

تم تحميل هذا الملف من موقع المناهج الإماراتية



## حل أسئلة وتدرجات نهائية منهج انسابير

موقع المناهج ← المناهج الإماراتية ← الصف الرابع ← علوم ← الفصل الثاني ← حلول ← الملف

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منهج انجليزي | ملخصات و تقارير | مذكرات و بنوك | الامتحان النهائي للمدرس

المزيد من مادة  
علوم:

## التواصل الاجتماعي بحسب الصف الرابع



صفحة المناهج  
الإماراتية على  
فيسبوك

الرياضيات

اللغة الانجليزية

اللغة العربية

التربية الاسلامية

المواد على تلغرام

## المزيد من الملفات بحسب الصف الرابع والمادة علوم في الفصل الثاني

أسئلة و تدرجات نهائية منهج انسابير

1

حل مراجعة عامة منهج انسابير

2

مراجعة عامة منهج انسابير

3

حل أسئلة مراجعة نهائية منهج انسابير

4

أسئلة مراجعة نهائية منهج انسابير

5

NAME \_\_\_\_\_

MAXIMUM MARKS:

CLASS 4/ \_\_\_\_\_

1. Classify the following types of energy.

Light/Sound/Chemical/ Thermal/Electrical/ Nuclear

Stored energy	Energy of motion
<p>Nuclear energy</p> <p>Chemical energy</p>	<p>Thermal energy</p> <p>Electrical energy</p> <p>Light energy</p> <p>Sound energy</p>

2. Label the picture with correct type of energy.

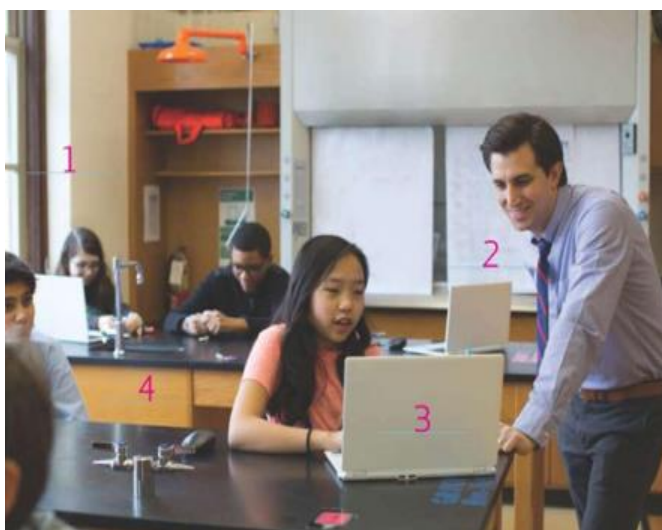


Sound energy



Thermal energy





3.



**Label the type of energy in this picture:**

1. The sun gives thermal energy  
and light energy
2. The teacher has chemical  
energy from food and sound
3. Computer has electrical,  
sound , light and thermal energy
4. Students making a model  
needs chemical energy

4.

Object	Name	Energy transfer or energy transformation	Object
	Windup toy	Energy transformation	Potential to kinetic and sound
	Pom Pom launcher	Energy transformation	Potential to kinetic
	Dropped ball	Energy transformation	Potential to kinetic
	Marbles	Energy transformation and transfer	Kinetic to kinetic to sound

5. Which best describes how energy changes in a **toaster**?

- a. Chemical to thermal
- b. Electrical to light
- c. Electrical to thermal
- d. Electrical to chemical

6. Dan made the following observation in his science notebook.

*The radio sitting on my table made the water in my glass move.*

What can he conclude?

- a. Some types of energy cannot transfer through water.
- b. The sound energy of the radio transferred through the water.
- c. Electrical energy of the radio transferred through the water.
- d. Only light can move through water.

7. Which is the correct example of motion to sound?

- a. Burning candle heats up.
- b. Plucked guitar string makes noise.
- c. Ball rolls down the hill.
- d. Rubbing warm hands.

8. For a **flashlight** to turn on, **chemical energy from the batteries changes to electrical energy** that flows to the **lightbulb**. The **lightbulb changes electrical energy into light energy**. What is this an example of?

- a) energy transformation
- b) energy exchange
- c) energy being created
- d) energy being destroyed

9. Fill in the blank:

A child hitting a drum creates vibrations that produce sound energy.

