....
5. **Correct the sentence:** «Sunlight is not necessary for plant growth after the germination stage, for water is only enough.»

   .....

nezakr.natega4dk.net

5

Chapter Five

From Flower to Fruit

5-1 Structure of Luffa Flower

Week ..... Date .....

Classroom Performance

• **Observe and Answer:**

a. Observe the image then write what the following numbers indicate:

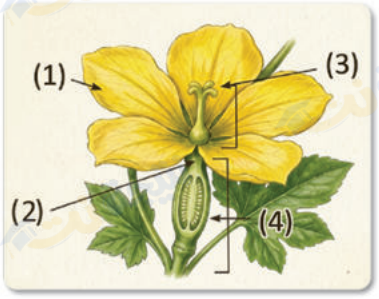


1. Luffa flower

(1) .....

(2) .....

b. Observe the image then write what the following numbers indicate:



2. Image of Luffa flower.

(1) .....

(2) .....

(3) .....

(4) .....

Homework Performance

• **Answer the following:**

1. What is the role of the stamen in the male flower?

.....

2. Compare in a table between each of: The male flower and the female flower in terms of: (Presence of swelling at the base - Central part - Main function).

Point of Comparison	Male Flower	Female Flower
Presence of Swelling at the Base		
Central Part		
Main Function		

3. What are the components of the male flower?»

.....

nezakr.natega4dk.net

5-2 How to Use a Microscope

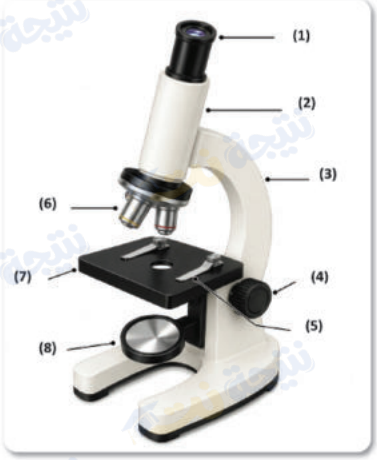
Week ..... Date .....

Classroom Performance

• Parts of the Microscope

- Write the name of the part corresponding to each number

(1) .....
(2) .....
(3) .....
(4) .....
(5) .....
(6) .....
(7) .....
(8) .....



• Microscope Mystery Puzzles:

«I am a part in the microscope, I carry the eyepiece, and I help you look through me, so who am I?» (.....)

• Challenge «Preparing the Slide in a Minute»

Practical experiment: Arrange and write the steps for examining Luffa flower pollen grains accurately and show the steps of the experiment (based on the correct scientific order of events):

- Step 1: .....
- Step 2: .....
- Step 3: .....
- Step 4 (Focus Adjustment): .....
- Step 5: .....

Homework Performance

1. Explain the basic function of the microscope, with illustration by example.

.....

2. It is always preferred to start using the low-power objective lens when examining the slide for the first time.

.....

nezakr.natega4dk.net

3. Extreme caution must be taken and a side view must be maintained when turning the adjustment knob to bring the objective lens close to the slide.

.....

4. There are two lenses in the microscope; state the name of each lens with differentiation of them in function.

.....

.....

Weekly Assessment Week .....

Test (1)

1. **Complete:** The part responsible for directing light in the microscope is .....
2. **Write what the following sentence indicates:** A flower containing sepals, petals, and a swelling at the base resembling a small fruit. (.....)
3. **Explain:** We do not start examination with the microscope using the high magnification objective lens.

.....

4. **What happens if:** You did not dry the excess water around the microscope cover slide?

.....

5. **Correct the sentence:** The eyepiece is the lens close to the specimen to be examined.

.....

Test (2)

1. **Complete:** Microscope total magnification power = Eyepiece power \times ..... power.
2. **Write what the following sentence indicates:** The process in which pollen grains transfer from the male flower to the female flower. (.....)
3. **Explain:** Objects must be moved in the microscope in the opposite direction which we want them to move.

.....

4. **What happens if:** A microscope slide was placed without securing it with clips?

.....

5. **Correct the sentence:** The male flower is the one that contains in its center a carpel.

.....

nezakr.natega4dk.net

Test (3)

1. **Complete:** Located in the center of the male flower is ..... which is the part producing small pollen grains.
2. **Write what the following sentence indicates:** A tool used in the laboratory to make small things look larger so we can see them clearly. (.....)
3. **Give a reason:** The presence of a swelling below the female flower in the Luffa plant.
   .....
4. **What happens if:** You moved the slide to the right while looking into the microscope lens?
   .....
5. **Correct the sentence:** The female flower is the one that does not contain any swelling at its base.
   .....

5-3 Pollination and How Fruits Grow

Week ..... Date .....

Classroom Performance

• Observe and Answer:

- Observe the floral structure in front of you, then answer the following questions:



1. What is the name of the organ responsible for producing pollen grains in the male flower? (.....)
2. What is the name of the organ that receives pollen grains in the female flower? (.....)
3. What is the green part located below the petals? (.....)

