

4. REPRODUCTION IN ANIMALS (KEY)

TEACHING TASK

CONCEPTUAL UNDERSTANDING QUESTIONS (CUQ's)

Multiple Choice Questions

1. b) It ensures their species doesn't disappear and allows them to pass on survival traits.

This process helps maintain population levels and allows for the continuation of genetic traits that can aid in survival and adaptation to environments.

2. d) In water, hatching into tadpoles.

Most amphibians lay their eggs in water, where they hatch into aquatic larvae (tadpoles) before undergoing metamorphosis into adult forms.

3. b) Fry.

The name given to baby fish that hatch from eggs is b) Fry.

4. c) Mothers provide minimal care to the newborns.

Viviparous animals typically provide significant care to their newborns after birth.

5. d) Babies of egg-laying animals develop outside the mother's body.

In contrast, live-bearing animals have their young develop inside the mother's body before giving birth.

ADVANCED LEVEL

More than One Answer Type

6. All of the following animals exhibit oviparous reproduction:

a) Birds, b) Reptiles, c) Amphibians, d) Fish.

7. a) Babies develop inside the mother's body, b) Babies are born alive, c)

Examples include humans, dogs, and cats, d) Mothers provide direct care to the newborns after birth.

All of these statements are true for viviparous reproduction.

Fill In the Blanks

- 8. Water
- 9. Viviparous

Matching Type

- 10.
- | | |
|---------------|---|
| 1. Birds | D. Lay eggs and sit on them to keep them warm until hatching. |
| 2. Reptiles | C. Bury eggs in sand or soil. |
| 3. Amphibians | B. Lay eggs in water, often resembling a mass of jelly. |
| 4. Fish | A. Lay eggs in nest made of twigs and leaves. |

Answer the Following Questions

11. Amphibians typically lay their eggs in *water*. The eggs are usually laid in clusters or masses and are often surrounded by a gelatinous substance that provides some protection.

These eggs hatch into *tadpoles*, which are aquatic larvae that breathe through gills and live in water. As they develop, tadpoles undergo metamorphosis, transforming into adult amphibians that can live on land.

12. What distinguishes live-bearing animals from egg-laying animals is that in *live-bearing animals*, the offspring develop *inside the mother's body* before being born alive. In contrast, *egg-laying animals* have their offspring develop *outside the mother's body*, typically within eggs that are laid in a suitable environment. This fundamental difference in the location of development affects the care and protection provided to the young.

LEARNERS TASK

CONCEPTUAL UNDERSTANDING QUESTIONS (CUQ's)

Multiple Choice Questions

1. Animals reproduce c) By laying eggs or giving birth to babies.

2. b) Laying eggs.

The primary method of reproduction for birds, reptiles, amphibians, and fish is b) Laying eggs.

3. c) On sandy beaches.

Sea turtles typically lay their eggs c) On sandy beaches.

4. c) Snake.

While most reptiles lay eggs, some species of snakes are viviparous and give birth to live young.

5. c) They can switch between laying eggs and giving birth to live young. This ability is known as ovoviviparity and allows for flexibility in reproductive strategies depending on environmental conditions.

ADVANCED LEVEL

More than One Answer Type

6. a) Sea turtles lay eggs on sandy beaches, d) Salmon lay thousands of eggs in riverbeds.

Salmon do not bury their eggs in sand or soil (b); instead, they lay them in gravel beds in rivers. Additionally, sea turtle eggs do not hatch into tadpoles (c); they hatch into small turtles.

7. a) Babies develop outside the mother's body in egg-laying animals, c) Live-bearing animals often provide more direct care to their young after birth.

Statement b is not accurate, as mothers of egg-laying animals typically provide less direct care compared to live-bearing animals.

Fill In the Blanks

8. Amphibians

9. Some reptiles

Matching Type

10.

