

# STUDENT WORK SAMPLES

## Science Grades 6-8

Examples of student work generated in completion of the CRA (version1) on drought are provided on the following pages. The student work examples are typed exactly as written by students. Words, punctuation, and spellings were not adjusted.

Below is the student CRA task:

Access to freshwater is one component in an ecosystem. Drought reduces access to freshwater for the living organisms in the ecosystem. You have read two texts and watched a video about droughts in the United States. The three sources are as follows:

1. Text 1: What are the impacts of a drought? by National Oceanic and Atmospheric Administration
2. Text 2 (video): Texas Drought Could Have Years-long Effects from Associated Press.
3. Text 3: Billion-Dollar Weather/Climate Disasters by National Oceanic and Atmospheric Administration

Write an essay of approximately one to two pages. Your essay should be a scientific argument that addresses the question: "How might drought affect an ecosystem, including changes to one or more populations (i.e., corn, humans) in the ecosystem?"

Begin by selecting one of the following claims:

- Claim 1: During severe drought conditions, plants and animals are not really affected. There is no change in the populations.
- Claim 2: During severe drought conditions, plants and animals are affected during the time of the drought. There are only minor changes in the populations.
- Claim 3: During severe drought conditions, plants and animals are strongly affected over time. There are big changes to some or all of the populations.

Support your claim by citing evidence from the three resources with reasoning that builds a strong (compelling) argument that persuades your readers. Include reasoning that would explain what is scientifically inaccurate about counterclaims (claims that you did not choose). End your essay with a concluding statement. Your essay should be written for an audience familiar with ecosystems. It should be clear and coherent.

Write your essay in the space provided in the next pages.

The task is intended to assess the following CCSS:

RST.6-8.1; RST.6-8.2; RST.6-8.4; RST.6-8.7; RST.6-8.8; RST.6-8.9; WHST. 6-8.1; WHST. 6-8.4; and WHST. 6-8.9

## STUDENT SAMPLE 1

Droughts make animals very weird. They don't reproduce, or the population goes down. It also effects plants too.

Droughts can cause animals to not reproduce like it said in "Texas Drought Could Have Long-term Effects." Animals don't reproduce because they know the babies are going to die.

Droughts can also cause plants to die. If plants don't get water what will keep them alive.

The last thing a drought can affect is animal population. The animals like in the video, all can die because if their prey dies then what do they eat? It then creates a domino effect.

## STUDENT SAMPLE 2

I think during severe drought conditions, plants and animals are strongly affected over time. There are big changes to some or all of the populations. Droughts have many impacts on the environment. It involves plants and animals but also money, and droughts can lead to forest fires.

Beginning with plants, crops particularly. According to the article, in the 1950's a severe drought caused crops to fail and in 1998 there was a lack of rainfall in the Midwest and crops including livestock perished. If you don't have rainfall for a few weeks, people start to panic. You need rainfall for the crops. You have to prepare for the drought. So some people have to give up on what they do every week, like washing their cars.

Second, animals are affected too. Deer can be affected because they eat grass which is dying because the drought. In the video it discusses how hawks can be affected too because their prey die because lack of water. Therefore the hawks don't have food to eat. Last quail decrease in population because the tall grass dies, so they can't build their nests.

Last, money is used in the droughts. In the 2002 drought the chart states it costs 10 billion dollars for the deaths, and impacts. The heat wave of 2012 didn't cost anything. You have to pay back for all the damage done. You have to pay back for the environment to get back to normal. Droughts cause plant and crop failure, deaths in animals, and it all costs money.

## STUDENT SAMPLE 3

Claim 3.

Droughts are a very negative effect in a lot of things in our environment. Including animals, people, and our economy.

First of all, animals are harmed harshly do to droughts. Insects disappear because of droughts (video over droughts.) Also, the video stated that many animals died because there wasn't enough water or food to last them to be hydrated and if one animal couldn't live then the animal that eats that animal won't be able to live, and so on and so on. Animals are majorly effected from droughts.