10. Energy is transferred from the Sun to Earth through \_\_\_\_\_ and \_\_\_\_\_ energy.

- a) Light and thermal
- b) Electrical and sound

11. Electrical energy is transferred when an iron is plugged into an outlet. What type of energy does the electrical energy become?

Thermal energy



12. Identify the statement that correctly explains what happens when energy transfers in a system.

- a) About 75% of the energy is transferred, while the rest is destroyed.
- b) All the energy is transferred in different amounts to different forms.
- c) Half of the energy is transferred in different amounts to different forms.
- d) Some of the energy gets transferred, while a portion is lost along the way.

13. Thermal energy is:

- a) the internal energy of an object due to the kinetic energy of its particles
- b) the external energy of an object due to its potential energy
- c) the internal energy of an object due to the stored energy of its particles
- d) the external energy of an object due to its exposure to the Sun

14. When a person plucks the string on a guitar, \_\_\_\_\_ energy is transferred.

Sound energy

15. Which statement is true?

- a) A lamp changes heat energy to electrical energy.
- b) A lamp changes light energy to electrical energy.
- c) A lamp changes electrical energy to light and heat energy.
- d) You cannot change energy from one form to another.



16. Frank placed a metal spoon in a glass bowl of hot soup. He then went back to get crackers. When he touched the spoon, he was surprised to find that it was hot. Frank knew that the spoon was not hot when he put it in the soup.



Which sentence best explains how this happened?

- a) The radiation from the microwave bounced onto the spoon.
- b) Spoons begin heating up when they are placed into liquids.
- c) Thermal energy is transferred from the soup to the spoon.
- d) Heat is created when metals and glasses combine with one another

17. Dolphins communicate using special vibrations and sounds. How is this possible?

- a) Dolphins have very good hearing.
- b) The energy can flow easily through water.
- c) Dolphins make loud sounds only other dolphins can hear.
- d) The energy is transferred from one dolphin to another through sound.

18. A pom-pom launcher \_\_\_\_\_

- a) transfers kinetic energy to thermal energy
- b) transforms kinetic energy to sound energy
- c) transforms stored energy to energy of motion
- d) transfers energy of motion to stored energy

19. When a student plays a guitar, how does the sound travel to reach your ears?

- a) using echos
- b) through potential energy
- c) through thermal energy
- d) through sound waves



20. Light travels in a \_\_\_\_\_ path.

- a) Curved
- b) Straight
- c) Random
- d) Zigzag

21. Why are sounds not heard in space?

- a) Space is too cold for sound waves to travel.
- b) There is too much matter to travel through in space.
- c) Space is a vacuum with few particles to travel through.
- d) Energy cannot travel in space.

22. Sound waves cannot travel through \_\_\_\_\_ outer \_\_\_\_\_ space.

**23. Which is the best description of how sound waves travel?**

- a) in a straight path to your ear
- b) back and forth from the source
- c) outward in all directions
- d) upward from the source

**24. How are sound waves and states of matter (solid, liquid, gas) related?**

- a) Sound waves cannot travel through any states of matter.
- b) Sound waves can travel through all three states of matter.
- c) Sound waves can travel through solids, but not gasses or liquids.
- d) Sound waves can travel through liquids, but not solids or gasses

**25. A boy, who was at a very loud motorcycle race, said he could feel the motorcycles vibrate his body, even though he was not touching them. How is this possible?**

- a) The noise was too loud for the boy.
- b) The boy was sitting very close to the motorcycles.
- c) The energy was transferred to the boy's body through sound.
- d) The motorcycles sent electrical currents through the boy's body.

**26. Astronauts in space cannot talk to each other unless they use a radio to speak back and forth.**

**Why is this?**

- a) The air is too thick to carry sound waves efficiently.
- b) The force of gravity is too strong to allow sound waves to travel.
- c) There is no air in space, so there is no medium to carry sound waves.
- d) It is very loud in space, so they can only hear each other through a radio.

