

تجميعية أسئلة القسم الورقي وفق الهيكل الوزاري منهج انسابير



تم تحميل هذا الملف من موقع المناهج الإماراتية

موقع المناهج ⇨ المناهج الإماراتية ⇨ الصف السادس ⇨ علوم ⇨ الفصل الثالث ⇨ ملفات متنوعة ⇨ الملف

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ملفات اكتب للمعلم اكتب للطالب ا اختبارات الكترونية ا اختبارات ا حلول ا عروض بوربوينت ا أوراق عمل
منهج انجليزي ا ملخصات وتقارير ا مذكرات وبنوك ا الامتحان النهائي للمدرس

المزيد من مادة
علوم:

إعداد: Jaffar Taybah

التواصل الاجتماعي بحسب الصف السادس



صفحة المناهج
الإماراتية على
فيسبوك

الرياضيات

اللغة الانجليزية

اللغة العربية

التربية الاسلامية

المواد على تلغرام

المزيد من الملفات بحسب الصف السادس والمادة علوم في الفصل الثالث

تجميعية الأسئلة الكتابية المتوقعة وفق الهيكل الوزاري منهج بريدج

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ملخص وحلول تدريبات وفق الهيكل الوزاري القسم الالكتروني منهج بريدج

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الهيكل الوزاري الجديد 2025 منهج بريدج

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Writing Questions

Grade 6 Science

EOT Term 3

2024-2025

Compiled by: Ms Taybah Jaffar

Al Ma'ali School

Principal: Aisha AlNuaimi



Question 1:

Outcomes:

- Understand that different forms of a gene (alleles) cause differences in traits
- Use Punnett squares to predict possible traits in offspring
- Explain how dominant and recessive alleles interact to produce visible traits in offspring

In order to answer this question you need to remember the following:

- Some traits (like flower color) show up often, but some only appear once in a while.
- The traits that don't show up right away are **hidden** and can come back in later generations.
- A **dominant trait** is the strong one that shows up first and can hide the other trait.
- A **recessive trait** is the weaker one that gets hidden by the dominant trait.
- **True-breeding** means the plant only passes on one kind of trait (like only purple flowers).
- The **first generation** is made by crossing two true-breeding plants with different traits.
- The **second generation** comes from those first plants and can show both the strong (dominant) and the hidden (recessive) traits.

So, even if you don't see a trait at first, it might come back later because it was just hiding!



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Both parent plants looked purple, but they were carrying the hidden **white color trait**.

The purple color showed up because it's the **stronger trait** (called **dominant**).

In the second group of plants (the offspring of the purple ones), the **white color came back** because those plants got the **hidden white trait** from both parents.

(Reappearing trait)

When a plant gets the white trait from **both** sides, the **white color shows up!**

Principal: Aisha AlNuaimi

Purple (hybrid) x Purple (hybrid)



Purple and white offspring

Purple (hybrid) x Purple (hybrid)



Purple and white offspring



THREE-DIMENSIONAL THINKING

What **patterns** do you notice in the results of Mendel's second-generation cross between hybrid plants with purple flowers?

Explain how the results may have occurred.

Answers may vary. Sample answer: In Mendel's second-generation cross, the trait for white flowers reappeared. This may have occurred because the parents were hybrids and contained some part of the white flower trait.

Compiled by: Ms Taybah Jaffar

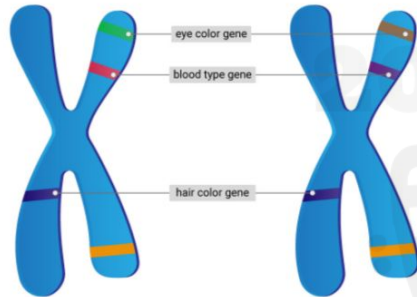
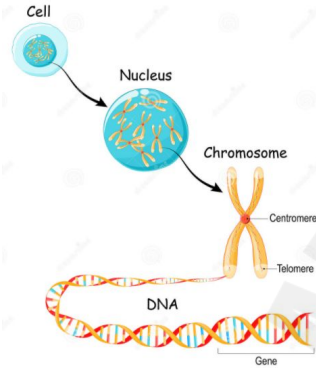
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What controls the traits?

The nucleus contains our genetic information, also known as DNA.

