Vocabulary Graphic Organizer

Name_____

Vocabulary Word	Part of Speech	Definition
environment	**noun**	

Your example sentence:

Vocabulary Word	Part of Speech	Definition
resource	**noun**	

Your example sentence:

Vocabulary Word	Part of Speech	Definition
wildfire	**noun**	

Your example sentence:

Vocabulary Word	Part of Speech	Definition
prescribed fire	**noun**	

Your example sentence:

Vocabulary Word	Part of Speech	Definition
fuel	**noun**	

Your example sentence:

Vocabulary Word	Part of Speech	Definition
dependent	**adjective**	

Your example sentence:

Vocabulary Word	Part of Speech	Definition
promote	**verb**	

Your example sentence:

Vocabulary Word	Part of Speech	Definition
prevent	**verb**	

Your example sentence:

Vocabulary Graphic Organizer Answer Key

Vocabulary Word	*Part of Speech*	*Definition*
environment	**noun**	**all the surroundings and conditions that affect living things, such as: water, soil, land and air**

Your example sentence:

Answers may vary

Vocabulary Word	*Part of Speech*	*Definition*
resource	**noun**	**a useful material found in the environment**

Your example sentence:

Answers may vary

Vocabulary Word	*Part of Speech*	*Definition*
wildfire	**noun**	**a fire that occurs in the wildland nature**

Your example sentence:

Answers may vary

Vocabulary Word	*Part of Speech*	*Definition*
prescribed fire	**noun**	**a planned fire started by forest managers as a remedy or treatment**

Your example sentence:

Answers may vary

Vocabulary Word	Part of Speech	Definition
fuel	**noun**	**any living or non-living matter that can start a fire**

Your example sentence:

Answers may vary

Vocabulary Word	Part of Speech	Definition
dependent	**adjective**	**needing someone or something else to help survive or get by**

Your example sentence:

Answers may vary

Vocabulary Word	Part of Speech	Definition
promote	**verb**	**to make people aware of; to make happen**

Your example sentence:

Answers may vary

Vocabulary Word	Part of Speech	Definition
prevent	**verb**	**to stop something from happening**

Your example sentence:

Answers may vary

Southwestern United States: Topography and Rivers

Southwest boundary line
River
Intermittent River
Lake

Above 8000 ft.
5000 - 8000 ft.
0000 - 5000 ft.

Miles

0   100   200

N
W   E
S

CALIFORNIA

NEVADA

UTAH

ARIZONA

NEW MEXICO

COLORADO

MEXICO

Sacramento

Sacramento

San Joaquin

Carson

Reese

Humboldt

Salt Lake City

Sevier

Green

Colorado

San Juan

Colorado

Gila

Verde

Salt

Gila

Phoenix

Santa Fe

Rio Grande

Pecos

Canadian

Arkansas

Denver

Platte

122°W
120°
118°
116°
114°
112°
110°
108°
106°
104°
102°W
124°W

32°
34°
36°
38°
40°
42° N

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Recent Fires in Arizona Data (2016-2021)

All latitudes are North latitudes. All longitudes are West longitudes.

