

حل تجميعية صفحات الكتاب وفق الهيكل الوزاري منهج انسباير



تم تحميل هذا الملف من موقع المناهج الإماراتية

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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

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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 أسئلة القسم الالكتروني وفق الهيكل الوزاري منهج انسباير

1

تجميعية أسئلة القسم الورقي وفق الهيكل الوزاري منهج انسباير

2

تجميعية الأسئلة الكتابية المتوقعة وفق الهيكل الوزاري منهج بريدج

3

ملخص وحلول تدريبات وفق الهيكل الوزاري القسم الالكتروني منهج بريدج

4

الهيكل الوزاري الجديد 2025 منهج بريدج

5

Lesson 1 INHERITANCE¹.

ENCOUNTER THE PHENOMENON

Why do some offspring look like their parents, while others do not?

Genes, sections of chromosomes carrying genetic information for specific traits, are passed to offspring from both parents. As a result, offspring often, at least to some extent, look like their parents. although variation occurs among individuals.

2. pg 12



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.

3. pg 14



THREE-DIMENSIONAL THINKING

Now that you have learned about dominant and recessive traits, take a look back at the table on the previous page. **Construct an explanation** for which seed color is the dominant trait.

Answers may vary. Sample answer: The yellow seed color is the dominant trait. Like the purple flowers and white flowers, the yellow seeds show up approximately three times more often than the green seeds. Just like purple flowers are the dominant trait, the yellow seeds are the dominant trait because they occur three times to every one green seed.

4. pg 17

6. Determine the possible genotype(s) for each phenotype. Record your responses in the table. Explain your reasoning.

BB and *Bb* denote green bodies, while *bb* denotes red. *SS* and *Ss* denote round spots, while *ss* denotes no spots. *WW* and *Ww* denote short wings, while *ww* denotes long wings.

5. pg 17

COLLECT EVIDENCE

What factors control traits, such as those of the kittens at the beginning of the lesson? Record your evidence (B) in the chart at the beginning of the lesson.

1. Fertilization that occurs when pollen from one plant lands on the pistil of a flower on the same plant

- | | |
|--|---|
| <input type="checkbox"/> A hybrid | <input type="checkbox"/> B self pollination |
| <input type="checkbox"/> C cross pollination | <input type="checkbox"/> D heredity |
| <input type="checkbox"/> E true breeding | |

2. Fertilization that occurs when pollen from one plant reaches the pistil of a flower on a different plant:

- | | |
|--|---|
| <input type="checkbox"/> A cross pollination | <input type="checkbox"/> B self pollination |
| <input type="checkbox"/> C heredity | <input type="checkbox"/> D true breeding |
| <input type="checkbox"/> E hybrid | |

3. Plants that produce the same traits as parents when they are self pollinated

- | | |
|---|--|
| <input type="checkbox"/> A self pollination | <input type="checkbox"/> B hybrids |
| <input type="checkbox"/> C recessive | <input type="checkbox"/> D true breeding |
| <input type="checkbox"/> E dominant | |

4. The passing of traits from parents to offspring

- | | |
|--|--------------------------------------|
| <input type="checkbox"/> A true breeding | <input type="checkbox"/> B heredity |
| <input type="checkbox"/> C hybrid | <input type="checkbox"/> D recessive |
| <input type="checkbox"/> E dominant | |

5. Offspring from parents with different forms of the same trait

- | | |
|--------------------------------------|--|
| <input type="checkbox"/> A hybrid | <input type="checkbox"/> B heredity |
| <input type="checkbox"/> C recessive | <input type="checkbox"/> D true breeding |
| <input type="checkbox"/> E dominant | |

6. Why did Mendel use cross pollination in his experiments?

- | | |
|--|--|
| <input type="checkbox"/> A to control which plants pollinated other plants | <input type="checkbox"/> B to make sure recessive factors were always produced |
| <input type="checkbox"/> C to speed up self pollination | <input type="checkbox"/> D to make sure dominant factors were always produced |
| <input type="checkbox"/> E There weren't any bees | |

Q6 Pg 18



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.

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).

Curly wings (CC)Straight wings (cc)

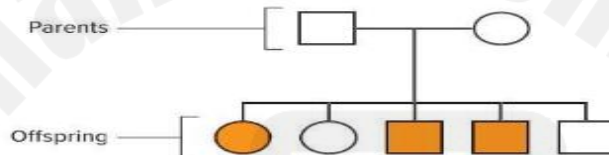
	C	C
c	Cc	Cc
c	Cc	Cc

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

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



Attached lobe



Recessive phenotype

- Female with attached lobes
- Male with attached lobes

Dominant phenotype

- Female with unattached lobes
- Male with unattached lobes



Unattached lobe



THREE-DIMENSIONAL THINKING

If the genotype of the offspring with attached lobes is uu , what is the genotype of the parents? **Explain** your answer.