• «Journey of a Pollen Grain»

- Illustrated Mystery Game:



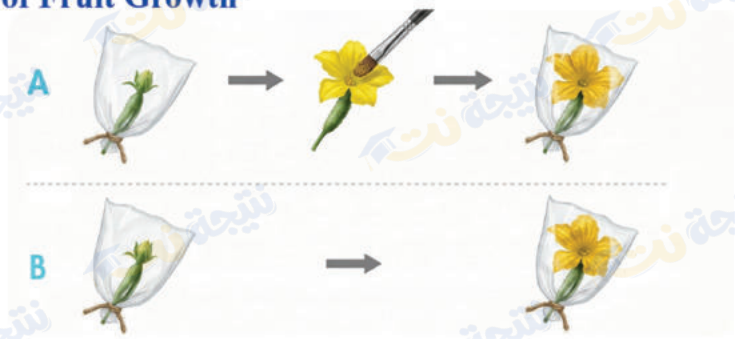
- Figure shows a wilted flower (after pollination)

«Why did this part (the swelling part) start to grow and turn into a fruit?»

.....

nezakr.natega4dk.net

• **Secret of Fruit Growth**



• **Analyze the experimental steps shown in the previous drawing then answer:**

- **Analyze:** What is the main purpose of covering the Luffa female flower buds before they open?

.....

- **Give a reason:** Why did flower (A) grow and turn into a fruit, while flower (B) wilt and does not turn into a fruit?

.....

- **Predict:** What happens if we remove the cover of the female flowers and leave them in the school garden without transferring the pollen grains with a brush?

.....

Homework Performance

• **Answer the following:**

1. «If all insects (such as bees) disappeared from nature, what do you expect to happen to fruit production in plants that depend on pollination?»

.....

2. Explain: why we cover the flower with a paper bag in the experiment before starting pollination?

.....

3. What is the importance of the pollen grains in the male flower?

.....

4. Choose the correct answer from the following:

(1) The process in which pollen grains from male flower stick to the stigma of female flower is called:

a) Germination b) Pollination c) Fertilization

(2) The living organism responsible for transfer pollen grains in the Luffa plant is:

a) Insects b) Winds c) Human

(3) After a successful pollination process, the pistil turn directly into:

a) A new flower b) A fruit c) A leaf

nezakr.natega4dk.net

6

Chapter Six

Human Growth and Reproduction

6-1 Stages of the Human Growth

Week ..... Date .....

Classroom Performance

• «Train of Life Timeline»



1. Looking at the figure of people, answer the following:

a. State in detail the characteristics of the infancy stage in humans.

.....

b. Trace the developmental stages of human growth after infancy stage.

.....

c. From your study, explain the sentence: «Growth is not just an increase in size, but represents a change.»

.....

2. Know Yourself:

a. At what stage of life are you?

.....

b. Summarize what you can do now compared to what you were able to do when you were an infant.

.....

.....

Homework Performance

(1) Answer the following:

a. Explain: The infant depends on on his mother completely at the infancy stage.

.....

.....

nezakr.natega4dk.net

b. Mention the characteristics of the infancy and childhood stages in human growth?

.....

.....

.....

Weekly Assessment

Test (1)

1. **Complete:** The process that includes the transfer of pollen grains from the male flower to the female flower is called .....
2. **Write what the following sentence indicates:** living organisms that transfer pollen grains between flowers during their movement. (.....)
3. **Explain:** Why do scientists cover the flower with a paper bag before it opens in scientific experiments?

   .....
4. **What happens if:** The infant passes from the childhood stage without its muscles and bones growing and becoming stronger?

   .....
5. **Correct the following sentence:** The infancy stage begins after spending about 5 months inside the mother's body.

   .....

Test (2)

1. **Complete:** The growth stages of human is continually passing through youth stage, then ..... stage, then ..... stage.
2. **Write what the following sentence indicates:** The part that produces seed as a result of the pollination process is. (.....)
3. **Explain:** Insects (such as bees) are necessary for fruit production in some plants.

   .....
4. **What happens** if the female flower has not been pollinated?

   .....
5. **Correct the following sentence:** After pollination, the pistil turns into seeds.

   .....

nezakr.natega4dk.net

Test (3)

1. **Complete:** The fruit produced from the pollination process contains ..... inside it.
2. **Write what the following sentence indicates:** The stage when human starts to walk, talk, and going to school. (.....)
3. **Explain:** Why doesn't a human remain with the same shape and size throughout his life?

   .....

4. **What happens if:** Two female flowers were placed next to each other without the presence of male flowers or pollination factors such as insects?

   .....

5. **Correct the following sentence:** A human passes through the old age stage before youth and adulthood.

   .....

6-2: Similarities between Parents and Children

Week ..... Date .....

Classroom Performance

- **Investigate Traits**
- Observe the figure and record observations about similar characteristics (eye color, hair color) and different characteristcs, and relate them to the concept of «inherited traits» from parents to the Children.



.....

.....

Homework Performance

1. **Give reason:**

   a. Children resemble their parents in many traits.

   .....

   b. What is the role of parents in their children's development?

   .....

nezakr.natega4dk.net

6-3 Conditions of Healthy Growth

Week ..... Date .....

Classroom Performance

• «Future Doctor»

• Imagine yourself a doctor, write a «healthy growth plan» (including: food, sleep, exercise) then present it to your classmates

.....