#	Cause H or L?	Fire Name	Year of Fire	Acres Burned	Vegetation burned	Coordinates
1		Telegraph Fire	2021	180,757	desert grass, cacti, mesquite tree	33.209 latitude, 111.092 longitude
2		Medicine Fire	2021	8,930	desert grass, cacti, mesquite tree	33.829 latitude, 110.69 longitude
3		Boggy Creek Fire	2021	2,945	trees, grasses, dead and fallen trees from previous fire	33.744 latitude, 109.444 longitude
4		Spur Fire	2021	153	Dry, desert grass, pine	34.577 latitude, 113.176 longitude
5		Backbone Fire	2021	40,855	pinyon juniper, chaparral, brush, grass, cactus	34.344 latitude, 111.677 longitude
6		Pinnacle Fire	2021	34,417	short grass, brush, timber	32.865 latitude, 110.201 longitude
7		Bush Fire	2020	193,455	tall grass and brush	33.629 latitude, 111.56 longitude
8		Bighorn Fire	2020	119,987	short grass, brush, trees	32.378 latitude, 110.943 longitude
9		Mangum Fire	2020	71,450	sage-frass, brush and pinyon-juniper	36.396 latitude, 112.124 longitude
10		Encinos Fire	2020	14,905	short grass and brush	31.623 latitude, 111.624 longitude
11		Wood Springs 2 Fire	2020	12,861	ponderosa pine, sage, pinyon-juniper	35.835 latitude, 109.386 longitude
12		Central Fire	2020	4,499	dry grass, brush	33.934 latitude, 112.06 longitude
13		Ocotillo Fire	2020	980	grass, brush, and desert trees	33.837 latitude, 111.96 longitude
14		Aquila Fire	2020	893	grass and brush	33.807 latitude, 112.119 longitude
15		Woodbury Fire	2019	123,875	tall grass, brush, chaparral, pinyon-juniper, mesquite	33.409 latitude, 111.199 longitude

16		Maroon Fire	2019	8,206	ponderosa, Juniper, pinyon pines and grasses and brush fuels	35.309 latitude, 111.408 longitude
17		Coldwater Fire	2019	16,790	ponderosa pine, pine needles and cones, mixed conifer	34.492 latitude, 111.302 longitude
18		Mountain Fire	2019	7,470	Desret grasses and shrubs, cacti	33.8273° latitude, 111.6273° longitude
19		Rain Fire	2018	604	ponderosa pine	35.958 latitude, 112.111 longitude
20		Stubbs Fire	2018	8,500	timber (grass and understory)	34.779 latitude, 112.964 longitude
21		Grama Fire	2018	1,894	short grass, timber grass and understory	34.565 latitude, 110.952 longitude
22		Stina Fire	2018	2,770	ponderosa pine, aspen and mixed conifer	36.371 latitude, 112.342 longitude
23		Obi Fire	2018	11,656	ponderosa pine, brush, dead and down	36.166 latitude, 112.027 longitude
24		Cat Fire	2018	2,000	mixed conifer	36.365 latitude, 112.029 longitude
25		Ranch Fire	2018	4,081	brush and grass	34.616 latitude, 110.822 longitude
26		Hub Point Fire	2018	2,882	timber, brush, grass	34.258 latitude, -110.258 longitude
27		Lizard Fire	2017	15,230	tall grass, brush	32.009 latitude, 110.007 longitude
28		Bear Fire	2017	2,591	dead and down wood, pine needles and forest fuels	34.446 latitude, 111.23 longitude
29		Frye Fire	2017	48,443	timber (grass and understory) brush (2 Feet) chaparral (6 Feet)	32.735 latitude, 109.872 longitude

30		Elk Horn Fire	2017	650	desert fuels, dry brush and tall grasses	31.818 latitude, 111.439 longitude
31		Sawmill Fire	2017	46,911	Grass, chaparral, oak brush	31.782 latitude, 110.842° longitude
32		Fuller Fire	2016	14,541	timber, grass, rugged terrain	36.253 latitude, 112.018 longitude
33		Sam Jim Fire	2016	2,164	timber w/grass and understory	34.428 latitude, 110.831 longitude
34		Pinchot Fire	2016	3,860	ponderosa pine and mixed conifer forest, heavy dead and down logs, pine needles, grass	34.464 latitude, 111.206 longitude
35		Topock Fire	2016	2,200	Cedar, mesquite, river grasses and plants	34.761 latitude, 114.524 longitude
Example	H	Wallow Fire	2011	538,049	32 homes, ponderosa pine, spruce-fir, conifer, pinyon, grasses	33.602 latitude, longitude 109.449