The genotype of both parents is Uu . In order for any offspring to show the recessive phenotype, each parent must have one recessive allele to contribute.

1. **Model** a pedigree chart that reflects the following information: Two parents have five children. Both of the parents have curly hair. Two boys and one girl have curly hair; the other two, one boy and one girl, have straight hair. Before you draw your chart, choose a color for straight and curly hair, and indicate it in the table. After you draw your chart, determine which trait is dominant and label the proper columns in the table.

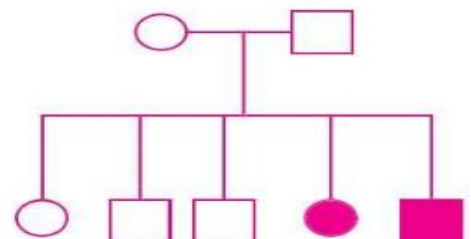
Answers may vary. Sample answer:

dominant phenotype	recessive phenotype
○ Female with curly hair	● Female with straight hair
□ Male with curly hair	■ Male with straight hair

Move up

Parents

Offspring

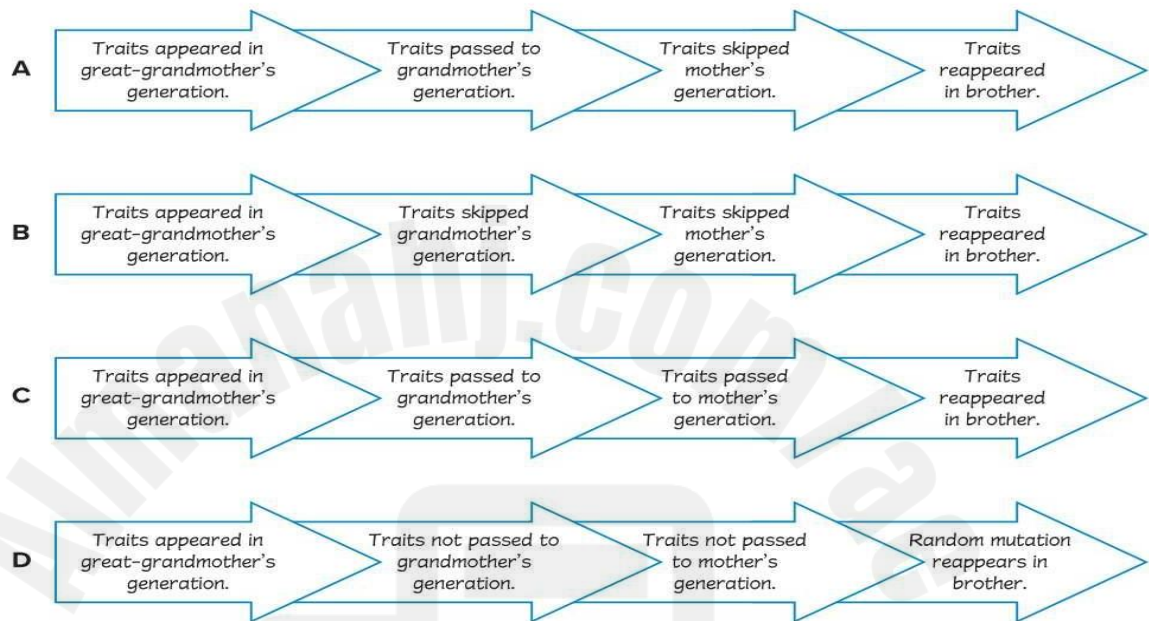




Three-Dimensional Thinking

Susana visits with four generations of her family. Her great-grandmother shows her an old family photo of Susana's great-aunts and great-uncles when they were children. Susana is surprised to see that one of the great-uncles looks almost exactly like her younger brother does now. They have the same distinctive hairline and eye shape. Her great-grandmother tells her that it is the result of heredity.

2. Which is the best explanation that shows the sequence of inheritance that led to Susana having a brother who has the same hairline and eye shape as her great-uncle?



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3. When Mendel crossed a true-breeding plant with purple flowers and a true-breeding plant with white flowers, ALL offspring had purple flowers. The best explanation for this data is that the white flowers are

- A dominant.
- B heterozygous.
- C recessive.
- D neutral.



Three-Dimensional Thinking

2. **C–Correct.** A, B, and D are incorrect because traits must be passed to the grandmother's and mother's generation to reappear in the brother.
3. **C–Correct.** A and B are incorrect because the white flowers have a homozygous recessive genotype. The white allele is not expressed in the offspring because the dominant purple allele is present. D is incorrect because the term does not apply to this question.