- | | |
|---------------|--|
| 1. Viviparous | D. Lay eggs and sit on them to keep them warm until hatching. |
| 2. Reptiles | C. Bury eggs in sand or soil. |
| 3. Amphibians | B. Lay eggs in water, often resembling a mass of jelly. |
| 4. Fish | A. Immature form of insects like butterflies, preceding adulthood. |

Answer the Following Questions

11. Examples of reptiles that lay eggs include:

1. Turtles, 2. Crocodiles, 3. Lizards, 4. Snakes

These reptiles typically lay their eggs in nests on land.

12. The term used to describe the type of reproduction where babies develop inside the mother's body and are born alive is *viviparous reproduction.*

LIFE CYCLE OF A CHICKEN (KEY)

TEACHING TASK

CONCEPTUAL UNDERSTANDING QUESTIONS (CUQ's)

Multiple Choice Questions

1. B) Calcium carbonate.
2. B) To keep bacteria out and the egg's contents inside.
3. C) At the larger end of the egg, between the shell membranes.
4. B) The chick becomes completely independent.
Chicks typically still need their mother for protection and guidance during this stage.
5. D) Juvenile Stage.
6. C) It becomes capable of laying eggs.
An adult hen signifies it has reached the final stage of its life cycle when
C) It becomes capable of laying eggs.

ADVANCED LEVEL

More than One Answer Type

7. A) The shell is the outer part of the egg, C) The shell protects the inside of the egg, D) The shell is made mostly of calcium carbonate.

Statement B) The shell is made mostly of protein is not correct. The shell is primarily composed of calcium carbonate.

8. A) The egg is kept warm by the mother hen, C) The egg is laid in a nest or a coop.

Statement B) It takes about three days for the egg to hatch is incorrect, as it typically takes about 21 days for a chicken egg to hatch. Statement

D) The egg is typically blue or green is also incorrect, as chicken eggs can be various colors, including white, brown, and cream, depending on the breed.

Fill In the Blanks

9. Chalazae

10. Chick Stage



Matching Type

11.

1. Egg stage C. The stage where the hen lays eggs, usually white or brown, and they take about 21 days to hatch.

2. Hatchling Stage A. The stage where the chick is very small, fluffy, and dependent on its mother for warmth and safety.

3. Chick Stage B. The stage where the chick has developed feathers, learns to walk, peck for food, and explore its surroundings but still needs its mother for protection.

4. Juvenile Stage D. The stage where the chick looks more like an adult hen but is still growing, learning to find food, avoid danger, and interact with other chickens.

5. Adult Stage E. The stage where the hen is fully grown with all its feathers and is ready to lay eggs of its own.

Answer the Following Questions

12. The two layers found just inside the shell are called the *shell membranes*. Their purpose is to:

1. Protect the egg's contents: They act as a barrier against bacteria and help keep the contents of the egg safe.
2. Maintain moisture: They help prevent the egg from drying out by retaining moisture inside.

These membranes are crucial for the developing embryo inside the egg.

13. The distinction between the Juvenile Stage and the Chick Stage in a hen's life cycle is as follows:

- Chick Stage: This is the early stage where the chick is very small, fluffy, and highly dependent on its mother for warmth and safety. During this stage, the chick is still learning basic survival skills.
- Juvenile Stage: In this stage, the young hen looks more like an adult but is still growing. The juvenile has developed more feathers and is becoming more independent. It learns to find food, avoid danger, and interact with other chickens, but may still rely on its mother for some protection and guidance.

In summary, the Chick Stage is characterized by dependence and vulnerability, while the Juvenile Stage marks increased independence and development.

LEARNERS TASK

CONCEPTUAL UNDERSTANDING QUESTIONS (CUQ's)

Multiple Choice Questions

1. The two layers of the albumen are B) Thick part and thin part.
2. The role of the chalazae in an egg is C) To hold the yolk in the center of the egg.
3. The starting point for embryo development if the egg is fertilized is the D) Germinal disc.