DNA is found inside chromosomes.

Chromosomes are found in pairs. One from each parent. They have the information about the traits.

A gene is a section of DNA that has information about a trait

A gene can take two or more forms, called alleles.



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THREE-DIMENSIONAL THINKING

A cross between two heterozygous pea plants with yellow seeds produced 1,719 yellow seeds and 573 green seeds. What is the ratio of yellow to green seeds? **Construct an explanation** about what the results show regarding inheritance.

The ratio of yellow seeds to green seeds is 3 : 1. These results show that an offspring from heterozygous parents has a 3 : 1 chance of having yellow seeds compared to having green seeds. The results show that yellow seeds are a dominant trait and green seeds are a recessive trait.

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Calculating Ratios:

Always take the big number and divide it by the small number.

The ratio tells us which trait occurs more often and this confirms which traits are dominant or recessive.



Question 1:

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INVESTIGATION

Fruit Fly Traits

1. Use the Punnett square below to complete a cross between a female fruit fly with straight wings (cc) and a male fruit fly with curly wings (CC).



	C	C
c	Cc	Cc
c	Cc	Cc

2. According to your Punnett square, which genotypes are possible in the offspring?

The only possible genotype is Cc. All offspring will be hybrids.

Outcomes:

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Punnett squares:

Used to show the genotypes of parents and the corresponding phenotypes of their offspring.

Homozygous Dominant:

Always 2 capital letters, the alleles are the same.

Homozygous Recessive:

2 small letters, the alleles are the same but for the weaker gene.

Heterozygous:

Alleles are different, so 1 capital and 1 small letter. The Phenotype will be what is represented by the capital letter.



Question 2:

Outcomes:

- Describe how asexual reproduction in plants makes new plants without seeds
- Distinguish between learned and innate (inborn) behaviors in animals
- Know that living things can reproduce in two ways: sexually or asexually

In order to answer this question you need to remember the following:

Asexual reproduction:

Only one parent organism, genetically identical.

“Copy, Paste”

Budding: The new organism grows on the body of its parent

Advantage: happens quickly

Disadvantage: little genetic variation



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INVESTIGATION

Break Off a Piece



1. Examine the pictures of the hydra above. What evidence do you observe that the hydra reproduced?

Answers may vary. Sample answer: The hydra has a growth that appears to grow larger; it looks like itself in the second photo.

2. What are some advantages and disadvantages of this type of reproduction?

Answers may vary. Sample answer: It seems advantageous because it is easy to reproduce quickly. It may be disadvantageous as it may lead to too many individuals who are alike.



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COLLECT EVIDENCE

What are the advantages and disadvantages of the different types of reproduction, such as that of the sea star at the beginning of the lesson?
Record your evidence (C) in the chart at the beginning of the lesson.

	Advantages	Disadvantages	Example
Asexual Reproduction	<ul style="list-style-type: none"> • No need for a mate • Large number of offspring 	<ul style="list-style-type: none"> • Little genetic variation • Mutations can occur 	Star fish (Regeneration)
Sexual Reproduction	<ul style="list-style-type: none"> • Lots of genetic variation • Traits help them survive • Traits make them strong against diseases 	<ul style="list-style-type: none"> • Takes time and energy • Searching for a mate takes a long time 	Fish



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Answer is A

Hydra reproduces through Budding.
New organism grows on parent plant.
When it is big enough it will break off.

Only one parent is needed.

Hydras are organisms that live in freshwater environments. They have a tube-like body and a mouth at one end. Around the mouth are stinging tentacles that help to capture food. Depending on the conditions, hydras can reproduce sexually or asexually.



3. Based on your observations, which statement best explains what is happening to the hydra in the figure above?
- A The hydra is reproducing asexually by budding a new hydra.
 - B The hydra is reproducing asexually by splitting in two.
 - C The hydra is reproducing sexually by grafting to another hydra.
 - D The hydra is reproducing sexually by releasing sex cells into the water.