Lesson 2 Type of reproduction

Q1. Pg 29

ENCOUNTER THE PHENOMENON

How does this sea star reproduce?

Species of Sea star can regenerate entire body as they keep most vital organs in limbs by asexual reproduction.

Q2. Pg 32

Plant Progeny

Observe two plants—a seed potato and a coleus stem—in glasses of water. Look at photos of the plants when they were first placed in water. Draw a detailed diagram of each of the glasses in your Science Notebook. Observe the plants a week after placement in the water and write down your observations in your Science Notebook.

1. How did the potato and the coleus plant change after one week?

Students should observe the changes that occurred with the plants. The two plants should have outgrowths.

2. How do you think that this relates to the sea stars you heard about in the introduction to this lesson?

Answers may vary. Sample answer: Both were able to make copies of themselves.

Q3. Pg 33

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.

COLLECT EVIDENCE

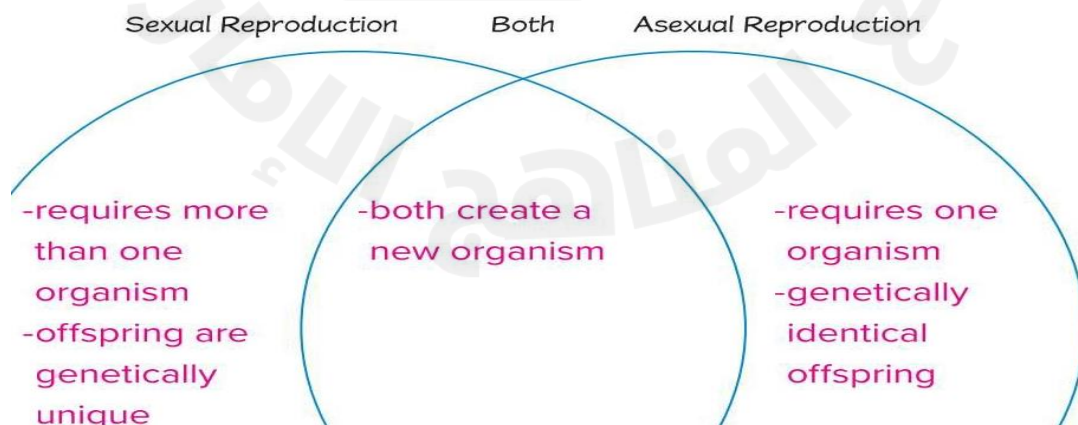
How can two organisms produce offspring that are not identical to themselves, unlike the sea star at the beginning of the lesson?
Record your evidence (B) in the chart at the beginning of the lesson.

Sample answer: The offspring would get genetic information from both parents, which would create variations. Variation within a species may allow organisms to adapt to environmental changes.

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.

	Asexual Reproduction	Sexual Reproduction
Advantages	Asexual reproduction enables organisms to reproduce without a mate. Searching for a mate takes time and energy. Asexual reproduction also enables some organisms to rapidly produce a large number of offspring.	Genetic variation occurs in all organisms that reproduce sexually. Due to genetic variation, individuals within a population have slight differences, which might be an advantage if the environment changes. Some individuals might have traits that enable them to survive unusually harsh conditions such as a drought or severe cold. Other individuals might have traits that make them resistant to disease.
Disadvantages	Asexual reproduction results in little genetic variation within a population. Genetic variation can give organisms a better chance of surviving if the environment changes. Another disadvantage of asexual reproduction involves genetic changes, called mutations. If an organism has a harmful mutation in its cells, the mutation will be passed to asexually reproduced offspring. This could affect the offspring's ability to survive.	Sexual reproduction takes time and energy. Organisms have to grow and develop until they are mature enough to produce sex cells. Then the organisms have to form sex cells—either eggs or sperm. Before they can reproduce, organisms usually have to find mates. Searching for a mate can take a long time and requires energy. The search for a mate might also expose individuals to predators, diseases, or harsh environmental conditions.





Three-Dimensional Thinking

2. A tree produces seeds in pods when wind-borne pollen from another tree of the same species reaches the flowers. Each seed contains genetic information so the seed can grow into an adult tree. Which do you predict would be the effect of this process?
- A The tree produces a large number of genetically diverse offspring.
 - B The tree produces a large number of genetically identical offspring.
 - C The tree produces a small number of offspring that are identical to the female parent.
 - D The tree produces a small number of offspring that are identical to the male parent.

2. **A–Correct.** B, C, and D are incorrect, as the offspring will be genetically diverse.

Hydras are organisms that live in freshwater environments. They have a tubelike 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.