4. The typical color of a hen's egg is C) White or brown.

5. B) 21 days

It takes B) 21 days for a hen's egg to hatch.

6. B) Hatchling Stage

A chick is very small, fluffy, and dependent on its mother during the B) Hatchling Stage.

ADVANCED LEVEL

More than One Answer Type

7. A) Shell and B) Shell Membranes.

8. A) The chick is very small and fluffy, B) The chick starts to develop feathers, D) The chick learns to walk and peck for food.

Statement C) The chick becomes completely independent from its mother is not true, as chicks still rely on their mother for protection and guidance during this stage.

Fill In the Blanks

9. Air cell

10. Juvenile



Matching Type

11.

1. Shell A. Protects the egg from damage and bacteria.**

2. Shell Membranes C. Protects the egg from damage and bacteria.

3. Air cell D. Gives the chick air to breathe before it hatches
(in a fertilized egg).

4. Albumen (Egg white) B. Provides water and protein for growing chick.

Answer the Following Questions

12. The shell is important for the egg for several reasons:

1. Protection: The shell acts as a physical barrier, protecting the egg's contents from physical damage and environmental hazards, such as bacteria and contaminants.

2. Structure: It provides structural integrity, helping to maintain the shape of the egg and preventing it from collapsing.

3. Porosity: The shell is porous, allowing for the exchange of gases. This enables oxygen to enter the egg and carbon dioxide to escape, which is essential for the developing embryo.

4. Moisture Retention: The shell helps retain moisture inside the egg, preventing dehydration of the contents as the embryo develops.

Overall, the shell's hardness and structure play a crucial role in safeguarding the developing chick while allowing for necessary exchanges to support growth.

13. The characteristics of the Egg Stage in a hen's life cycle include:

1. Fertilization: The egg is typically fertilized before being laid, allowing for embryo development if conditions are right.

2. Structure: The egg consists of several components, including the shell, shell membranes, albumen (egg white), yolk, and germinal disc.

3. Incubation: The egg is kept warm by the mother hen, which incubates it to provide the necessary heat for the embryo to develop.

4. Duration: It takes about 21 days for the egg to hatch, depending on temperature and humidity conditions.

5. Nesting: The egg is laid in a nest or coop, providing a safe environment until it hatches.

6. Appearance: Eggs can vary in color, commonly being white or brown, depending on the breed of the hen.

Overall, this stage is crucial for the successful development of the chick within the egg.

LIFE CYCLE OF A BUTTERFLY (KEY)

TEACHING TASK

CONCEPTUAL UNDERSTANDING QUESTIONS (CUQ's)

Multiple Choice Questions

1. c) eating and growing.

Caterpillars are primarily focused on consuming food to store energy for their transformation into butterflies or moths.

2. c) it becomes a butterfly.

This stage, also known as the chrysalis phase, is when the caterpillar

undergoes significant internal changes to develop into its adult form.

3. b) nectar from flowers.

They feed on the sugary liquid to gain energy for flying and reproduction.

4. c) Tadpole with Legs stage.

During this stage, tadpoles begin to develop their hind legs as they transition toward becoming adult frogs.

5. b) absorption of the tail.

As tadpoles mature, they gradually lose their tails as they develop into adult frogs.

6. d) Adult Frog stage.

At this point, the frog has fully developed all its adult features and is capable of reproduction.

7. c) Pupa (Chrysalis) and d) Adult Butterfly.

During the pupa stage, the caterpillar undergoes a dramatic transformation, and the adult butterfly emerges from the chrysalis. The egg and caterpillar stages involve growth and development but not the same level of physical transformation as seen in the pupa and adult stages.

Educational Operating System

ADVANCED LEVEL

More than One Answer Type

8. a) laying eggs, c) finding food, and d) finding a mate.

These activities are crucial for reproduction and survival. Pumping fluid into its wings (b) is part of the process of preparing to fly after emerging from the chrysalis, but it's not a primary activity in the same way as the others.