.....

• My Healthy Habit

• Choose one healthy habit you practice daily, and write a short report explaining how this habit helped improve your study or sport activity during this week.

.....

.....

Homework Performance

1. Explain how enough sleep affects brain health and body growth.

.....

2. Imagine if a human did not need a «healthy diet» and grew normally just through sleep only, how would that affect the strength of his muscles and physical structure? Discuss the effect on his health.

.....

3. What is meant by reproduction? And what is its benefit?

.....

4. What happens if a one type of living organism stops reproduction?

.....

.....

Weekly Assessment

Test (1)

1. **Complete:** the main stages of human growth starts from ..... and .....

2. **Write what the following sentence indicates:** Materials that help the to body grow healthy and strong, strength, and energy, which can be obtained from milk, vegetables, and fruits. (.....)

nezakr.natega4dk.net

3. **Explain:** The importance of practicing athletic exercises regularly.

.....

4. **What happens if:** Your body did not get enough sleep?

.....

5. **Correct the sentence:** Children similar to their parents because they learn the traits from their father and mother.

.....

Test (2)

1. **Complete:** Among the basic factors for strong and healthy human growth: healthy diet, sufficient sleep, and .....

2. **Write what the following sentence indicates:** A vital process performed by humans to ensure the continuation of life and survival of the species.

(.....)

3. **Give a reason:** Why do Children usually similar their parents?

.....

4. **What happens if:** a human's diet consisted of only one type of food (as sugars) and neglecting vegetables

.....

5. **Correct the sentence:** During sleep, the brain gets tired.

.....

Test (3)

1. **Complete:** You get ..... that your body needs by drinking milk and eating vegetables and fruits.

2. **Write what the following sentence indicates:** The process of increasing the size and strength of a living organism's body (human) over time.

(.....)

3. **Give reason for:** The importance of practicing suitable sports regularly?

.....

4. **What happens if:** Reproduction stopped for all living organisms?

.....

5. **Correct the sentence:** Moving your body makes your heart and muscles weaker.

.....

nezakr.natega4dk.net

Monthly Training (2)

First question: Complete the following sentences with what suits them:

1. The process of the small plant sprouts from the seed and the start of its growth is called .....
2. For seeds to begin germination, they need three main factors: water, air, and .....
3. The male flower of the Luffa plant produces a yellow powder called .....
4. The base of the female Luffa flower is characterized by the presence of a small ..... like a fruit.
5. The flower is the main part that responsible for producing ..... to grow and become new plants.
6. In the center of male flower ..... that produces pollen grains.
7. The plant needs ..... and sunlight to grow and become larger in size.
8. Dark green plant leaves get their color due to the presence of .....
9. The male flower contains ..... in its center, while the female flower contains ..... in its center.
10. The process of turning the flower into a fruit starts after ..... process occurs.
11. The flower that receives pollen grains is called ..... flower.
12. Pollen grains transfer from the male flower to the female flower through many factors as ..... and .....
13. When planting seeds that formed inside the fruit, they can grow to form .....
14. After pollination, ... at the base of the flower begins to grow.
15. Children are born, grow, and pass through different stages, and a human does not remain the same shape and size throughout his life, but his body changes with the passage of .....
16. Human starts his life by ..... stage, which needs the care of father and mother in food, cleanliness, and protection.
17. The child learns to walk, speak, and go to school in ..... stage.
18. A person reaches ..... stage that depends on itself, and participate in caring for his family and society.
19. A human needs more rest and health care at ..... stage.
20. Attention must be paid to the conditions of healthy growth, the most important of which is healthy food, ... and practicing appropriate sports.

nezakr.natega4dk.net

21. During ....., the human brain rest and the body builds itself.
22. Animals do not remain small forever, but their size increases and their features change over time as a result of a process called .....
23. The reproductive process aims to produce new individuals of the same species, which helps in ..... on Earth.

Second question: Write the Scientific Term:

1. A small part in the seed representing the small plant that grows to form a new plant. (.....)
2. The main stored food for the embryo inside the bean seed before leaves appears. (.....)
3. A scientific rule that means keeping all experimental conditions and changing only one condition. (.....)
4. A vital process in which the embryo begins to grow inside the seed to produce a new plant. (.....)
5. The part responsible for the reproduction process and seed production in the plant. (.....)
6. The swollen part at the bottom of the female flower that grows and becomes larger to become a fruit. (.....)
7. The source used by the plant to make food by itself in order to grow and become strong. (.....)
8. substances added to the soil that lead to noticeable increase in stem length. (.....)
9. The part in the male flower that produces yellow pollen grains. (.....)
10. A scientific tool we use to see things clearly that can not seen by naked eyes. (.....)
11. The part responsible for directing light in the microscope. (.....)
12. The organ that forms inside it seeds after the pollination process. (.....)
13. Living organisms that play an important role in transferring pollen between flowers. (.....)
14. A vital process in which animals increase in size and their features change over time. (.....)
15. The ability of a living organism to produce new individuals of its same species to ensure its survival. (.....)

nezakr.natega4dk.net

Third question: Give reasons for each of the following:

1. The Luffa plant carries two different types of flowers.

.....