3. **A–Correct.** B, C, and D are incorrect, as the hydra is reproducing asexually, and by budding, not fission.

Lesson 3 Reproduction and growth of animals

Q1 pg 46

Animal Attraction

Animals attract mates in a variety of ways. Depending on the type of animal, these mating rituals can look very different. In what ways do animals “show off” to attract mates?

 **GO ONLINE** Watch the *Finding the Right One* videos.

Record your observations about how the animals in the videos try to attract mates. What behaviors do you observe?

Answers may vary. Sample answer: I see a bird spreading its wings and dancing, a frog making calls, a bird giving an insect to another bird, a bird building a structure out of grass, and small creatures glowing.

Q 2 Pg 52

Staying Safe

When goslings, or baby geese, see a bird in the air that has a different wingspan or shape than the parent goose, they duck down.

1. Look at the images of the three birds in flight. Describe the differences between each silhouette.

Answers may vary. Sample answer: The wingspans are different shapes and lengths. The necks and the beaks are also different.

2. Choose at least two characteristics that are different for each bird.

Answers may vary. Sample answer: The lengths of the necks and the wingspans are different for each bird.

3. How could recognizing differences help a gosling survive?

Answers may vary. Sample answer: The gosling would duck upon seeing a predatory bird, thus becoming less visible to the predator.



INNATE V. LEARNED BEHAVIORS

Parents and offspring both engage in certain behaviors that increase the probability that young animals will survive.

Some are inherited and some are learned.

INNATE BEHAVIOR

is a behavior that is inherited rather than learned.

LEARNED BEHAVIOR

is a behavior that develops through experience or practice.

Parents and offspring both engage in certain behaviors that increase the probability that young animals will survive.

Some are inherited and some are learned.

INNATE BEHAVIOR

is a behavior that is inherited rather than learned.

SPIDERS

Spiders instinctively know how to build webs in order to catch food.

TADPOLES

When tadpoles hatch, they already know how to swim. They can avoid danger as soon as they are born.

LEARNED BEHAVIOR

is a behavior that develops through experience or practice.

BIRDS

Birds learn how to fly through trial and error and reinforcement from their parents.

TURTLES

Female sea turtles return to the beach where they were born to lay their eggs. These turtles imprinted on the beach.

COLLECT EVIDENCE

How are young animals, such as bird of paradise chicks, protected? Record your evidence (B) in the chart at the beginning of the lesson.

A variety of mammals, amphibians, fish, reptiles, and insects also build nests for protection for their offspring, and themselves. Other animals herd their offspring to make sure they aren't left behind and are safe from predators. Some animals circle their young with their horns facing out to protect them from predators.

Courtship

Answers may vary. Sample answer: Animals engage in certain courtship behaviors, such as dancing, competing with others, and bringing gifts in order to attract a mate.

Protecting Young

Answers may vary. Sample answer: Animals engage in certain behaviors in order to protect their eggs and their young. Some animals build nests and herd young in order to protect them.

Factors That Affect the Growth of Young Animals

Environmental Factors

Answers may vary. Sample answer: Environmental factors such as diet, exercise, availability of water and space, and interactions with other organisms determine how an animal will grow.

Genetic Factors

Answers may vary. Sample answer: Genetic factors such as hair color and eye color are passed down through the genes of the parents.



Three-Dimensional Thinking

In order to attract a mate, male peacocks fan out their colorful feathers and dance. Females tend to choose males that have larger displays of feathers and feathers with more eyespots. The peahen then builds her nest by scraping a hole in the ground in a hidden area. Once the chicks hatch, the peahen stays close to them, teaching them what foods to eat and defending them from predators.

2. Which of the following is a courtship behavior that increases the probability of successful reproduction for the peacock?
- A fanning feathers
 - B nest building
 - C protecting from predators
 - D all of the above

A correct

Observe the hamsters' environment below.



3. Which of the following is NOT an environmental factor that would affect the hamsters' growth?
- A the amount of food the hamster is given
 - B gene for fur color
 - C the amount of time spent on the exercise wheel
 - D interactions with other hamsters

B correct

Lesson 4 Reproduction and Growth of Plants

Q 1 pg 67

ENCOUNTER THE PHENOMENON

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

Flowering plants like the purple tansy use flowers to attract pollinators that transfer pollen (sperm) to the pistil (containing the eggs) of another plant of the same species to securely reproduce. Both environmental and genetic factors determine how the plants grow.

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.



**ENGINEERING
LAB**

Blowing in the Wind

In order for reproduction to be successful, seeds must be dispersed to places where resources, such as light, food, water, and space, are available. In this lab, you will work with a partner to design a seed structure that can be carried by wind as far as possible.