Secondly, people are also terribly effected cause of droughts. Same thing basically as animals. People don't get enough food or water to live or they just die, because it's too hot of a condition. An example of deaths in one drought was in 1980 and 10,000 people died because of a long, nasty drought (Climate Disasters table). All of this shows you how bad droughts are.

Lastly, our economy and agriculture is effected too. A lot of money is lost from money droughts. For example, in 2011 \$120 dollars was lost because of a drought (Climate Disasters table). Also, crops and many agriculture products start disappearing because of droughts. As you can see, droughts also affect many other things.

In conclusion, Droughts are nothing, but negative to our animals, people, and economy. Animals can't survive because of food supply. People die many years because of droughts. Crops and economy is lost because of all of this. Overall, you can see droughts are awful and very bad to our environment.

## **STUDENT SAMPLE 4**

Many states have experienced some type of drought. There have been many deaths and billions of dollars have been spent trying to recover. My claim is that during severe drought conditions, plants and animals are strongly affected over time. There are big changes to some or all of the populations.

First of all, low growth of vegetation affects most to all populations. Droughts affect the vegetation and if the vegetation doesn't grow, then deer, and rabbits won't be able to eat. They cause a widespread harvest failure.

Second of all, water would be extremely low. Most towns only have enough water to last them one dry year. Most of the drinking water is from snowmelt, so if there is no precipitation over an extended period of time then the water levels in lakes and rivers will be low. If the water levels are low than all of the fish and plants in the water die or have to travel somewhere else which can affect the predators of the water streams.

Lastly, droughts have an extreme affect of the cropland and agricultural loss. When a drought is occurring it dries out the soil and then there is not enough nutrients in the soil for crops to grow. If the crops don't grow than there would be a shortage of some foods which would affect us humans.

If there was a severe drought then it would strongly affect plants and animals and make big changes to populations in that area or region. They can cause many deaths, billions of dollars in damage and failure in crop harvest. That is why droughts are dangerous and have negative impacts.

## **STUDENT SAMPLE 5**

Droughts, good or bad? Droughts effect the ecosystem in many different ways. Droughts are long periods in time with a lack of rain and/or water. The way they effect the ecosystem, with no water, is very bad for animals and plants over a long period of time. Many droughts can get so bad (according to the chart) that they can kill up to 10,000 people.

One of the most dangerous droughts (according to the text) was the Dust Bowl in the early 1930's. This drought caused a substantial loss in agriculture. This caused farmers to loose a lot of money. In the time passing, this Dust Bowl effected a lot of the economy too. (In the text) Droughts can cause horrible forest fires. One Drought caused one Yellow Stone National Park to burn 4,000,000 miles of its' forest. Droughts do have a negative impact on the ecosystem.

## **STUDENT SAMPLE 6**

During severe drought conditions, plants and animals are strongly affected over time. There are big changes to some or all of the populations. This is true because during droughts animals are affected because they lose nutrition, their reproduction slows down, and predators began to lack on prey. Plains/Eastern droughts and wide spread droughts affected many, many states, many people were killed, and billions of dollars were spent. During the year of 1999 was the year that most people died. There were 502 people wiped out by droughts. There were very high temperatures and an abundant of agricultural losses. When droughts happen lots of things change like habitats, animal life, and causes a major repair to be made many damages are caused by droughts and people lose good vegetation, animal nutrition, and very abundant repair expenses are put into the outcome of droughts.

## **STUDENT SAMPLE 7**

I picked claim 3, because in the video the man talked about how the drought affected animals not just during the drought but also afterwards. Animals couldn't reproduce like they should because there wasn't enough water. Grass wasn't growing, so the animals that ate grass like cows and horses would starve or die. Also some people that hunted for deer didn't really see a lot because animals didn't reproduce well. So yes droughts did affect plants and animals for a long period of time.



## **STUDENT SAMPLE 8**

I agree with claim 1 which states, "During severe drought conditions, plants and animals are strongly effected over time. There are big changes to some or all of the populations."