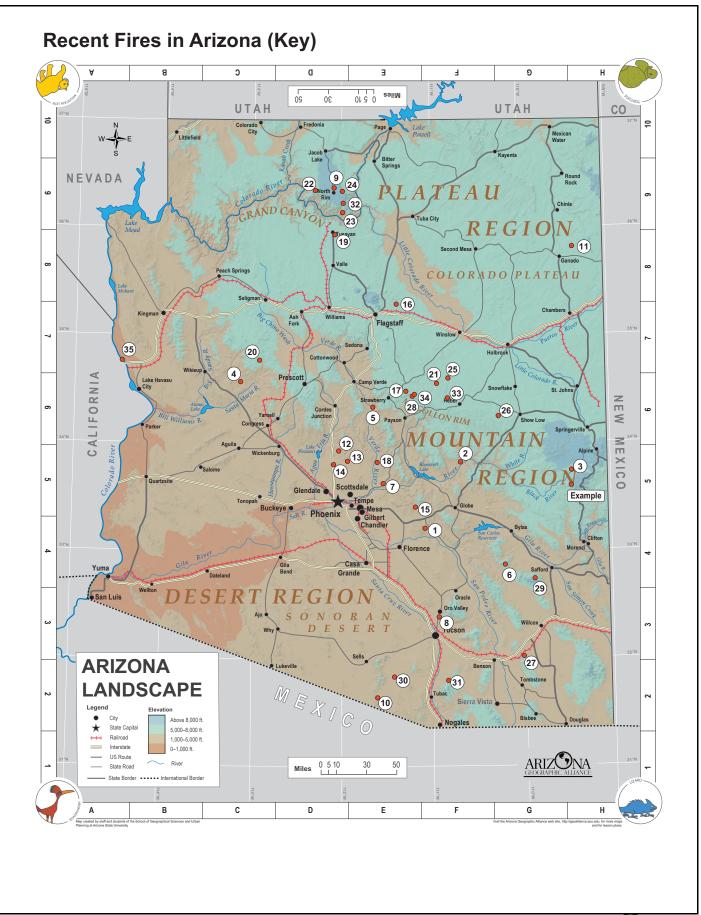| **H-Human Caused**	**L-Lightning Caused**

Data compiled by author from https://en.wikipedia.org/wiki/List_of_Arizona_wildfires and https://inciweb.nwcg.gov/?state=3.

Cause of Fires Answer Key Recent Fires in Arizona Data (2016-2021)

#	Fire Name	Cause		#	Fire Name	Cause
1	Telegraph Fire	Human		19	Rain Fire	Lightning
2	Medicine Fire	Lightning		20	Stubbs Fire	Lightning
3	Boggy Creek Fire	Lightning		21	Grama Fire	Lightning
4	Spur Fire	Human		22	Stina Fire	Lightning
5	Backbone Fire	Lightning		23	Obi Fire	Lightning
6	Pinnacle Fire	Human		24	Cat Fire	Lightning
7	Bush Fire	Human		25	Ranch Fire	Lightning
8	Bighorn Fire	Lightning		26	Hub Point Fire	Human
9	Mangum Fire	Unknown		27	Lizard Fire	Lightning
10	Encinos Fire	Human		28	Bear Fire	Lightning
11	Wood Springs 2 Fire	Lightning		29	Frye Fire	Lightning
12	Central Fire	Human		30	Elk Horn Fire	Human
13	Ocotillo Fire	Human		31	Sawmill Fire	Human
14	Aquila Fire	Human		32	Fuller Fire	Lightning
15	Woodbury Fire	Human		33	Sam Jim Fire	Lightning
16	Maroon Fire	Lightning		34	Pinchot Fire	Lightning
17	Coldwater Fire	Human		35	Topock Fire	Human
18	Mountain Fire	Human				

Recent Fires in Arizona (Key)