2. It is easy to distinguish between the male and female pumpkin flowers easily.

.....

3. Why do fruits not form in flowers that do not receive pollen grains?

.....

4. Scientists cover flowers with paper bags in scientific experiments.

.....

5. Always start examination with the microscope using the low-magnification power objective lens.

.....

6. Insects (such as bees) are considered friends of the farmer.

.....

7. Why is practicing sports necessary for growth?

.....

8. Living organisms' need reproduction process.

.....

Fourth question: What happens if...?

1. Seeds were completely immersed in water inside a completely closed cup preventing air entry.

.....

2. A small plant was placed inside a completely dark box for a period of time.

.....

3. Watering the plant with water only without any agricultural fertilizer.

.....

4. The plant was exposed to sunlight regularly after the germination stage.

.....

5. Pollen grains transferred from the male flower to the female flower in the Luffa plant?

.....

nezakr.natega4dk.net

Chapter Seven Animal Growth and Reproduction

7-1 Animals That Give Birth to Babies

Week ..... Date .....

Classroom Performance

- **«Who Am I?» Mystery:**

«I carry my young inside me and care for them after birth until they become strong, so who am I?» (.....)

- **Observe and Compare:**



- Do newborn kittens resemble their parents at birth?

.....

- Are newborn kittens born the same size as the mother cat?

.....

- Extract from the image a behavior indicating «mother care» for her young.

.....

- Does the shape of the kittens change as they grow and get bigger over time?

Homework Performance

1. Answer the following:

- Explain how the mother cat takes care of her young immediately after birth to protect them and help them grow.

.....

.....

- Explain the importance of reproduction for animals.

.....

- Explain with an example of another animal whose reproduction you observe in your surrounding environment and talk about its method of reproduction.

.....

7-2 Animals that Lay Eggs

Week ..... Date .....

Classroom Performance

- **«Who Am I?» Mystery:**

«I am an animal that lays many eggs in the water to ensure the survival of a larger number of my young, so who am I?» (.....)

nezakr.natega4dk.net

• **Observe and Think:**



a. What does the picture represent? And what are the very small fish do immediately after hatching from eggs?.....

b. How do small fish look like in the water?

.....

c. Do young fish that hatched from eggs resemble their parents? Imagine that and express it.

.....

• **Observe and Compare:**





a. Explain how fish differ from cats in the growth of their babies?

.....

b. Compare the size and number of kittens around their mother, and the number of small fish in their aquatic environment.

.....

Homework Performance

• **Answer the following:**

1. Why do fish lay a very large number of eggs compared to cats that give birth to a small number?

.....

2. **Compare each of:** Living organisms of babies that give birth and living organisms that lay eggs in terms of babies relationship.

Point of comparison	Living organisms that give birth (Cat)	Living organisms that lay eggs (Birds)
Method of Birth/ coming to Life		
Number of babies produced		
Relationship with the mother		
Initial Method of Feeding the babies		

nezakr.natega4dk.net

3. All animal mothers care for their babies - explain what you understand, giving an example from around you in the environment.

7-3 Comparing Animals and Preserving the Species

Week ..... Date .....

Classroom Performance

• Nature Protector:

Imagine yourself a supervisor in Egyptian natural reserves, and discuss how you provide a safe environment for endangered animals to reproduce safely based on what you learned in the «Learn» paragraph.

• Observe and Compare:





The success of animals in increasing their numbers is linked to their sense of safety in their environment. How do you deduce this idea from the pictures of natural reserves to help animals reproduce?

.....

.....

Homework Performance

• Answer the following:

a. «Explain the importance of natural reserves in preserving animal species on Earth.»

.....

b. What is meant by «Natural Reserves»? And what is the main aim that drives countries to establish them?

.....

c. Mention an example of a natural protectorate that you have studied.

.....

nezakr.natega4dk.net

Weekly Assessment Week .....

Test (1)

1. **Complete:** Animals depend on the process of ..... to produce new individuals of the same species which ensures the continuation of their existence on Earth.
2. **Write what the following sentence indicates:** Natural areas established by countries to protect animals and provide a safe environment for reproduction and growth. (.....)
3. **Give a reason:** Why do fish lay a very large number of eggs in water?
.....
4. **What happens if:** Animals stopped reproducing completely?
.....
5. **Correct the sentence:** The cat is among the animals that lay eggs to take care of its young.
.....

Test (2)

1. **Complete:** The cat is among the animals that give birth, where the mother carries her young inside her body for a period, then ..... and takes care of them.
2. **Write what the following sentence indicates:** The process in which very small fish emerge from eggs and begin swimming. (.....)
3. **Give a reason:** Newborn kittens need special care from the mother?
.....
4. **What happens if:** The mother cat did not clean and feed her young after birth?
.....
5. **Correct the sentence:** Young animals are always the same size as their parents from the moment of birth.
.....