Safety 

Materials













- paper
- scissors
- tape



Q2 pg 72

Seeds on the Move

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

How they get there:				
 <p>WIND</p>	<p>These seeds are light, small and/or have special structures to help them "fly," such as:</p>	<p>parachutes</p>  <p><i>dandelion</i></p>	<p>parachutes</p>  <p><i>milkweed</i></p>	<p>propellers</p>  <p><i>maple</i></p>
 <p>WATER</p>	<p>These seeds have special structures that help them stay afloat, such as:</p>	<p>fibrous husks</p>  <p><i>coconut</i></p>	<p>floats in water</p>  <p><i>water lily</i></p>	<p>waterproof outer layer</p>  <p><i>mangrove</i></p>
 <p>ANIMALS</p>	<p>These seeds are eaten and deposited, or have hooks that attach to fur or feathers, such as:</p>	<p>hitchhikers</p>  <p><i>beggar-ticks</i></p>	<p>juicy fruits</p>  <p><i>blackberry</i></p>	<p>carry outs</p>  <p><i>acorn</i></p>

ENVIRONMENTAL Connection Bees play an important role in pollination. As they move from flower to flower collecting nectar for food, they transfer pollen, enabling the plants to reproduce. How is climate change affecting this relationship between bees and pollination?

Answer: hooks that attach to fur or feathers, ease of being carried, Juicy fruits

[...] Nature could tell us thousands of stories about how climate change is affecting life on Earth. [...] Several years ago, NASA oceanographer and amateur beekeeper Wayne Esaias realized he was overhearing one of those stories. The talk of climate change was coming from his bees. [...] Esaias believes that a beehive's seasonal cycle of weight gain and loss is a sensitive indicator of the impact of climate change on flowering plants. [...] The most important event in the life of flowering plants and their pollinators—flowering itself—is happening much earlier in the year than it used to. [...]

[...] Agriculture depends on managed honeybees not only because [...] our industrial-scale system of crop production hinges on huge numbers of pollinators being available in a very limited window of time [...]

“Flowering plants and pollinators co-evolved. [...] Some species of pollinators have co-evolved with one species of plant, and the two species time their cycles to coincide [...]

COLLECT EVIDENCE

How do plants, such as the purple tansy, find mates and spread seeds?
Record your evidence (B) in the chart at the beginning of the lesson.

cause first, as well as with the effect first. **Because seeds are lightweight and can fly, they can travel through the air. / Seeds can travel through the air by flying because they are small and light.**

Treatment	Plant height	Number of leaves	Wilting? Yes/No	Color of leaves	Root length
Control	15 cm	8	No	Green	12 cm
Drought	7 cm	4	Yes	Yellow/Brown	6 cm
Cold	10 cm	6	No	Dark green	9 cm
Saline	6 cm	3	Yes	Pale green	5 cm
Heat	9 cm	5	Yes	Yellowing	7 cm

- Salinity-how much salt in the water or soil

-Temperature is too cold/too hot

-Draught- temperature very high and no water available



COLLECT EVIDENCE

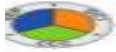
What factors affect how plants, such as the purple tansy, grow? Record your evidence (C) in the chart at the beginning of the lesson.



THREE-DIMENSIONAL THINKING

Analyze and interpret the data from the Investigation *Testing Plant Growth* to explain the **cause and effect** relationship between environmental factors and plant growth. Record your response in your Science Notebook.

plants grow are both genetic and environmental. Genetic factors, like flower color or location, are controlled by genes. Plants grow best under certain environmental conditions. Evidence of this was seen in the Investigation *Testing Plant Growth*, where plant growth was affected by drought, saline, cold, and hot conditions. I read about how plants also respond to environmental factors like light, touch, and gravity



Three-Dimensional Thinking

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

A



B



C



D



2. B—Correct. A, C and D—While leaves, stems, and roots do increase the chance of successful reproduction simply by helping to carry out life processes the plant cannot reproduce without, they have a secondary role to flowers.

Mr. Blake is preparing to plant his yearly corn crop. In order to produce the best crop yield possible, he considers a variety of factors that can affect the growth of the corn.