UTAH

UTAH

CO

NEVADA

CALIFORNIA

NEW MEXICO

MEXICO

PLATEAU REGION

COLORADO PLATEAU

MOUNTAIN REGION

MOGOLLON RIM

DESERT REGION

SONORAN DESERT

GRAND CANYON

Cities and places:
Colorado City, Littlefield, Fredonia, Page, Lake Powell, Mexican Water, Jacob Lake, Bitter Springs, Kayenta, Round Rock, Chinle, North Rim, Tuba City, Second Mesa, Ganado, Tusayan, Valle, Peach Springs, Seligman, Ash Fork, Williams, Flagstaff, Chambers, Kingman, Winslow, Holbrook, Sedona, Cottonwood, Camp Verde, Snowflake, St. Johns, Wikieup, Prescott, Strawberry, Heber, Show Low, Springerville, Lake Havasu City, Yarnell, Cordes Junction, Payson, Alpine, Parker, Congress, Aguila, Wickenburg, Salome, Quartzsite, Tonopah, Buckeye, Glendale, Scottsdale, Tempe, Mesa, Gilbert, Chandler, Phoenix, Globe, Bylas, Clifton, Morenci, Florence, Yuma, Dateland, Gila Bend, Casa Grande, Safford, Wellton, San Luis, Ajo, Why, Oracle, Oro Valley, Willcox, Sells, Lukeville, Tucson, Benson, Tombstone, Tubac, Sierra Vista, Bisbee, Douglas, Nogales

Rivers and lakes:
Colorado River, Lake Mead, Lake Mohave, Kanab Creek, Little Colorado River, Big Chino Wash, Verde R., Santa Maria R., Big Sandy R., Bill Williams R., Alamo Lake, Hassayampa R., Agua Fria R., Lake Pleasant, Salt R., Gila River, Santa Cruz River, San Pedro River, San Carlos Reservoir, Roosevelt Lake, White R., Black River, Gila R., San Francisco R., San Simon Creek, Puerco River, Little Colorado R.

Example

ARIZONA LANDSCAPE

Legend

Symbol	Description
●	City
★	State Capital
▬▬	Railroad
▬▬	Interstate
—	US Route
—	State Road
—	State Border
····	International Border
∿	River

Elevation

Color	Range
	Above 8,000 ft.
	5,000–8,000 ft.
	1,000–5,000 ft.
	0–1,000 ft.

Miles 0 5 10 30 50

ARIZONA GEOGRAPHIC ALLIANCE

Name: _____

Ratios and Percentages of Major Arizona Wildfires - 2016 to 2021

Calculating Ratios and Percentages:

A ratio is a comparison of two or more numbers that indicates their sizes in relation to each other. Ratios are expressed in the form of m:n, 6:3 or m/n, 6/3. To convert a ratio into the form of a percentage, divide m by n and then multiply the result by 100.

Directions: Use the total number of lightning-caused fires and total number of human-caused fires in Arizona from 2016 to 2021 to calculate the ratio and percentage of:

1) Lightning-caused fires to human-caused fires	2) Human-caused fires to total number of fires
Total # of lightning-caused fires: _____ Total # of human-caused fires: _____	Total # of human-caused fires: _____ Total number of fires: _____
Ratio of lightning-caused fires to human-caused fires: What percent of the fires were lightning-caused compared to those that were human-caused? This means that in Arizona with this set of data, lightning-caused fires were _____% more common to occur than human-caused fires.	Ratio of human-caused fires to total number of fires: What percent of the total number of Arizona fires during this time period were human-caused? This means that in Arizona during this time period, _____% of all fires in this set of data were caused by humans.

Ratios and Percentages of Major Arizona Wildfires - 2016 to 2021 Answer Key

Calculating Ratios and Percentages:

A ratio is a comparison of two or more numbers that indicates their sizes in relation to each other. Ratios are expressed in the form of   m:n, 6:3 or   m/n, 6/3.

To convert a ratio into the form of a percentage, divide m by n and then multiply the result by 100.