Test (3)

1. **Complete:** Animals differ in reproduction methods; some give birth like the cat, and some ..... like the chicken and the fish.
2. **Write the scientific term:** The process in which animals increase in size and some features change over time. (.....)
3. **Give a reason:** There is a difference in babies care between fish and cats?
.....
4. **What happens if: Animals were hunted randomly outside natural reserves?**
.....
5. **Correct the sentence:** All living organisms produce new individuals that do not resemble their parents at all.
.....

nezakr.natega4dk.net

Chapter Eight

Changes in Weather

8-1 Clouds and Weather

Week ..... Date .....

Classroom Performance

• Observing the Sky and Predicting Weather «The 8-Part Challenge»

1. Imagine you are looking at the sky and divided it into 8 equal parts.

a. Look at the sky now, and how many parts covered by clouds.

b. Result: Number of covered parts = ... / 8

c. Weather condition based on your observation:

.....

2. «Challenge to the 8 Parts»:

Stand with your classmate; imagine the sky is divided into 8 equal parts; then estimate the number of parts covered by clouds, and compare your result with your classmate's result.

My Result	Classmate's Result

• «Observation Table»: «Home Observation Card»

Observe the sky condition for 4 consecutive days, record in a table (Date, Time, number of parts covered by clouds out of 8, weather condition sunny/ cloudy, cloud color, cloud shape, and other notes).

Observation Unit	Number of Parts Covered by Clouds out of 8	Weather Condition (Sunny / Cloudy)	Cloud Color	Cloud Shape	Weather
Date					
Time					
Day					

nezakr.natega4dk.net

• **Identifying Clouds:**

Fill out the following table based on what you learned about cloud colors and shapes:

Clouds	Description	Weather
		
		

Homework Performance

• **Give reason for the following:**

Weather is considered «sunny» if clouds cover 3 parts or more of the sky.

.....

• **What happens if:**

Clouds gathered in the sky and covered 7 parts or more of the sky (divided into 8 parts)?

.....

8 -2 Cloud Movement

Week ..... Date .....

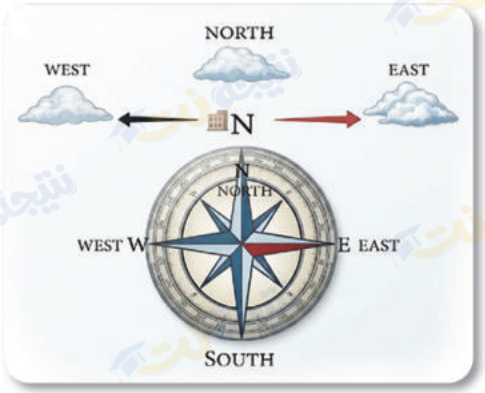
Classroom Performance

• **Small Cloud Observer**

Tools: Compass - Clock - Pen and observation card.

Steps:

1. Stand in an open area and choose a fixed «reference point» in the sky (such as a school building peak - Top of the tree).
2. Use the compass to accurately determine East and West directions.
3. Observe the clouds next to your «Fixed Reference Point» for 15 minutes.
4. Record in the observation card.



nezakr.natega4dk.net

Time	Cloud Direction from the Reference Point	Observation

Look at cloud movement today. Do you expect tomorrow to be sunny or rainy? And why?

.....

Can the movement direction and speed of clouds differ during different periods of the day? And why?

.....

Homework Performance

1. Answer the following:

a. Does the movement direction and speed of clouds change with the change of the seasons of the year? And why?

.....

.....

b. If you were a meteorology expert, how can knowing cloud movement direction help in predicting tomorrow's weather condition?

.....

.....



2. Give reason for the following:

Using the compass is necessary when observing cloud movement.

.....

.....

.....

Weekly Assessment

Week .....

Test (1)

1. Complete: If clouds cover from zero to 4 parts of the sky (divided into 8 parts), then the weather is .....

2. Write what the following sentence indicates: The force that clouds move with it. (.....)

3. Give a reason: Why do we use a «fixed reference point» when monitoring cloud movement?

.....

nezakr.natega4dk.net

4. **What happens if** clouds cover 7 parts or more of the sky?

.....

5. **Correct the sentence:** In Egypt and Japan, clouds usually move from north to south.

.....

Test (2)

1. **Complete:** The first step to discover the atmosphere condition is sky observing the sky with .....

2. **Write what the following sentence indicates:** A fixed object used to compare the position of a moving object while following the clouds. (.....)

3. **Give a reason:** Meteorologists experts use «estimating cloud amount» in their weather forecast.

.....

4. **What happens if:** you depend on a moving car as a reference point when observing cloud movement?

.....

5. **Correct the sentence:** When clouds cover from 0 to 6, the weather is cloudy.

.....

Test (3)

1. **Complete:** ..... helps us know cloud movement direction.

2. **Write what the following sentence indicates:** The part of the sky covered by clouds when observed from a specific location. (.....)

3. **Give a reason:** Clouds move from one place to another in the sky.

.....

4. **What happens if:** the amount of water droplets inside the clouds is very small?

.....

5. **Correct the sentence:** When observing cloud movement, a moving point is required.

.....

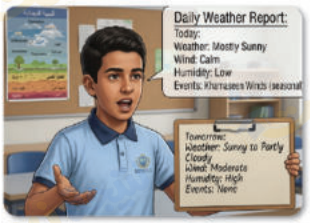
nezakr.natega4dk.net

8-3 Weather Forecast

Week ..... Date .....