3. Which of the following is not a factor that can affect the growth of the corn crops?

- A gene for color of kernels
- B amount of water given
- C the space available for the plants to grow
- D all of the above

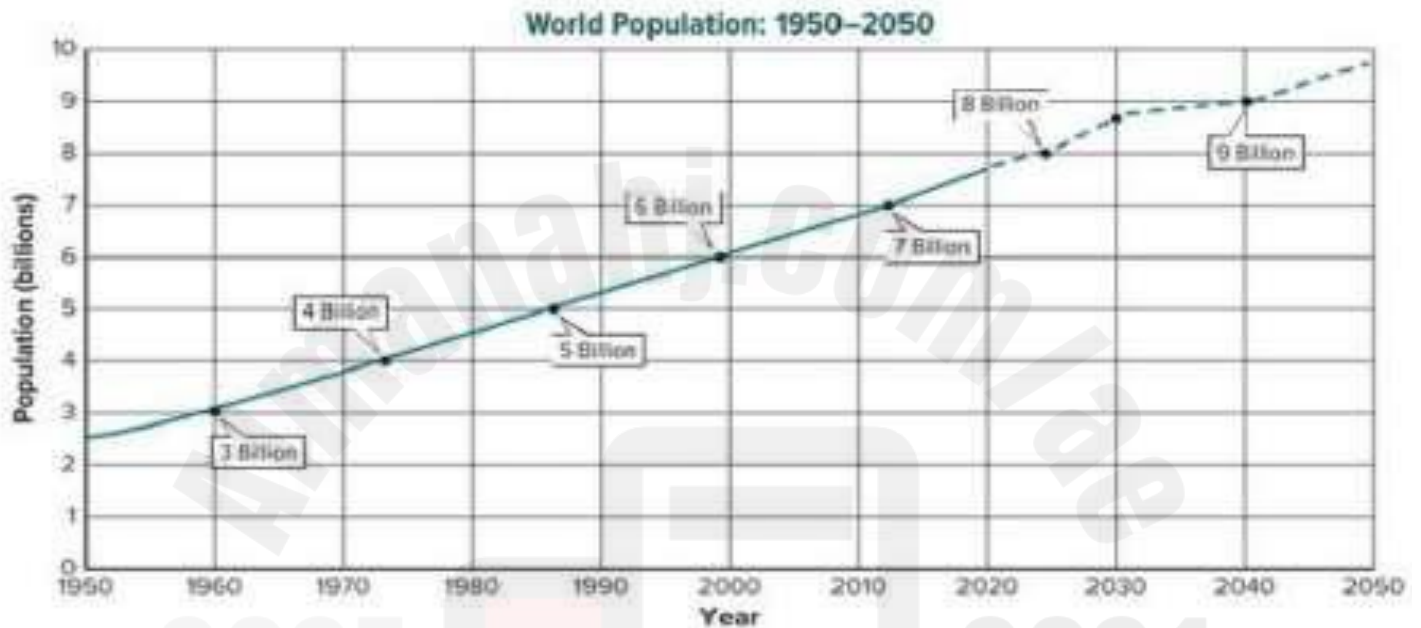
Ans: D

Lesson 5 Human Impact on land

Q1 Pg 12

Analyze and Conclude

6. Use your bar graph to explain changes in Earth's human population over time.



Analyze and Conclude

6. Use your bar graph to explain changes in Earth's human population over time.

Sample answer: As time went on, the population increased more rapidly.

7. What impact might this have on land?

Sample answer: As the human population increases, land resources become limited because more people are using them.

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

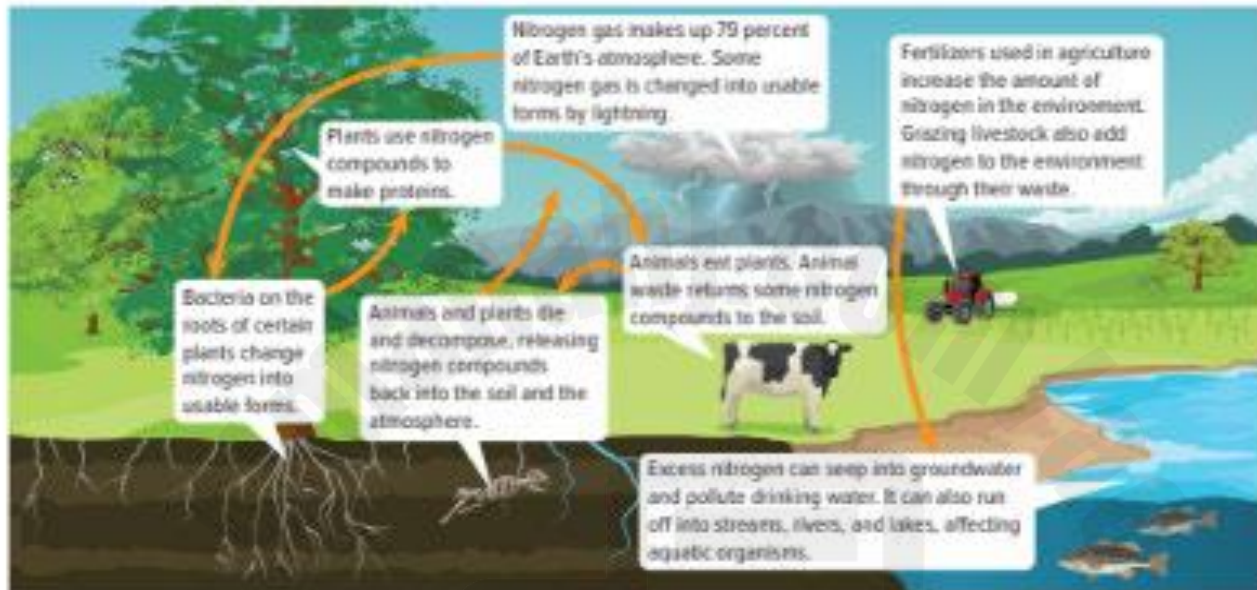
1. **Record** some of the negative and positive impacts that humans have on the land.

