Check the Air

Use an air quality report to assess local risks.

ENV.4.4 "Enrichment: Explore online resources related to air pollution to determine air quality in a geographic area and communicate the possible effects on the environment and human health."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline the details that show where and when an air quality reading applies. Circle the pollutant and AQI category, then number one possible health effect and one possible environmental effect.

Before the Soccer Game

1. A city can look clear even when its air contains harmful pollution. AirNow, a website run by U.S. government agencies, reports the Air Quality Index (AQI) for locations across the United States. Enter a city or ZIP code, then check whether the number describes current conditions or a forecast. The AQI runs from 0 to 500; higher numbers signal greater health concern. It also names a main pollutant, such as fine particles called $PM_{2.5}$ or ground-level ozone. Those details matter because a reading from yesterday or a neighboring city may not describe the air you breathe now.

2. Imagine checking AirNow for Sacramento, California, before an afternoon soccer game. In this practice example, the current AQI is 145, with $PM_{2.5}$ listed as the main pollutant; tomorrow's forecast AQI is 65. These are invented numbers, not live readings. An AQI of 145 falls in the category Unhealthy for Sensitive Groups (101 to 150), while 65 is Moderate (51 to 100). Fine particles can enter deep into the lungs and worsen asthma or heart disease. Children, older adults, and people with heart or lung disease face greater risk. A forecast cannot replace a check of current conditions before the game.

3. The AQI describes health risk, not a direct score for ecosystem damage. For environmental effects, check EPA information about the pollutant named in the local report. Particle pollution can create haze; particles that settle on land or water may change nutrient or acid levels, depending on their makeup. Ground-level ozone, if it is the main pollutant on another day, can damage plant leaves and slow growth. A useful report should name the place, date, AQI category, and main pollutant, then connect that pollutant to a supported human health effect and a possible environmental effect.

2 ANSWER WITH EVIDENCE

Use the passage

1. Which reading in the practice example applies to the afternoon game in Sacramento? Explain why the other reading does not.

2. For the current Sacramento reading, name the AQI category, everyone the passage identifies as facing greater risk, and one possible health effect.

3. The current report names $PM_{2.5}$. What are two possible environmental effects you could include in a report about that pollutant?

4. A teammate says, "Tomorrow's AQI of 65 proves the air is fine for today's game and no plants could be affected." What is wrong with each part of that claim?

3 YOUR TURN

Your own words

Use AirNow to check a current AQI for a place you choose. If you cannot get online, clearly label a practice reading with an invented AQI from 101 to 150 and $PM_{2.5}$ as its pollutant. In 60 to 90 words, report the place, reading time, source or invented status, AQI, category, one possible health effect, one possible environmental effect, and why someone should recheck before an outdoor activity.

Check the Air

PART 1 · READ AND MARK

Underline the details that show where and when an air quality reading applies. Circle the pollutant and AQI category, then number one possible health effect and one possible environmental effect. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	Which reading in the practice example applies to the afternoon game in Sacramento? Explain why the other reading does not.	**The current AQI of 145 applies. The AQI of 65 is a forecast for tomorrow, not a reading for the afternoon game.**
2	For the current Sacramento reading, name the AQI category, everyone the passage identifies as facing greater risk, and one possible health effect.	**The category is Unhealthy for Sensitive Groups. Children, older adults, and people with heart or lung disease face greater risk. Fine particles can worsen asthma or heart disease.**
3	The current report names $PM_{2.5}$. What are two possible environmental effects you could include in a report about that pollutant?	**Particle pollution can create haze. Depending on their makeup, particles that settle on land or water may change nutrient or acid levels.**
4	A teammate says, "Tomorrow's AQI of 65 proves the air is fine for today's game and no plants could be affected." What is wrong with each part of that claim?	**Tomorrow's forecast does not describe today's conditions; the practice example gives a current AQI of 145. AQI describes health risk, not a direct measure of effects on plants.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

For a practice advisory, I invented an AQI of 112 for Boise, Idaho, at 3 p.m. This is not an AirNow reading. The category is Unhealthy for Sensitive Groups, and the main pollutant is $PM_{2.5}$. Fine particles could worsen asthma, especially for children, and create haze that reduces visibility. Before an evening bike ride, I would check AirNow for Boise's current reading because this invented number cannot describe real conditions and air quality can change.

Accept other passage-supported effects when students connect them to the named pollutant. For the independent advisory, check that a reported online reading is distinguished from an invented practice reading.