Classroom Performance

- **«Young Meteorological Expert»**



1. The following steps:

a. Analyzing satellite images: Distribute satellite images and identify cloud gathering locations.

b. Predicting the path: Determine cloud movement direction from West to East and how that affects your city's weather the next day.

c. Issuing the forecast Issue a «weather forecast» predicting the weather condition (sunny or cloudy and rainy) with scientific justification for this prediction.

d. Scientific documentation: «Observation and conclusion Card»

Point of Comparison	Observation (Data)	Conclusion (Prediction)	Scientific Evidence
Cloud Location			
Weather Condition			
Weather Phenomena			

Homework Performance

Answer the following:

1. How can we see the condition of clouds over a wide area?

.....

2. How can we predict the weather?

.....

nezakr.natega4dk.net

Chapter Nine

Water Cycle

9-1 Water Evaporation

Week ..... Date .....

Classroom Performance

• Question and Challenge «Right or Wrong with Explanation»:

1. «Does water in an open cup disappear because it leaks through the glass?»

.....

2. If you brought a container filled with water and closed it tightly with a metal lid, do you think the water level will decrease over time? And why?

.....

• Experiment «Where Does Water Go?»:

1. Observe the two beakers (one uncovered and the other covered with plastic wrap).



a. Observation:

.....

b. Conclusion:

.....

• Evaporation Mystery:

1. Why do clothes dry in the sun?

.....

2. Can vapor penetrate glass?

.....

Homework Performance

• Answer the following:

1. What happens if:

a. Atmospheric temperature increased very significantly in an area with water ponds?

.....

b. We dried clothes on a day with very high humidity?

.....

nezakr.natega4dk.net

2. Choose:

1) When covering a beaker containing water with tight plastic wrap, what happens to the evaporation process?
   a. Evaporation speed increases.
   b. Evaporation stops completely.
   c. Evaporation continues, but vapor is trapped inside the beaker.
   d. Water turns into ice.

2) Which of the following factors increases the rate of water evaporation in spread hung clothes?
   a. Cold weather.
   b. Presence of plastic cover.
   c. Direct sunlight and wind.
   d. Placing clothes in a completely dark place.

.....

Weekly Assessment Week .....

Test (1)

1. Complete: We can see the state of clouds from space by using artificial weather .....

2. Write what the following sentence indicates: The process of gathering information about cloud movement and winds to predict future weather conditions. (.....)

3. Give a reason for: Meteorology relies on advanced technology instead of merely observing the sky with the naked eye.
.....

4. What happens when: there are no clouds at all over Egypt in a satellite image?
.....

5. Correct the following statement: The white areas in images captured by weather satellites represent wind.
.....

Test (2)

1. Complete: The ..... device uses radio waves to monitor rainfall.

2. Write the scientific term: Write what the following sentences indicates:
The process of water turning into invisible water vapor. (.....)

3. Give a reason: When the weather is sunny, evaporation occurs faster.
.....

nezakr.natega4dk.net

4. **What happens if:** There are no clouds in the west?

.....

5. **Correct the following statement:** If clouds in the west are approaching, the weather will become good and sunny.

.....

Test (3)

1. **Complete:** Weather forecasting tells us about the state of the weather .....
2. **Write the term indicated by the following statement:** A device that captures images of clouds from space. (.....)
3. **Give a reason:** Wet clothes dry faster on sunny and windy days.

.....

4. **What happens if:** Satellites stop working?

.....

5. **Correct the following statement:** Evaporation is the process of converting water vapor into ice.

.....

9-2: Water in the Air

Week ..... Date .....

Classroom Performance

- **Experiment «Where Did Water Droplets Come From?»:**

1. Put ice cubes in a cup, cover the cup with a plastic wrap, and tie it with a rubber band.
2. Leave it for a period of time.
   a. Observation: .....
   b. Conclusion: .....



- **Research - Life Applications:** Search for other examples of the two phenomena «Evaporation» and «Condensation» in your daily life, other than the examples mentioned in the school textbook, Explain how that happened, and present the results in the form of a «wall poster» or a short presentation.

.....

.....

nezakr.natega4dk.net

• Scientific Mystery («Who Am I?»)

- «I am present in the air around you, but you cannot see me. When I am heated by the sun›s heat, I rise upwards, and when I touch a cold surface, I turn into water droplets. Who am I?» (.....)
- «I am a process that makes puddles disappear from the street after sunrise, and makes wet clothes dry on the clothesline. Who am I?» (.....)
- «I am a process that causes water droplets to appear on plant leaves in the early morning, and I am responsible for forming clouds in the sky. Who am I?» (.....)

Homework Performance

1. Compare between the two processes of water evaporation and water condensation.

Point of Comparison	Evaporation	Condensation
State of Water (Beginning)		
State of Water (End)		
Role of Heat		
Example from Daily Life		

2. Choose:

1) What causes water droplets to form on the outer surface of a glass containing ice?

a. Water leaking from inside the glass through the glass.
b. Condensation of water vapor in the air when it touches the cold glass surface.
c. Melting of ice and its escape through glass pores.
d. Chemical reaction between air and ice.