	Impacts on the Land
Negative	Students' responses will vary, but might include
	1. deforestation, desertification, mining, urbanization, and placing waste in landfills.
	2.
Positive	3.
	4. Students' responses will vary, but might include
	5. establishing protected parks and forests, reforestation, reclamation, green spaces, reusing resources, reducing the use of materials, recycling, and composting.



Three-Dimensional Thinking

Study the nitrogen cycle shown in the figure below. Nitrogen is an element that cycles naturally through ecosystems. Living things use nitrogen to make proteins. When these living things die and decompose or produce waste, they release nitrogen into the soil or the atmosphere. Scientists estimate that human activities have doubled the amount of nitrogen cycling through ecosystems.



2. How does the use of fertilizers affect the environment?

- A Fertilizers decrease the amount of nitrogen in the environment. A decrease in nitrogen can cause an increase in lightning and storms.
- B Fertilizers increase the amount of nitrogen in the environment. Excess nitrogen can pollute groundwater and surface water.
- C Fertilizers decrease the amount of nitrogen in the environment. This affects the rate at which plants and animals decompose.
- D Fertilizers increase the amount of nitrogen in the environment. An increase in nitrogen disrupts plant processes.

2. B—Correct. A and C are incorrect because using fertilizers increases the amount of nitrogen in the environment. D is incorrect because plants use nitrogen to make proteins.