This is very true because in Text 1 it states that the impacts of drought can be very severe. It causes fire, less food. I also cause misfunction in the reproduction circles. The longer the drought lasts the more damage it can cause. Some animals are affected because, some of them feed on grass and when there is no grass they can't eat which kills them and their natural predator can't eat and so on.

## STUDENT SAMPLE 9

I have learned a lot about severe droughts today. The main things is that severe droughts cause plants and animals to be affected over time. There are also big changes to some or all populations.

It's simple if you think about it. Without water, grass dies. Without grass, deer die. Without deer, wolves die. Eventually, few animals would be left standing.

This is what happens. There isn't much we can do about it. Nature will do what it wants to do. In my opinion, if we save up enough water, we can greatly lessen the effects. So lets all prepare for a drought!

## **STUDENT SAMPLE 10**

During severe drought conditions, plants and animals, are strongly affected over time. There are big changes to some or all of the populations. There are many reasons why I believe so. Droughts affect people, plants and animals. This can go on for a long period of time.

Droughts can affect livestock and vegetation growth. They can stop farmers from being able to grow crops. This can affect the livestock. If they don't have enough food for the animals, they could die. No vegetation/grass can also cause fires.

The fires could start in any dry place and spread. If a fire occurs, it could take years for the trees and other plants to grow back. It could also be very dusty and dry. That's makes a dust storm possible, which could end lives.

Droughts cause one thing and that causes a domino effect which could go on for years. These reasons are why I believe plants and animals are strongly affected over time during severe drought conditions.

## **STUDENT SAMPLE 11**

I feel droughts have big effects on plants and animals. For example crops don't grow no food for farmers or his animals. No water most likely no vegetation. Then that might cause decrease of some animals like deer. Then no deer might cause decrease in other animals like coyotes and bears. Then also for plants, they could dry out.

## STUDENT SAMPLE 12

I choose Claim 3 which says...

During severe drought conditions, plants and animals are strongly affected over time. There are big changes to some or all of the populations.

I say yes, but not only that but because of the information. For some examples... 502 people were killed during the summer of 1999. The Drought/Heat Wave. That cost 1 billion dollars. Not only that but others like the Drought in 1988. 7,500 people died and they lost 40 billion dollars. They aren't only losing their population but their money too. Not only burning them from the heat but their money. The expenses are ridiculous.

Also about the water. Without water plants and grass can't grow. Without plants the animals can't live and so on. 50-85% of rain in the Rockies and other places are below normal. Before too long they might cut the water supply. Dry winters and now rainy days. What has the world come to. The world may never now. These are the reasons I chose Claim 3.

## **STUDENT SAMPLE 13**

During severe drought conditions, plants and animals are strongly affected over time. There are big changes to some or all of the population. The ecosystem's food, shelter, and reproduction is jeopardized by drought. Drought is lack of rainfall for an extended period of time. Vegetation relies on moisture to thrive. If there is no water, there are no plants, so first level consumers who eat plants have little to no food supply. In return, their predators are affected, and it continues up the food chain in a domino effect. Some animals rely on vegetation for shelter. Like I stated earlier no rainfall equals no plants; no plants, no homes for organisms like quail who use grass for nesting. Over time, the reproduction is impaired because there are less of a species to pair up and mate. The successful survival of plants and animals is drastically influenced by drought.

## **STUDENT SAMPLE 14**

During severe drought conditions, plants and animals are strongly affected over time. There are big changes to some or all of the populations.

During severe drought conditions, agricultural growth is strongly affected. Many states report little or no vegetation growth during drought years. With little growth of food, both animals and people are affected.

During severe drought conditions, persistent heat occurs. Persistent heat is a major factor in agricultural death as well as death among animals and people.

During severe drought there are record low lake levels. Without water in lakes to pull from, vegetation and crop growth cannot be watered, thus is distressed or dies. People are affected due to the lack of food sources.