**27. A fire truck's siren and flashing lights are examples of \_\_\_\_\_ and \_\_\_\_\_ energy.**

**Choose two answers.**

- a) heat
- b) light
- c) sound
- d) chemical

**28. Sound \_\_\_\_\_ cannot \_\_\_\_\_ travel through outer space. (can/ cannot)**

**29. To stop a drum from producing sound, you would \_\_\_\_\_.**

- a) hit it harder
- b) hit it softer
- c) stop it from vibrating
- d) place it in water

**30. How does sound energy travel?**

- a) in strings
- b) in beams
- c) in pulses
- d) in waves

31. A form of energy that allows you to see objects is \_\_\_\_\_.

- a) heat
- b) light**
- c) solar energy
- d) vision

32. What is the difference between sound and light energy?

**Ans.** Sound needs a medium to travel such as solid , liquid and gas. However, light does not. Light can travel in space.

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33. Sound energy is a type of:

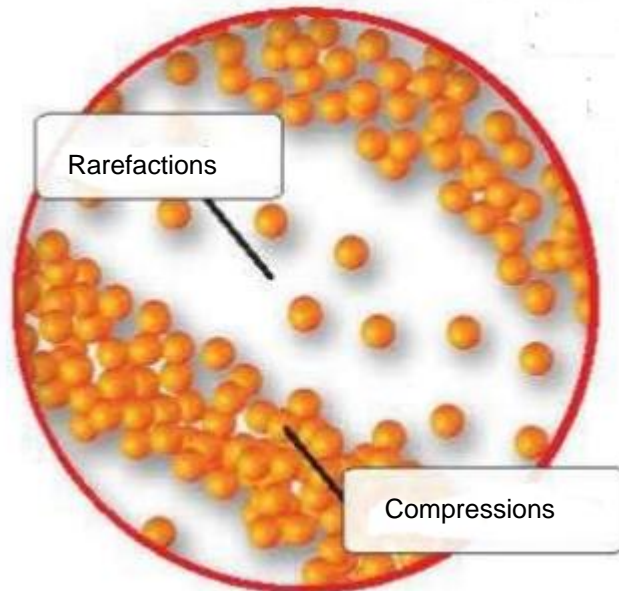
- a) Stored energy
- b) Infrared energy
- c) Energy of motion**
- d) None of the above

34. How can light energy solve real life problems?

**Ans:** We can use light energy to create electricity using solar panels .

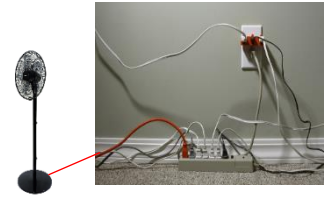
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35. Label compression/ rarefaction in the given picture:



36. A fan is plugged into an extension cord. The extension cord is plugged into a wall outlet. How does the extension cord help the fan work?

- a) The extension cord makes the fan more powerful.
- b) The extension cord makes the fan easier to operate.
- c) The extension cord transfers sound energy to the fan.
- d) The extension cord transfers electric currents from the outlet to the fan.

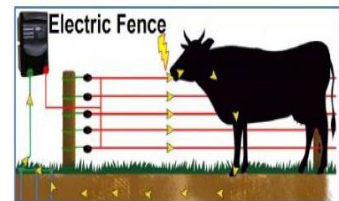


37. A flow of electrical charges is known as \_\_\_\_\_.

- a) resistance
- b) electrical current
- c) insulator
- d) voltage

38. An electric fence used to contain cattle works by transmitting energy through a conductor creating an electric \_\_\_\_\_.

- a) Light
- b) Sound
- c) Current



39. In an electric circuit, a battery can act as a \_\_\_\_\_.

- a) voltage source
- b) conductor
- c) insulator
- d) resistor

40. A conductor is a \_\_\_\_\_.

- a) a material that increases the number of charged particles
- b) material that increases the amount of electricity
- c) material through which electricity flows easily
- d) material that stops the flow of energy

41. You are asked to design a product that will change **electrical energy to heat energy**. Choose the item you would research while developing your product.

- a) Hair dryer
- b) Alarm clock
- c) Ceiling fan
- d) Cell phone

42. A switch in a circuit \_\_\_\_\_.

- a) acts as an insulator
- b) absorbs electricity
- c) allows or stops the flow of electricity
- d) keeps the flow of electricity at a safe level



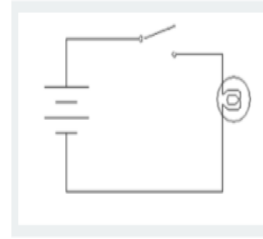
43. An object in an electrical circuit that resists the flow of energy is called \_\_\_\_\_.

