

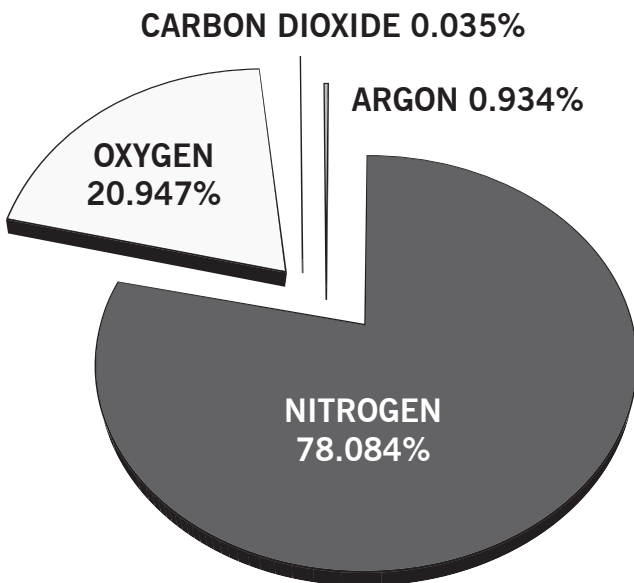
# Air Quality Index Descriptions

STUDENT HANDOUT

AQI VALUES	LEVELS OF HEALTH CONCERN	COLORS
<i>When the AQI is in this range ...</i>	<i>Air quality conditions are ...</i>	<i>Conditions are represented by these colors ...</i>
0 to 50	Good	Green
51 to 100	Moderate	Yellow
101 to 150	Unhealthy for Sensitive Groups	Orange
151 to 200	Unhealthy	Red
201 to 250	Very Unhealthy	Purple
251 to 300	Hazardous	Maroon

