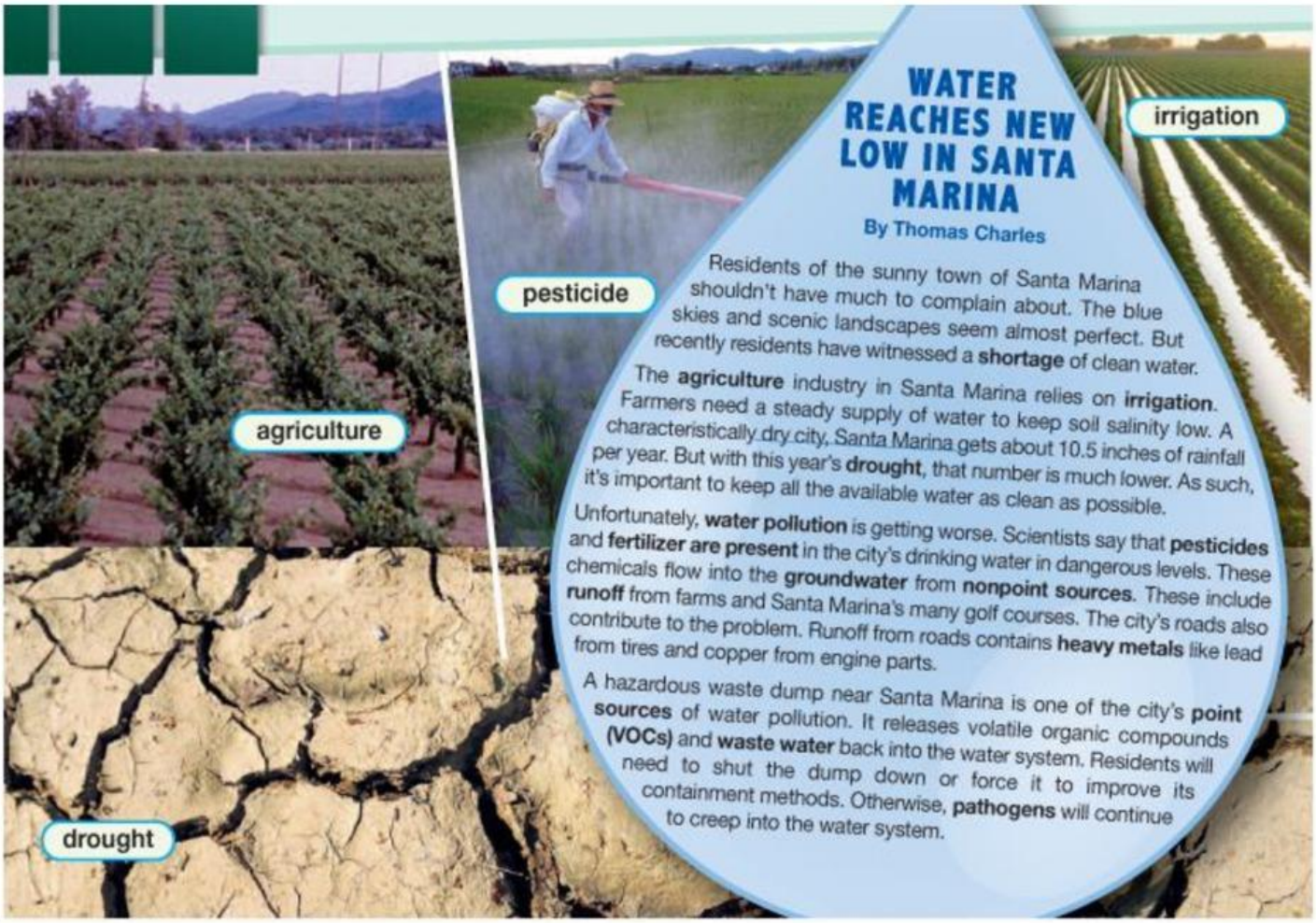
WATER POLLUTION

Ex 1. Read the newspaper article. Then, chose the correct answers:



WATER REACHES NEW LOW IN SANTA MARINA

By Thomas Charles

Residents of the sunny town of Santa Marina shouldn't have much to complain about. The blue skies and scenic landscapes seem almost perfect. But recently residents have witnessed a **shortage** of clean water.

The **agriculture** industry in Santa Marina relies on **irrigation**. Farmers need a steady supply of water to keep soil salinity low. A characteristically dry city, Santa Marina gets about 10.5 inches of rainfall per year. But with this year's **drought**, that number is much lower. As such, it's important to keep all the available water as clean as possible.

Unfortunately, **water pollution** is getting worse. Scientists say that **pesticides** and **fertilizer are present** in the city's drinking water in dangerous levels. These chemicals flow into the **groundwater** from **nonpoint sources**. These include **runoff** from farms and Santa Marina's many golf courses. The city's roads also contribute to the problem. Runoff from roads contains **heavy metals** like lead from tires and copper from engine parts.

A hazardous waste dump near Santa Marina is one of the city's **point sources** of water pollution. It releases volatile organic compounds **(VOCs)** and **waste water** back into the water system. Residents will need to shut the dump down or force it to improve its containment methods. Otherwise, **pathogens** will continue to creep into the water system.