- a) a magnet
- b) a compass
- c) a voltage
- d) a resistor



44. Will the light bulb in this circuit light and why/why not?

- a) no, because the switch is open
- b) yes, because it has two batteries
- c) no, because the bulb is burned out
- d) yes, because it is in a circuit



45. The path along which electrical current flows is called a(n) Circuit.

46. A student made the circuit in the drawing below.

Which does the student need to add to the circuit to make it work?

- a) another bulb
- b) another battery
- c) a switch
- d) another wire



47. A \_\_\_\_\_ is a material that stops or slows the current.

- a) Conductor
- b) Insulator
- c) Battery
- d) Flashlight

48. A farmer needed to keep his baby chicks warm. He placed a light in their cage. Which sentence best explains the farmer's thinking of placing a light in the cage?

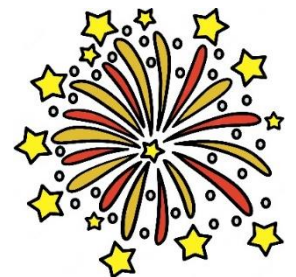


- a) The farmer thought the light would transfer thermal energy to the chicks' cage.
- b) The farmer thought that the chicks would be healthier if they were not in the dark.
- c) The farmer thought that the chicks would eat more to stay warm if they can see their food.
- d) The farmer thought that the light would encourage the chicks to huddle together to keep themselves warm.

49. A conductor transfers heat easily. (conductor/insulator)

50. You are watching fireworks on the fourth of July. When the fireworks are set off, they give off three forms of energy. Which three forms of energy are given off?

- a) light, sound, electrical
- b) light, sound, heat
- c) sound, electrical, mechanical
- d) heat, mechanical, electrical



51. In the image, what evidence can you gather to prove that energy is being transferred?

- a) The smoke shows that the grill is transferring **heat energy** to cook the food.
- b) The smoke shows that the grill is transferring **sound energy** to cook the food.
- c) The smoke shows that the grill is transferring **electrical energy** to cook the food.
- d) The smoke shows that the grill is transferring **mechanical energy** to cook the food.



52. It is very hot outside, and you walk barefoot on hot pavement. Predict what will happen in this scenario.

- a) The transfer of heat energy from the pavement will cause your feet to feel hot.
- b) The transfer of light energy from the pavement will cause your feet to feel hot.
- c) The transfer of light energy from the pavement will cause your feet to feel cold.
- d) The transfer of heat energy from the pavement will cause your feet to feel cold.

53. \_\_\_\_\_ is an excellent thermal conductor because it conducts heat easily.

- a) Wood
- b) Plastic
- c) Aluminum

54. How does heat travel from the Sun to Earth?

- a) conduction
- b) convection
- c) radiation
- d) conduction and convection

55. A classroom has a tropical fish tank. The students notice that the tank has a light in it.

The teacher says the light is to keep the fish warm. Which sentences best explain how the light keeps the fish warm? Select all that apply.

- a) The light transfers energy to the water.
- b) The light makes it easier to see in the tank.
- c) The light helps keep the tank clean for the fish.
- d) The light's energy provides food for plants in the tank.
- e) The light's energy increases the temperature of the water.



56.



57. Heat moves from \_\_\_\_\_ to \_\_\_\_\_ objects.

- a. Hot to cold
- b. Cold to cold
- c. Cold to hot
- d. Hot to hot

58. Heat moves from \_\_\_\_\_ to \_\_\_\_\_ objects.

- a. Warmer to colder
- b. Colder to warmer

59. Heat moves from hot to cold object as long as both bodies reaches the \_\_\_\_\_ temperature.

- a. Same
- b. Different

60. How would using LED lightbulbs help save energy?

LED bulbs produce same amount of light energy without wasting some electrical into thermal energy.