# Air Quality Pie Graph

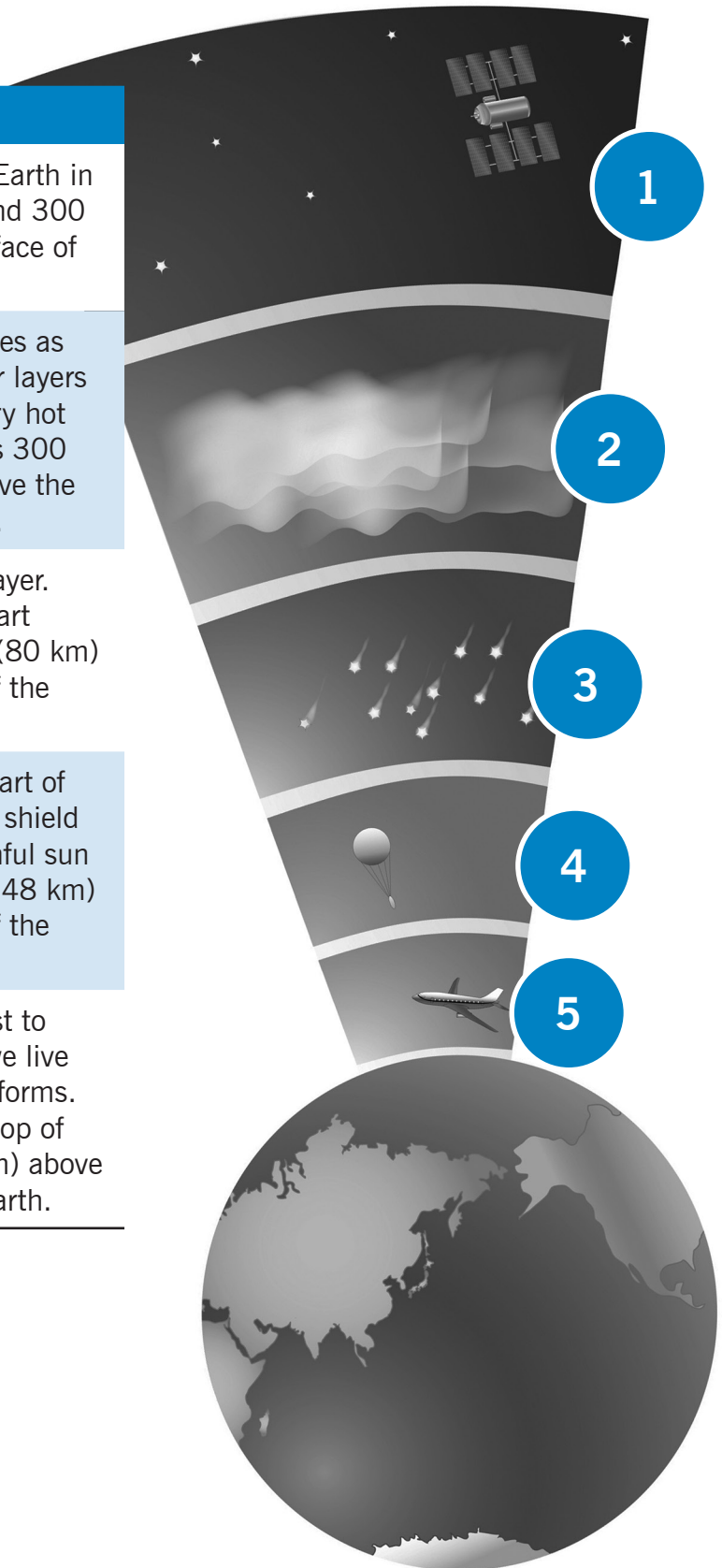
STUDENT WORKSHEET



**Gaseous Composition of Dry Air**

GAS	PERCENTAGE
<b>TOTAL</b>	

Layer	Description
<b>1. Exosphere</b>	Satellites circle the Earth in this layer. It is beyond 300 miles above the surface of the Earth.
<b>2. Thermosphere</b>	This layer is five times as deep as all the other layers combined and is very hot (up to 2,000°C). It is 300 miles (483 km) above the surface of the Earth.
<b>3. Mesosphere</b>	This is the coldest layer. Meteorites break apart here. It is 50 miles (80 km) above the surface of the Earth.
<b>4. Stratosphere</b>	The ozone layer is part of this layer that helps shield the Earth from harmful sun rays. It is 30 miles (48 km) above the surface of the Earth.
<b>5. Troposphere</b>	This is the air closest to the Earth – where we live and where weather forms. Airplanes fly to the top of it – 10 miles (16 km) above the surface of the Earth.



## How Much?

PRE-QUIZ

Name: \_\_\_\_\_

Provide the correct percentages for how much of each gas is present in the air you breathe.

GAS	PERCENTAGE
Oxygen	
Ne, He, CH <sub>4</sub> , Kr, H <sub>2</sub> , N <sub>2</sub> O, Xe, CO <sub>2</sub>	
Argon	
Nitrogen	
<b>TOTAL</b>	

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## How Much?

POST-QUIZ

Name: \_\_\_\_\_

Provide the correct percentages for how much of each gas is present in the air you breathe.

GAS	PERCENTAGE
Oxygen	
Ne, He, CH <sub>4</sub> , Kr, H <sub>2</sub> , N <sub>2</sub> O, Xe, CO <sub>2</sub>	
Argon	
Nitrogen	
<b>TOTAL</b>	

Name: \_\_\_\_\_

Sometimes the air is clean. At other times, it is not. Engineers and scientists measure how clean the air is and rate it using the Air Quality Index (AQI) or the Pollution Standards Index. (The names may be different, but they mean the same thing.) The Air Quality Index focuses on the health effects that can happen within a few hours or days after breathing polluted air. A low number means the air is clean. A high number means it is very polluted and unhealthy.

<b>50 or less</b>	The air is clean!
<b>51 to 100</b>	Smog is in the air.
<b>101 or more</b>	The air is very polluted.

In the table below, mark the box that tells what the AQI number means.

If ...	The air is clean!	The air has pollution.	The air is very polluted.
The Air Quality Index is 30.			
The Air Quality Index is 150.			
The Air Quality Index is 70.			
The Air Quality Index is 36.			
The Air Quality Index is 200.			
The Air Quality Index is 60.			
The Air Quality Index is 41.			
The Air Quality Index is 205.			

SOURCE: [www.tnrc.state.tx.us/exec/sbea/education/terrell/worksheets/Grade4HowCleanIsTheAirTodayAndAnswerKeyEarthsNaturalResources-Air.doc](http://www.tnrc.state.tx.us/exec/sbea/education/terrell/worksheets/Grade4HowCleanIsTheAirTodayAndAnswerKeyEarthsNaturalResources-Air.doc)

Now you have a better understanding of the Air Quality Index. How does this help you?

A number that is less than 50 means that the air is fine. You can do whatever you want when you are outside.