Lesson 6 Human Impact on water

Q1 Pg 42

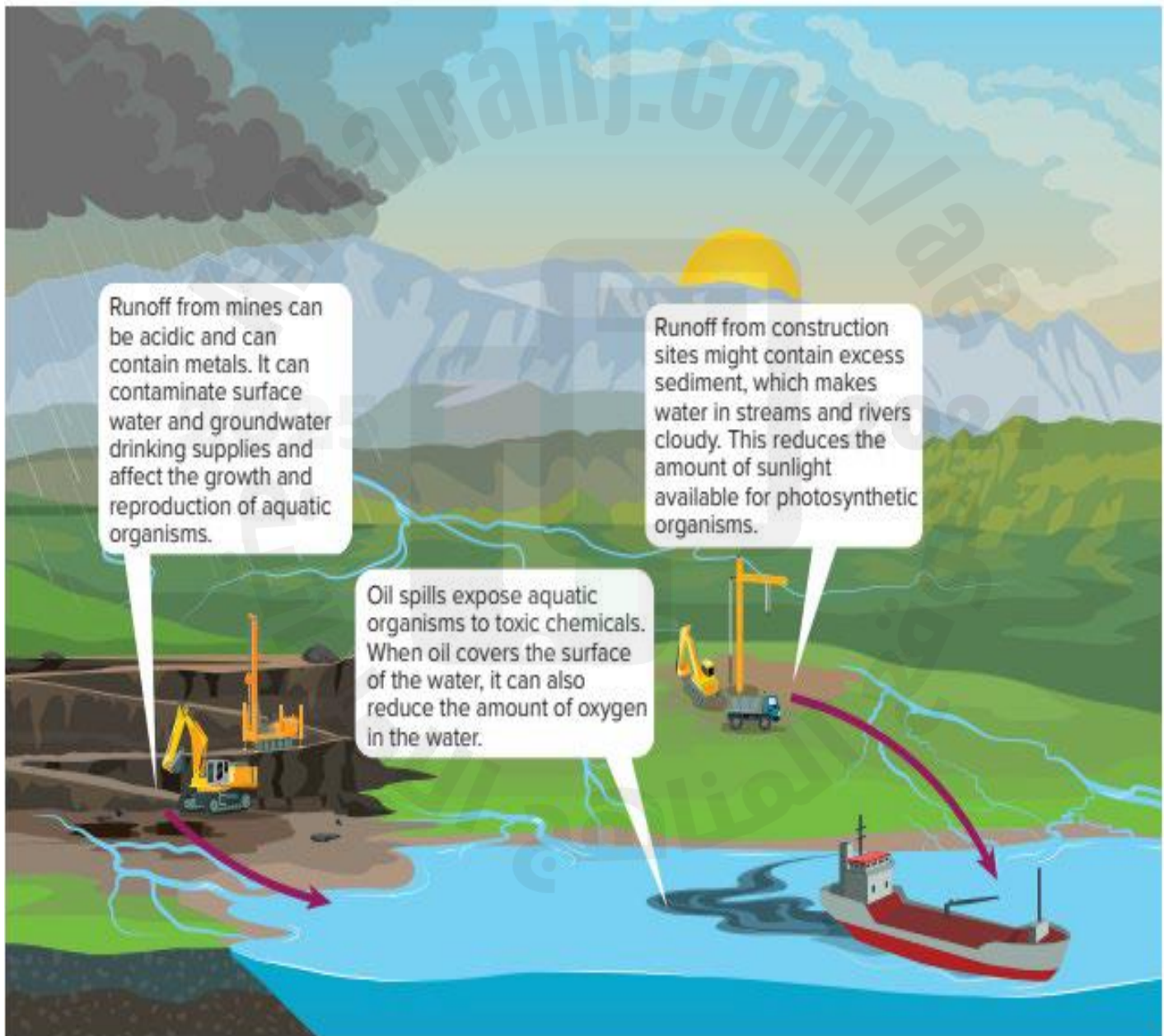


THREE-DIMENSIONAL LEARNING

Write a short statement to present to your city council supporting or not supporting the construction of a new dam in your community. What **changes** would a dam bring to your local ecosystem? **Explain** your reasoning.

Answers may vary. Sample answer: I do not support a dam being built in our community because it will disrupt the stability of the natural system. The change that would negatively affect downstream ecosystems does not outweigh the benefits.

Q2. Pg 47



ASK: How does runoff cause water pollution? **Runoff can pick up sediment and chemicals as it travels over land, carrying these substances into water bodies, causing pollution.**

ASK: What are some ways organisms are affected by water pollution? **Fertilizers in runoff can upset the balance of nutrients organisms need. Toxic chemicals from industrial waste can harm aquatic organisms. Polluted runoff from mines can affect the growth and reproduction of aquatic organisms.**

ASK: How are people harmed by water pollution? **People can get sick if they drink polluted water.**

ASK: How does sediment pollution impact organisms? **Sediment reduces the amount of sunlight available for photosynthetic organisms.**

Q3 pg 51

COLLECT EVIDENCE

What are the causes and effects of water pollution? Record your evidence (B) in the chart at the beginning of the lesson.

Causes: pollution from solid waste, agriculture, industrial waste, sewage, mining and fertilizers, cutting down trees for space for dams

Effects: water becomes contaminated, destroying animal habitats, sediment erosion, sinkholes, algal blooms

Q4 Pg 55

COLLECT EVIDENCE

What are ways in which we can monitor or minimize human impact on Earth's water? Record your evidence (C) in the chart at the beginning of the lesson.

Make laws to minimize water pollution, Use less water, Recycle, Properly dispose of harmful substance.

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

Negative	1. Students' responses will vary, but might include changing the flow of water by damming streams, generating pollution
	2. such as oil spills and industrial waste, and generating pollution such as from an urban or agricultural area.
	3.
Impacts on Water	
Positive	4. Students' responses will vary, but might include proper waste disposal, conserving water, and establishing laws
	5. to protect resources.



Three-Dimensional Thinking

Read the passage below. Then answer the question that follows.

Estuaries form where rivers containing freshwater flow into the salty waters of an ocean. The mixture of fresh and salt water stays balanced as long as both the river and ocean tides continue to mix at the river's mouth. Estuaries are usually calm and often contain many food sources. Because of this, many species of fish and other organisms breed and raise their offspring in estuaries. These organisms are adapted to life in brackish estuary waters.

2. **LIFE SCIENCE Connection** A new recreation area is being built upstream from an estuary that is known for its abundance of fish and turtles. A dam will be built across the river and a large lake will form behind it. What effect will the dam have on the organisms living in the estuary?
- A Organisms adapted to living only in brackish water will survive.
 - B Organisms adapted to living in brackish water will move to live in the open ocean.
 - C Some of the organisms will die because the water will be less salty.
 - D Some of the organisms will die because the water will be more salty.

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2. **D—Correct.** A and C are incorrect because less freshwater will enter the estuary, making its water more salty. B is incorrect because ocean water is too salty, not brackish, so the organisms couldn't survive in the ocean.