2) Where does water vapor condense to form clouds in the sky?

a. Near Earth's surface directly.
b. In the upper layers of the atmosphere when the vapor cools.
c. Inside dark caves.
d. Water never condenses in the sky at all.

nezakr.natega4dk.net

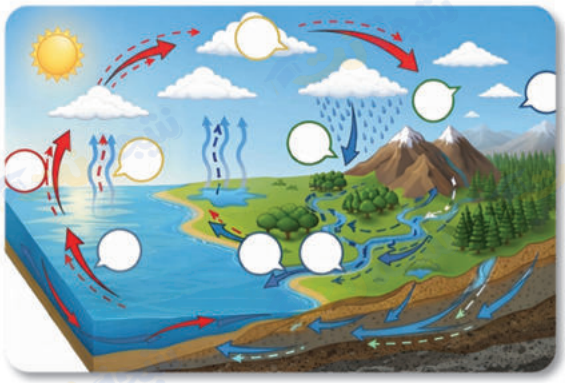
9-3: Where Does Water Go?

Week ..... Date .....

Classroom Performance

• Drawing Pathways and States of Matter

- Observe the explanatory drawing, and examine the sequence of the water journey.



- Sequence of the water journey as follows:

1. .....
2. .....
3. .....
4. Summarize what you learned from the water journey:

.....

.....

.....

.....

• Scientific Mystery («Who Am I?»)

1. First Mystery: «I disappear from before your eyes on hot days, rising high to turn into something invisible, then returning in the coldest times to form a cloud. Who am I?»

.....

2. Second Mystery: «I do not move unless the sun pushes me, and when I reach the top, I find the weather cold, so I join my droplet friends to become a large cloud. Who am I?»

.....

3. Third Mystery: «I am solid like snow on the mountain top, and if the sun's heat increases, I become liquid flowing in streams. What is my state in both times?»

.....

nezakr.natega4dk.net

Homework Performance

1. Answer the following:

«What would happen to the water cycle in nature if a sharp and continuous drop in global temperatures occurred such that water does not transform from the liquid state to the gaseous state?»

.....

2. Compare between the following:

The evaporation process and the condensation process in terms of their effect in the water cycle.

Point of Comparison	Evaporation	Condensation
Effect in the Water Cycle		

.....

Weekly Assessment

Week .....

Test (1)

1. Complete: The cooling process of invisible water vapor in the air and its turning into liquid water is called .....

2. Write what the following sentence indicates: A state of water in which particles are cohesive and appear on mountain tops at very low temperatures. (.....)

3. Give a reason: Water droplets form on plant leaves early in the morning even if it does not rain.

.....

4. What happens when part of Nile›s water disappears in the desert

.....

5. Correct the sentence: Water changes in its cycle in nature from the gaseous state to the liquid state only.

.....

Test (2)

1. Complete: The rate of water evaporation in clothes increases with an increase in ..... and wind.

2. Write what the following sentence indicates: The journey of water circulating in the path of sea, sky, land, and sea. (.....)

3. Give a reason: Water does not run out from Earth despite its use by living organisms.

.....

4. What happens if: There were no clouds in the sky?

.....

nezakr.natega4dk.net

5. **Correct the sentence:** Condensation is the process of water changing into an invisible form and rising into the air.

.....

Test (3)

1. **Complete:** Complete: Water droplets collect in the sky and form .....
2. **Write what the following sentence indicates:** The change of matter from a gaseous state to a liquid state due to loss of heat (cooling). (.....)
3. **Give a reason:** Increase of evaporation on sunny and hot days.

.....

4. **What happens if:** we place a container with water in a sunny place and another in a dark, cold place.

.....

5. **Correct the sentence:** The sun is the only factor affecting the water cycle.

.....

Monthly Exercise (3)

First question: Complete the following statements:

1. Fish lay a very large number of eggs in water to ensure ..... largest possible number of young.
2. Nations establish ..... to protect animals and prevent the decline of their numbers.
3. Kittens are initially very small and rely completely on .....
4. Young living organisms looks like their parents in .....
5. Cats belong to the group of animals that give birth to their babies and feed them with .....
6. Animal babies are usually born to a father which is the male a mother which is a .....
7. The process that preserves each species of living organism and ensures the continuation of life is called .....
8. The process where young fish emerge from eggs placed in water is called .....
9. The process in which animals move from one place to another in search of warmth and food is known as .....
10. Examples of famous water reserves in Egypt include ..... National Park.
11. Clouds in Egypt›s sky always move from the direction of ..... to the direction of .....
12. The annual plant cycle usually begins when suitable conditions are available, such as ....., ..., and .....

nezakr.natega4dk.net

13. In the cup and cubes experiment, water droplets that appear on the outer surface of the cup come from the ..... present in the air.
14. Water falls to the Earth in the form of rain, or in the form of snow if the temperature is .....
15. The process in which water changes from a liquid state to water vapor due to heat is called .....