61. Circle the correct answer:



- A  Conduction    B  Convection  
C  Radiation



- A  Conduction    B  Convection  
C  Radiation



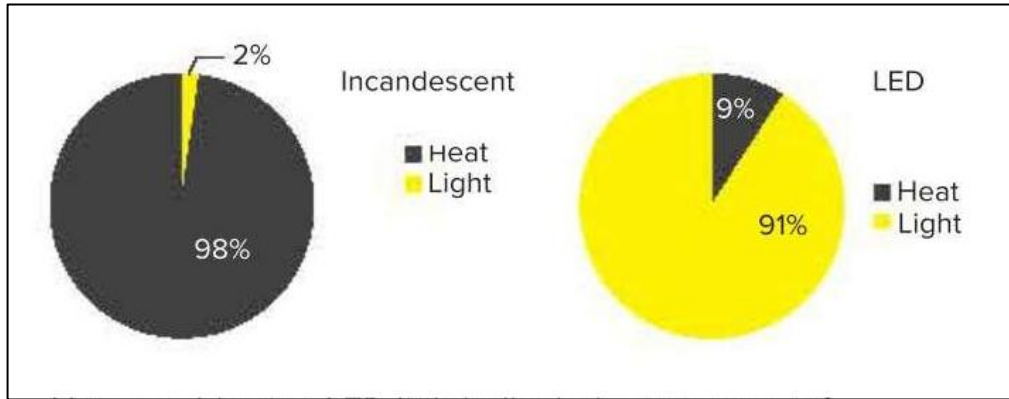
- A  Conduction    B  Convection  
C  Radiation

62. 

What is being removed here ?

- a. Crude oil
- b. Geothermal
- c. Coal
- d. Solar

63.



Which bulb produces more light? <b>LED or Incandescent?</b>	LED bulbs
Which bulb uses more electricity? <b>LED or Incandescent?</b>	Incandescent
How much <b>light</b> is produced by <b>LED or Incandescent?</b>	LED <u>91</u> % Incandescent <u>2</u> %
How much <b>Heat</b> is produced by <b>LED or Incandescent?</b>	LED <u>9</u> % Incandescent <u>98</u> %

NAME \_\_\_\_\_

MAXIMUM MARKS: 34

CLASS 4/ \_\_\_\_\_

1. Fossil fuels are \_\_\_\_\_.

- a) nonrenewable resources
- b) renewable resources
- c) unlimited resources
- d) inexpensive resources

2. How are fossil fuels formed?

- a) Heat and pressure turn animal and plant remains into fuels.
- b) Scientists collect fossils and turn them into fuels.
- c) On the surface of Earth, wind and rain turn fossils into fuels.
- d) Fossils sink into swamps and take between five and ten years to turn into fuels.

3. \_\_\_\_\_ is pumped out of the ground and can be used for cooking and heating our homes.

- a) Crude oil
- b) Natural gas

4. Which is not a fossil fuel?

- a) oil
- b) natural gas
- c) wood
- d) coal

5. A material that formed from ancient organisms and is used today as a source of energy is a(n)-

- a) fossil fuel
- b) fissile material
- c) sediment
- d) alternative energy resource

6. Which is an example of a nonrenewable resource?

- a) wind
- b) sunlight
- c) oil
- d) water

7. Coal is mainly used to generate \_\_\_\_\_ and has been used to power steam locomotives.

- a) Electricity
- b) sound energy

8. **Corn, crabs, natural gas, and soybeans** are natural resources found in Maryland.

Which is a nonrenewable resource?

- a) corn
- b) crabs
- c) soybeans
- d) natural gas

9. Nonrenewable resources are resources that \_\_\_\_\_.
- a) take so long to form that they cannot be replaced quickly
  - b) are so plentiful in nature that they can be used without worry
  - c) cause no pollution to the environment, so they are the best kind to use
  - d) cause so much pollution that they are never used

10. Coal is a nonrenewable natural resource.  
Which best describes how humans use coal?



- a) Humans use coal for food.
- b) Humans use coal for clothing.
- c) Humans use coal for medicine.
- d) Humans use coal to produce electricity.