Directions: Use the total number of lightning-caused fires and total number of human-caused fires in Arizona from 2016 to 2021 to calculate the ratio and percentage of:

3) Lightning-caused fires to human-caused fires	4) Human-caused fires to total number of fires
Total # of lightning-caused fires: _____20_____ Total # of human-caused fires: _____15_____	Total # of human-caused fires: _____15_____ Total number of fires: _____35_____
Ratio of lightning-caused fires to human-caused fires: 20:15 or 20/15 What percent of the fires were lightning-caused compared to those that were human-caused? 20/15 = 1.33 1.33 x 100 = 133.333 This means that in Arizona with this set of data, lightning-caused fires were ___133.33__% more common to occur than human-caused fires.	Ratio of human-caused fires to total number of fires: 15:35 or 15/35 What percent of the total number of Arizona fires during this time period were human-caused? 15/35 = 0.42857 0.42857 x 100 = 42.85 (round to 43) This means that in Arizona during this time period, _____43____% of all fires in this set of data were caused by humans.

The Role of Fire   Name_____

When you walk outside into your backyard or to a nearby park, what do you see? What kinds of plants, trees, and animals are there? Are there hills, rocks, or water? Is it hot or is it cold? All these things are a part of our <u>environment</u>, the surroundings and conditions that affect us. Could you imagine what your environment might look like if a fire were to come through and burn everything out? Even if you live in a dry, desert area, a fire will make everything look black and dull for years.

Some environments are home to plants and animals that <u>depend</u> on periodic fires to stay healthy and strong. Chapparals and Ponderosa Pine forests are just two examples of such areas in Arizona. Fires help to <u>promote</u> plant and wildlife growth, as well as burning away any dead or over-grown live <u>resources</u> in the area that will act as <u>fuel</u> for a fire, like leaves, shrubs, weeds, and fallen branches. Some types of seeds in the Chapparal forests require fire to germinate, and it is important for forest floors to be clear for older plants to continue to grow. Forest service workers will also start a <u>prescribed fire</u> in areas of a forest that have too much live or dead growth, which means they will start a planned fire in a specific area using scientific tools. Firefighters and forest service workers do research and use the help of scientists to know when a fire should be prescribed. They also spend many months training to know what to do.

While fire is important for our forests to grow, too many fires can be harmful and stop important plants and animals from growing. <u>Wildfires</u> are unwanted fires that occur in wildland nature. These fires often cause a lot of damage to plants as well as the homes of animals and even people. When an area burns too often, there is no chance for the organisms living there to grow back and be healthy. As a result, we lose <u>resources</u> that we normally would use in our everyday life from those <u>environments</u>. The economic effects of a wildfire are also very costly to local cities and governments.

For fire to occur, there are three important elements that it needs: heat, fuel, and oxygen. Heat is what helps to start the fire and dry things out to spread it. <u>Fuel</u> is any kind of material that can burn. The drier the fuel, the easier it will burn. Oxygen supports the chemical process of a fire. As <u>fuel</u> burns, it reacts with the oxygen we have in the air and releases heat, gas, smoke, etc.

Knowing that our <u>environment</u> <u>depends</u> on fire to stay healthy, remember that frequent fires are harmful and it's important to understand that <u>wildfires</u> can be <u>prevented</u>. As you come to understand ways to keep your environment safe, you can help <u>promote</u> wildfire prevention in your own community.

Let's look at two different environments that we need to keep safe: our homes and our forests. Keeping your home safe from a fire can include a few simple steps. Regular yard work followed by the clearing of grasses, overgrown branches, and shrubs will reduce the <u>fuel</u> a fire needs. Keep gas or flammable objects, including propane and lawnmowers, at least 30 feet away from your home. Inside, make sure you turn off lights and unplug electronics when gone for long periods of time. Also always make sure the oven and stove are turned off after use, as most house fires are started in the kitchen.

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When you're out in nature with friends or family, keep alert to what's around you. Never play with fire or with matches. When cooking on a grill or a campfire, put it out with water until it is cold- you should be able to touch the coals with your bare hand. If someone in your family smokes, ask them not to throw cigarettes out the window while driving or on the ground while in nature. Besides, we want to keep our nature clean. Trailers or trucks with low hanging chains are big dangers on a dry summer day as the chain may strike against the road, the sparks jumping to the vehicle or grass alongside the road for <u>fuel</u>. Overall, the best thing you can do to prevent wildfires is to be responsible and <u>promote</u> fire safety to others, too.