Second question: What happens if:

1. Animals completely stop reproducing?
.....
2. The mother cat did not give her milk to her young after their birth?
.....
3. The mother fish released very few eggs in open waters?
.....
4. The numbers of a certain species of animal continuously decrease without natural reserves to protect them?
.....
5. Animals were unable to reproduce safely inside the natural reserve?
.....
6. You were monitoring clouds from a location containing no «fixed reference point»?
.....
7. A lizard was exposed to direct sunlight on a warm summer day?
.....
8. There were no flowers in the life cycle of the Luffa plant?
.....
9. A human picked all Luffa fruits before leaving new seeds in the ground?
.....
10. The Luffa plant was exposed to extreme cold at the beginning of its growth stage (germination stage)?
.....
11. We covered a cup of hot water with a glass plate? (What will be observed on the bottom surface of the glass?)
.....
12. Water vapor in the air touched a very cold surface?
.....
13. The sun's heat was absent in nature?
.....
14. Air in the upper atmosphere was humid?
.....

nezakr.natega4dk.net

Third question: **Write what the following sentences indicate:**

1. Giant cameras floating in space taking pictures showing cloud movement and storm formation over entire countries and continents. (.....)
2. The process where Luffa plant life begins when appropriate conditions like warmth, water, and air become available. (.....)
3. The process of liquid water turning into water vapor by solar heat. (.....)
4. The continuous circular journey of water between sea, sky, and Earth. (.....)
5. The process where vapor turns into small water droplets due to air cooling. (.....)
6. The state in which water is present in the air but cannot be seen with the naked eye. (.....)
7. A continuous natural phenomenon in which water moves between Earth›s surface and the atmosphere in a repeated cycle. (.....)

Fourth question: **Give reasons for the following:**

1. Fish lay a very large number of eggs.
.....
2. The mother cat gently cleans her babies bodies and feeds them milk after birth.
.....
3. The reproduction process is considered a very important process for every species of animal.
.....
4. Animals grow and their features change over time.
.....
5. Countries establish natural reserves like the White Desert reserve and Ras Mohamed reserve.
.....
6. Lizard activity decreases in cold weather?
.....
7. Migration of some birds like flamingos in the winter season?
.....
8. Why do water puddles in the street dry up after a few hours of sunshine?
.....
9. Why does the water level in a cup not decrease if it is tightly covered with a plastic wrap?
.....

nezakr.natega4dk.net

nezakr.natega4dk.net

Preparation and review

Dr. Shahinaz Nasr Abdallah Nasr

Ms. Rania Mohamed El-madawy

Dr. Dalia Ali Mohamed

Ms. Doaa Mohamed Abdel-Azim

Dr. Hanan Abou El-abbas Mohamed

Dr. Aziza Ragab Khalifa

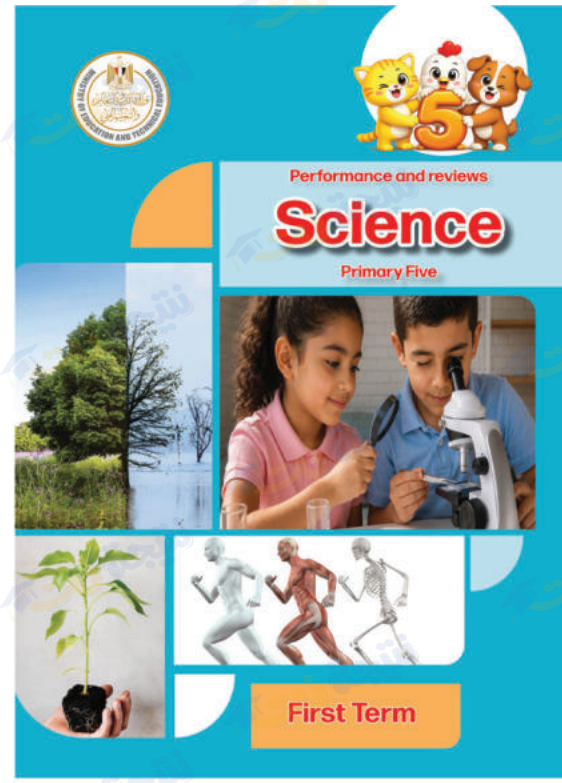
Designed by

Mrs. Reham Mostafa Mohamad

General Supervision

Dr. Gebril Anwar Hemeida

Head of the Central Administration
for Curriculum Development



مقاس الكتاب	ورق المتن	ورق الغلاف	ألوان الكتاب	عدد الصفحات بالغلاف	تاريخ الطبع	كود الكتاب
٢٧ × ١٩سم	٧٠ جرامًا	١٨٠جرامًا	٤ ألوان	٦٨ صفحة	٢٠٢٦-٢٠٢٧	٣٠/٥/١١/١٥/٤٠/١١٥٦

رقم الإيداع: 19990 / 2026

الترقيم الدولي: 978-633-8530-59-4

يحظر طبع أو نشر أو تصوير أو تخزين أو توزيع أى جزء من هذا الكتاب بأية وسيلة إلكترونية أو ميكانيكية أو بالتصوير أو خلاف ذلك،
جميع الحقوق محفوظة لوزارة التربية والتعليم والتعليم الفنى

الاشراف برنتنج هاوس

nezakr.natega4dk.net





nezakr.natega4dk.net