1 What is the article mainly about?

- ○ **A** how to reclaim groundwater
- ○ **B** a city's problems with water
- ○ **C** how to prevent water pollution
- ○ **D** places that have yearly droughts

2 What is causing the shortage of water?

- ○ **A** increased agriculture
- ○ **B** a lack of groundwater
- ○ **C** irrigation nearby
- ○ **D** drought conditions

3 Which of the following are not flowing into the water through runoff?

- ○ **A** VOCs
- ○ **B** pesticides
- ○ **C** fertilizer
- ○ **D** heavy metals

Ex 2. Match the words or phrases with the definitions (A-H):

nonpoint source | heavy metals | point source | salinity | drought | VOC | pathogen | agriculture

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A an extended period of dryness caused by low rainfall

B dense and poisonous metallic chemical elements

C the amount of salt that something contains

D an agent that causes a disease

E a harmful substance that evaporates at a low temperature

F a source of pollution with multiple origins

G the practice of cultivating land to provide food and products

H a single, specific source of pollution

Ex 3. Read the sentence pairs. Choose which word or phrase best fits each blank.

1 waste water/groundwater

A) The town cleans its _____ in a treatment facility and releases it.

B) The engineers dug a well to access the _____.

2 runoff/shortage

A) During the drought, the town had a water _____.

B) Lots of contaminants can get caught up in _____.

3 water pollution/irrigation

A) The farmers use _____ to get water to their crops.

B) _____ is dangerous to many aquatic organisms.

4 pesticides/fertilizer

A) The farmer uses _____ to help his crops grow.

B) The city used to spray _____ around town to kill insects.

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Ex 4. Read the magazine article again. Where does the city's heavy metal pollution come from? Fill in the gaps.

The city's heavy metal pollution, which includes _____ and copper, comes from _____ and _____ parts. It is swept into the water by _____ from roads.

Ex 5. Listen to a conversation between an engineer and a manager at a water authority. Mark the following statements as True or False.

1 The woman thinks the main source of contamination is a waste dump.	**True**	**False**
2 A drainage system will help reduce contamination caused by runoff.	**True**	**False**
3 The woman thinks building the drainage system is most important.	**True**	**False**

Ex 6. Listen again and complete the conversation.

Manager: So, what did **1)** _____ _____ of the water supply turn up?

Engineer: Bad news. Your water is highly contaminated.

Manager: That's not good. What do you think **2)** _____ _____ _____ about it?

Engineer: Well, **3)** _____ _____ _____ should be identifying and neutralizing the point source.

Manager: What do you mean?

Engineer: I'm pretty sure that the contamination is coming from a hazardous waste dump upstream.

Manager: And that's **4)** _____ _____ _____?

Engineer: Yes. That's where the majority of your contamination **5)** _____ _____ _____.

Manager: So we should try to contain the contamination from the dump?

Engineer: Exactly. That ought to clean up your water supply considerably. Then you'll only have to worry about contamination **6)** _____ _____.

Manager: Is there anything we can do to fix the runoff problem? After all, it comes from everywhere.

Engineer: True, you'll need to build a better drainage system to control the flow of water.

Manager: That sounds expensive.

Engineer: Indeed, that's why you'll want to contain the waste dump first.

Manager: And then build a new drainage system later on?

Engineer: Yes. Compared to the waste dump, your runoff contamination is minor.

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Ex 7. Complete the conversation below based on Task 6, with the phrases given.

What do you mean? | What were the results of your investigation of the water supply?

So should we try to divert it from our water supply somehow? | That sounds expensive.

What do you think we should do about it? | Is there anything that we can do to fix the rest of the contamination?

And those are the nonpoint sources?

A: _____

B: They weren't good. Your water is very contaminated.

A: That's bad. _____

B: Well, it seems that much of the contamination is coming from nonpoint sources.

A: _____

B: I'm pretty sure that the contamination is coming from pesticides and fertilizer brought into the water supply through runoff from agricultural land.

A: _____

B: Yes. That's where the majority of your contamination probably comes from.

A: _____

B: Yes. That ought to clean up your water supply considerably. Then your water will only be a bit contaminated.

A: _____ We'd prefer to have none.

B: Well, you could always build a treatment facility.

A: _____

B: Indeed, so you should concentrate on diverting the agricultural runoff first.

Ex 8. Use the conversation from Task 7 to complete the email to a manager of a water authority explaining the results of a water supply investigation.

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To: danderson@santamarina.ca.us

From: asummers@envirosolutions.com

Sent: March 9

Subject: Water pollution

Dear Mr. Anderson,

I recently finished my investigation of your water supply's quality. I'm afraid I have bad news. Your water supply is highly _____ with chemicals originating from fertilizers and _____. I believe that these contaminants are brought into your water supply from _____ sources like _____ land through _____. In order to correct this problem, I recommend building a drainage system to _____ this water away from your water supply. Though this drainage system should take care of most of your _____ problems, your water will still be somewhat contaminated. So, I'd also recommend building a(n) _____ facility sometime in the future. Let me know if you have any questions.

Regards,

Amy Summers

Environmental Engineer

EnviroSolutions

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