A number from 51 to 100 means the air is becoming polluted. You should avoid playing or working outside around noon. It is best to go out early or later in the day. Do you know why? Polluted air can harm you. When you work or play you breathe in more air.

A number of 101 or greater means the air is dangerous. You should stay inside. Try to use an air conditioner or fan to keep the air moving. Rest, if at all possible, so you breathe less air and fewer pollutants enter your body.

In the table below, mark the box that tells what you should do for each AQI number.

If...	Play outside.	Don't play outside around noon.	Stay inside.
The Air Quality Index is 45.			
The Air Quality Index is 15.			
The Air Quality Index is 180.			
The Air Quality Index is 236.			
The Air Quality Index is 91.			
The Air Quality Index is 25.			
The Air Quality Index is 69.			
The Air Quality Index is 122.			

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<b>101 or more</b>	The air is very polluted.

In the table below, mark the box that tells what the AQI number means.

If ...	The air is clean!	Smog is in the air.	The air is very polluted.
The Air Quality Index is 30.	X		
The Air Quality Index is 150.			X
The Air Quality Index is 70.		X	
The Air Quality Index is 36.	X		
The Air Quality Index is 200.			X
The Air Quality Index is 60.		X	
The Air Quality Index is 41.	X		
The Air Quality Index is 205.			X

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The Air Quality Index is 180.			X
The Air Quality Index is 236.			X
The Air Quality Index is 91.		X	
The Air Quality Index is 25.	X		
The Air Quality Index is 69.		X	
The Air Quality Index is 122.			X

# ✈ Daily AQI Collection Sheet

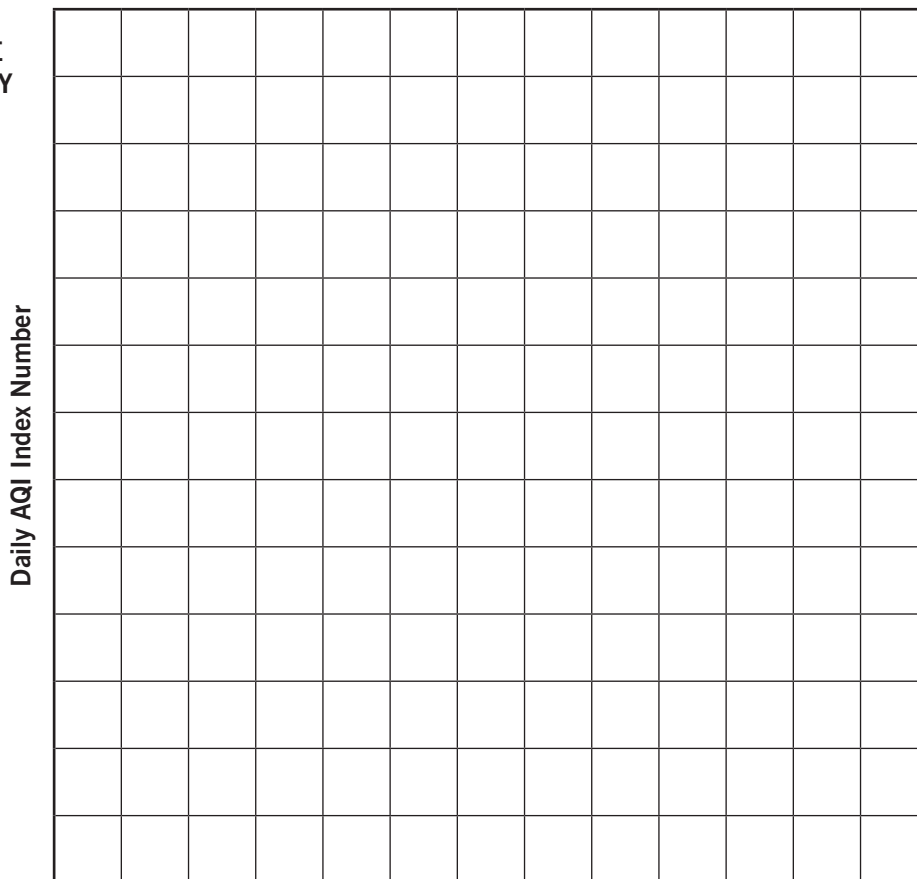
STUDENT WORKSHEET

Date	AQI Number	AQI Color	AQI Description	High Temperature

# ✈ Daily AQI Collection Graph

STUDENT WORKSHEET

DAILY  
TEMPERATURE  
VS. AIR QUALITY  
INDEX



Daily High Temperature