11. Lilly learned that fossil fuels contain a lot of energy. Why are fossil fuels considered nonrenewable resources?

- a) Fossil fuels are essential to civilization.
- b) Fossil fuels cannot be replaced fast enough for future use.
- c) Fossil fuels are easily renewed.
- d) Fossil fuels are alternative energy sources

12. Which statement is not true about nuclear energy?

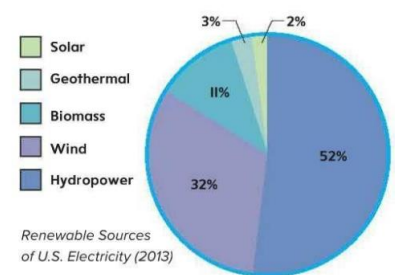
- a) Nuclear energy is created using fossil fuels.
- b) Nuclear energy is a nonrenewable resource.
- c) Nuclear energy is used to generate electricity.
- d) Nuclear energy waste may damage the environment

13. What is one effect of using coal to meet our energy needs?

- a) It cleans the air.
- b) It will not run out.
- c) It does not disturb wildlife.
- d) It pollutes the environment.

14. Which type of renewable source is used the most in United states?

- a) Hydropower
- b) Solar
- c) Biomass
- d) Wind



15. \_\_\_\_\_ is useful material that can be replaced quickly in nature.

- a) Alternative energy source
- b) Renewable resource
- c) Nonrenewable resource
- d) Coal

16. Wood is renewable resource. What can make it scarce (limited)?

If we cut trees faster than growing it , it will be limited

17. What condition will determine if hydropower and wind should be used in community?

Hydropower: If the community is nearby river and wind if there is high land as mountains nearby.

18. Geothermal energy is obtained and used by harnessing the heat from Earth's surface.
- a) above
  - b) below
19. Which type of energy would best be used in an area with a lot of hot springs?
- a) hydroelectricity
  - b) solar energy
  - c) wind energy
  - d) geothermal energy
20. Wind energy, water energy, and solar power are all examples of energy solutions.
- a) Renewable resources
  - b) Nonrenewable resources
21. Which is not a source of renewable energy?
- a) thermal energy
  - b) wind energy
  - c) solar energy
  - d) fossil fuels
22. Wind energy, harnessed by windmills, is one type of \_\_\_\_\_ energy source.
- a) Renewable
  - b) Nonrenewable
23. Which method is used to change plant and animal materials into usable fuel?
- a) hydroelectricity
  - b) recycling
  - c) biomass conversion
  - d) solar collection
24. Which is where geothermal energy comes from?
- a) inside Earth
  - b) the Sun
  - c) wind turbines
  - d) hydroelectric dams
25. Geothermal power plants use \_\_\_\_\_ from the Earth's interior to generate power.
- a) heat
  - b) water
  - c) wind
26. Which of the following are renewable resources? Select all that apply.
- a) fossil fuels
  - b) hydroelectricity
  - c) wind energy
  - d) copper

27. Which of the following is not an advantage to renewable energy?

- a) Solar power is abundant as a resource.
- b) Hydroelectric dams block rivers and streams.**
- c) Biomass energy uses waste products to create energy.
- d) Wind energy can be generated day and night.

28. Why is solar power a renewable energy source?

- a) It cannot be used up.**
- b) It is a natural resource.
- c) It creates extra sunlight.
- d) It creates new sources of gasoline.

29. Fossil fuels used in transportation can cause problems. Which is a possible solution to these problems?

- a) Use renewable energy sources in cars, such as biofuels and solar power.**
- b) Have car and truck drivers use more fossil fuels in their vehicles during rush hour traffic.
- c) Make hybrid cars, which use both gas and electricity, illegal.
- d) Do not build fuel-efficient cars.

30. Which is not a source of renewable energy?

- a) thermal energy
- b) wind energy
- c) solar energy
- d) fossil fuels**

31. Which method of powering a vehicle will help to reduce air pollution?

- a) using oil
- b) using biofuels**
- c) using gasoline
- d) using diesel fuel

32. The overuse of fossil fuels leads to \_\_\_\_\_.

- a) flooding
- b) pollution**
- c) fertile soil
- d) good crops

33. Our society uses up vast amounts of nonrenewable sources of energy. What should we do about energy sources in the future?

- a) Nothing; all energy sources are replaceable.
- b) We will need to develop new ways of using oil.
- c) We will need to develop more technology that relies on fossil fuels.
- d) We will need to find ways to use renewable sources of energy.**



34. What is one effect of using coal to meet our energy needs?

- a) It cleans the air.
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- c) It does not disturb wildlife.
- d) It pollutes the environment.**