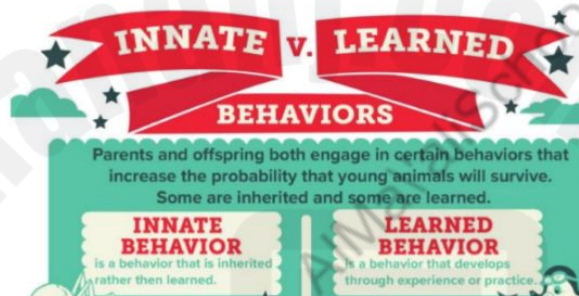


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What are some innate and learned behaviors that help young animals survive?

Innate Behaviors: born knowing how to do it	Learned behavior: being taught through trial and error/experience
<ol style="list-style-type: none"> 1. Spiders knowing how to build a web 2. Tadpoles knowing how to swim once they hatch 	<ol style="list-style-type: none"> 1. Birds learn to fly by learning from their parents. 2. Female sea turtles return to the beach where they were born.



Question 3:

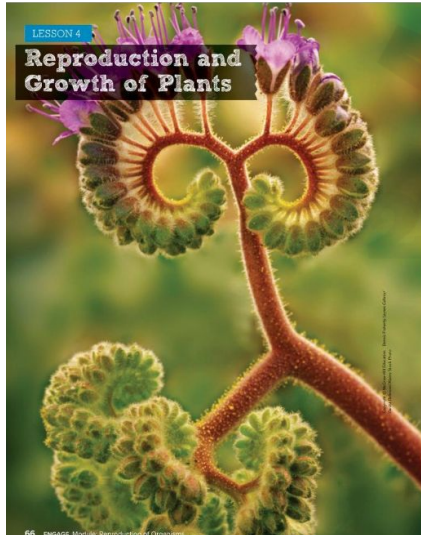
Outcomes:

- Describe how sexual reproduction in plants uses flowers, pollen, and seeds.
- Describe how seeds are dispersed by wind, water or animals and explain why this helps plants grow in new places.

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ENCOUNTER THE PHENOMENON

What structures enable this purple tansy plant to successfully reproduce, and what affects how it grows?



Flowers are used to attract pollinators like bees. They help sexual reproduction between plants with flowers (seed plants).

The **bee will collect pollen from one flower from the Stamen which has the male sperm cell.** The bee will fly over to the next flower where the pollen with the **egg cell will fall down the pistil to meet the female egg cell. Fertilization** (joining of the two cells) will take place at the bottom of the pistil to make a **new seed.**



Question 3:

Outcomes:

- Describe how sexual reproduction in plants uses flowers, pollen, and seeds.
- Describe how seeds are dispersed by wind, water or animals and explain why this helps plants grow in new places.

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How can plants find mates and spread seeds if they cannot move?

Plants can't walk around to find mates or spread seeds, so how do plants reproduce successfully? And why aren't all plant offspring right next to the parent plant? There are a variety of different ways pollination can occur and seeds can spread.



Seeds on the Move

There are several factors that influence how seeds travel from place to place.

How they get there:



WIND

These seeds are light, small and/or have special structures to help them "fly," such as:

parachutes



dandelion



milkweed

propellers



maple



WATER

These seeds have special structures that help them stay afloat, such as:

fibrous husks



coconut

floats in water



water lily

waterproof outer layer



mangrove



ANIMALS

These seeds are eaten and deposited, or have hooks that attach to fur or feathers, such as:

hitchhikers



beggar-ticks

juicy fruits



blackberry

carry outs



acorn



Question 3:

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Page 73

How can plants find mates and spread seeds if they cannot move?

Plants can't walk around to find mates or spread seeds, so how do plants reproduce successfully? And why aren't all plant offspring right next to the parent plant? There are a variety of different ways pollination can occur and seeds can spread.



Seeds need to move away from the parent plant to grow in new places. This is called **seed dispersal**. Here's how it works:

Wind:

Some seeds are light and have special shapes like wings or fluff (like dandelions). The **wind blows them away**, so they can land far from the parent plant and grow.

Water:

Some seeds can float, like coconut seeds. They **travel in rivers or oceans** and end up on new land where they can grow.

Animals:

Some seeds stick to animal fur, or animals eat fruits and later drop the seeds in their poop. This helps **carry seeds to new places** where plants can grow.



Question 3:

Outcomes:

- Describe how sexual reproduction in plants uses flowers, pollen, and seeds.
- Describe how seeds are dispersed by wind, water or animals and explain why this helps plants grow in new places.