Comprehension Questions

Directions: Read and answer each question below based on what you read.

1. The passage mentions two types of fires. List what they are and describe each one.

2. Why are frequent wildfires harmful to our environment?

3. List four ways you can help to prevent wildfires.

Examples of Wildfire PSA Infographics

https://flic.kr/p/26tAggY

https://flic.kr/p/SVHwhh

Rubric: Wildfire Prevention Infographic

Name_____

Explanation: You will support the arugument that wildfires have a negative impact on the envrionment. You will create and infographic with the elements detailed below and may choose to present your infographic live and talk through the presentation, or you may record yourselves presenting and play the recording. Using data from the lesson and from personal research, consider what wildfires are; where they occur; when do they occur; why do they occur; and who stops/starts them. This rubric grades both the PSA infographic and the presentation.

Score	Requirement	5	4	3	2	1
____/5	**Application and use of vocab**	PSA includes 5 or more vocabulary words from the lesson used correctly	PSA includes at least 4 vocabulary words from the lesson used correctly	PSA includes at least 3 vocabulary words from the lesson used correctly	PSA includes at least 2 vocabulary words from the lesson used correctly	PSA includes 0-1 vocabulary words from the lesson used correctly
____/5	**The Five W's:** *Who, What, Where, When, and Why*	PSA is organized to include the 5 W's about wildfire prevention	PSA is organized to include 4 of the 5 W's about wildfire prevention	PSA is mostly organized and includes 3 of the 5 W's about wildfire prevention	PSA is poorly organized but includes 2-3 of the 5 W's about wildfire prevention	PSA is not well organized and includes little to none of the 5 W's about wildfire prevention
____/5	**Visuals**	Presentation includes at least 6 visual images (including 1 map)	Presentation includes 5 visual images (including 1 map)	Presentation includes 4 visual images (including 1 map)	Presentation includes 2-3 visual images; map may be missing	Presentation includes only 1 visual image; map may be missing
____/5	**Pre-planning Storyboard**	All parts of the storyboard are clearly completed.		Some parts of the storyboard are completed.		Little to no parts of the storyboard are completed.
____/5	**Clear message and call to action**	PSA includes convincing information supporting the argument & provides 5 ways to prevent fires.	PSA includes good information supporting the argument & provides 4 ways to prevent fires.	PSA includes some information supporting the argument & provides 3-4 ways to prevent fires.	PSA includes little information supporting the argument & provides 2-3 ways to prevent fires.	PSA does not include information supporting the argument & provides 0-1 ways to prevent fire.
____/5	**Citations**	All print & image sources properly cited.	Majority of print & image sources are properly cited.	Half of print & image sources are properly cited.	Some of print & image sources are properly cited.	Little to no print & image sources are properly cited.
____/30	**Total Score**	**Comments:**				

Name: _____   🔥 **PSA Storyboard: Wildfire Prevention** 🔥

Before you create your Public Service Announcement (PSA), you need to think about what you want to share and how you will share it. Fill in each box below as completely as you can.

1. Who is the target audience of your PSA? What do you need to consider for this group of people?

2. What is the goal you want to achieve with the PSA?

3. What should the specific but brief message of your PSA be? Think of a slogan or a title to go with your PSA and write it here. (ex. "Only YOU can prevent forest fires."- Smokey Bear)

4. The five W's and How

WHO	WHAT	WHERE

WHEN	WHY	HOW

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5. The 5 or more vocabulary words I will include either in my infographic or in my presentation are:

> **1)**
> **2)**
> **3)**
> **4)**
> **5)**

6. My ideas for 5 pictures and a map to include are:

7. GET TO THE POINT. What's causing the problem. A PSA is not a place to be abstract, artistic or vague. What is the enemy? This is your "call to action."

8. Include all websites, videos, or books used for your information and pictures below.

Other thoughts:

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