9. a) They have long tails and no legs, b) They primarily live in water, c) They feed on algae and other small water plants, d) They undergo significant changes as they grow.

All of these options describe key features of tadpoles.

Fill In the Blanks

10. Metamorphosis.

11. Tadpoles

Matching Type

12.

1. Egg - B. This stage begins when a female butterfly lays her eggs on the leaves of plants.
2. Caterpillar (Larva) - A. During this stage, the main activity is eating and rapid growth.
3. Pupa (Chrysalis) - D. In this stage, the caterpillar undergoes metamorphosis and transforms into a butterfly.
4. Adult Butterfly - C. The final stage where the butterfly emerges with soft wings, pumps fluid into them, and waits for them to dry before flying.

Answer the Following Questions

13. The primary purpose of a female butterfly laying her eggs on the leaves of plants is to ensure that the emerging caterpillars have immediate access to food. Many caterpillars are specialized feeders that rely on specific host plants for nourishment as they grow. This strategic placement increases the chances of survival for the larvae.
14. Tadpoles primarily obtain their nutrients during their stage of development by *feeding on algae and small aquatic plants*. They have specialized mouths that help them graze on these food sources in their aquatic environment.

LEARNERS TASK

CONCEPTUAL UNDERSTANDING QUESTIONS (CUQ's)

Multiple Choice Questions

1. b) Egg.
The first stage in the life cycle of a butterfly is b) Egg.
2. c) Chrysalis.
Another name for the pupa stage of a butterfly's life cycle is c) Chrysalis.
3. b) pumps fluid into its wings.

to expand and strengthen them before it can fly.

4. b) Egg stage (Spawn).

A female frog lays eggs during the b) Egg stage (Spawn).

5. b) algae and water plants

Tadpoles primarily feed on b) algae and water plants during their stage.

6. c) Tadpole with Legs stage.

ADVANCED LEVEL

More than One Answer Type

7. a) Laying eggs, c) Finding food, d) Finding a mate.

Pumping fluid into its wings is part of the emergence process, not a main activity of adults.

8. a) Egg stage (Spawn), b) Tadpole stage, c) Tadpole with legs, d) Young frog (Froglet) stage.

Fill In the Blanks

9. eat and grow.

10. lungs



Matching Type

11.

1. Egg Stage (Spawn) - B. The life cycle begins with female frogs laying eggs in water, protected by a jelly-like substance.**

2. Tadpole Stage - A. This stage involves larvae with long tails, no legs, primarily living in water, and feeding on algae and small water plants.

3. Tadpole With Legs - C. During this stage, tadpoles develop hind legs first, then front legs, resembling tiny frogs but still possessing long tails.

4. Young Frog (Froglet) Stage - D. Froglets emerge after developing all four legs and absorbing their tails, beginning to explore land while still needing moisture and protection near water.

Answer the Following Questions

12. The four main stages of the life cycle of a butterfly are:

1. Egg – The life cycle begins when a female butterfly lays eggs on a suitable host plant.
2. Caterpillar (Larva) – The eggs hatch into caterpillars, which primarily eat and grow.
3. Pupa (Chrysalis) – The caterpillar transforms into a pupa, undergoing metamorphosis.
4. Adult Butterfly – The fully formed butterfly emerges from the chrysalis, ready to find food and reproduce.

13. The characteristics of the young frog or froglet stage in terms of habitat include:

1. Semi-Aquatic Environment: Froglets often inhabit areas near water bodies, such as ponds, marshes, or streams, where they can find moisture.
2. Need for Moisture: While they are more adapted to life on land than tadpoles, froglets still require a moist environment to prevent dehydration.
3. Shelter: They seek shelter among vegetation, rocks, or debris to protect themselves from predators and to retain moisture.
4. Exploration of Land: Froglets begin to explore terrestrial habitats, transitioning from an aquatic lifestyle to a more land-based one, although they may still return to water for breeding and moisture.

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