2. Which of the following is a plant structure that increases the probability of successful reproduction?



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Answer: B

The **dandelion** (choice B) helps the plant **reproduce by spreading its seeds**. When the wind blows, the seeds fly away to new places where they can grow into new plants.



Question 4:

Outcomes:

- Describe how human actions can harm or help the land
- Explain with evidence how humans change water environments
- Describe how human actions can harm oceans, rivers, and lakes
- Identify and explain both negative and positive ways humans affect water environments

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THREE-DIMENSIONAL THINKING

Summarize your understanding of the **cause-and-effect** relationships between human activities and the environmental impacts on land in the table below.

Type	Causes	Effects
Deforestation	needing land for living space, urban development, agriculture, and resources from trees	loss of biodiversity; decrease in soil quality; increase in carbon dioxide levels
Agriculture	As human populations grow, so does our need for food.	groundwater contamination from fertilizers; desertification; takes up space

Urbanization	Increase in population leads to the development of land for houses and other buildings.	increased flooding; habitat disruption; disappearance of wetlands
Waste Disposal	Increase in population means more waste produced.	landfills take up space; hazardous substances can leak into groundwater; increased pollution



Question 4:

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1. Record some of the negative and positive impacts that humans have on the land.

Negative

1.

2.

3.

Impacts on the Land

Positive

4.

5.

For the **Negatives** you can choose any 3 of the following:

- Deforestation
- Urbanization
- Agriculture
- Waste disposal

For the **Positives** you can choose 2 of the following:

- Reforestation
- Reclamation
- 3R's
- conservation

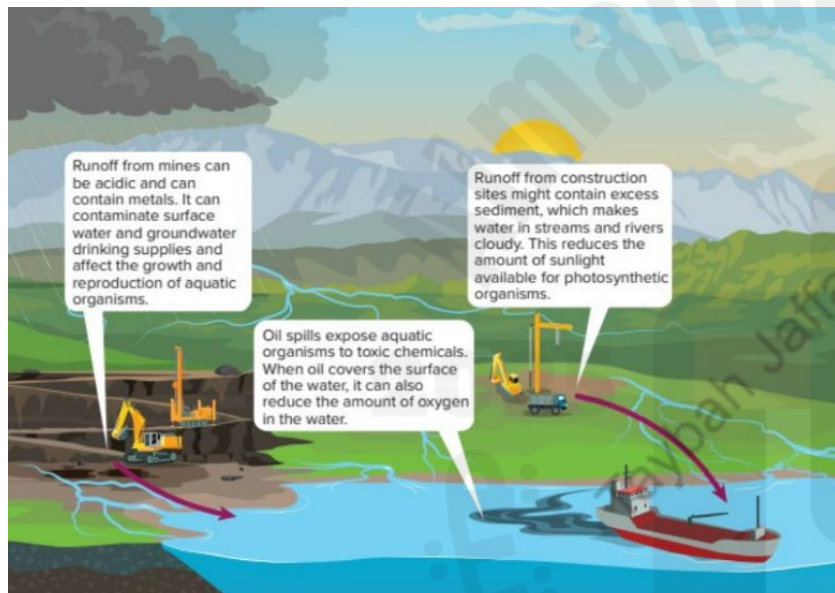


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Mining (digging for metals underground) – The water that runs off mines can be dirty and full of harmful stuff like acids and metals. This can make it hard for fish and other animals to live and grow.

Construction (building things like roads or houses) – When we build things, loose dirt can wash into rivers. This makes the water cloudy and blocks sunlight, which plants in the water need to grow.

Oil Spills (leaks from boats or machines) – Oil can get into the water and poison animals that live there. It can also cover the water's surface and stop oxygen from getting in, which fish and other animals need to breathe.



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- Describe how human actions can harm oceans, rivers, and lakes
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For the **Negatives** you can choose any 3 of the following:

- Pollution
- Dams
- Oil spills
- Industrial waste
- Urban waste (trash)

For the **Positives** you can choose 2 of the following:

- Saving water
- Laws to protect the water sources
- Proper waste disposal

1. Record some of the negative and positive impacts that humans have on Earth's water.

Impacts on Water	
Negative	1.
	2.
	3.
Positive	4.
	5.