In conclusion, heat and drought are major factors in loss of life and agriculture over time. It can have devastating consequences on all populations over large areas. Every ecosystem, from insects to animals to humans, is affected when we have a drought.

## STUDENT SAMPLE 15

During severe drought conditions, plants and animals are strongly affected over time. There are big changes to some of all of the population. In the passage "What are the impacts of drought" it claims that the Dust Bowl affected 50,000,000 acres of land. Droughts also affected populations. Since there is no vegetation growth, it'll lead to extinction of insects. Predators have a lack of food. Lastly, quail are very rezilant to their nesting grounds. The long term effects are coumpound affects on a multitude of species, if you don't have moisture you won't have vegetation, if plants don't grow then they can't reproduce and you won't have the herbivores that eat them. In addition, droughts cost a lot of money. From 1980 to 2011 droughts have cost American to pay 121.8 billion. People didn't have jobs, like farers, so America started to have less money because you couldn't buy fruits and veggies. Next because of the tremendous amount of heat people lost their lives. In fact, 18,691 people died. Lastly, droughts affected the agriculture. In 2009, the largest agriculture losses occured in TX and CA because of droughts, and harvest was a failure in 2012. In conclusion, droughts have an affect on every region in the United States.



## STUDENT SAMPLE 16

Claim 3. Droughts can cause outrageous destruction in many different ways.

These include the hurting of the economy, the many horrific deaths, the dying of livestock, and the water deprived agriculture products. The drought will hurt everyone in some way with a domino effect. Once the crops hurt, the livestock hurts, then the economy hurts, and finally there is a resulting effect of death.

Droughts are a very serious thing to everybody and everything. A lot of terrible consequences result from the lack of rain. Droughts can cause widespread damage in the economy, the agriculture, the livestock, and can even cause death.

## **STUDENT SAMPLE 17**

During severe drought conditions, plants and animals are strongly affected over time. "What are the Impacts of a Drought?" states that severe water shortages can cause monetary losses, forest fires, crop and livestock losses, desertification and more. The video states that severe droughts affect all populations of life in the ecosystem. Also, it states that severe droughts have long lasting effects. The chart shows that major droughts, many of which are billion-dollar weather/climate disasters, have huge impacts on the environment such as monetary losses, deaths, and crop losses. In conclusion, droughts have severe impacts on the environment. Droughts are more than a shortage of water.

## STUDENT SAMPLE 18

I support claim 3. I know and most of you probably know droughts are very serious. "In the drought of 1988 40 billion dollars was lose." 40 billion dollars is a lot of money to loose over time. "In the drought of 1980 over 10,000 people died." Imagine how many people that is. "In the drought of 2012 harvest failure occured." Have you ever been fishing" What if one day you go out to the lake and there is no water there. Drought is a very serrous issue. If we don't take nature we could all have hardships from this.

## STUDENT SAMPLE 19

I chose claim 3. It states that during severe drought conditions, plants and animals are strongly affected over time. There are big changes to some or all of the populations. I chose this claim because the text 1, the text states that in some locations of the country, a few rain few weeks can spread panic and affect "crops"! An example used in the passage said that in the worst drought in 50 years affected at least 35 states during the long hot summer of 1988. Crops and livestock died and some areas became "desert". In text 2: The video states that there was a lack of food, no insects, no moisture which caused no grass, and a decrease in reproduction! Lastly in text 3, the chart states that there was many lives lost in droughts, money loses in drought, and crops lost in droughts. I chose claim 3. <3

## STUDENT SAMPLE 20

Droughts are widespread in an area, and they are also widespread in agriculture and population losses. During severe drought conditions, plants and animals are strongly effected over time. There are big changes to some or all of the populations. Droughts have negative impacts such as crop loss, deaths, lower lake levels, and monetary losses.

To begin, droughts cause widespread crop loss. According to the chart, the U.S. drought in 2012 caused "widespread harvest failure for corn, sorghum, and soybean crops". With this loss of crops, food chains can be changed or possibly destroyed. Humans and other animals rely on crops for nutrients, so many have to begin relying on a different food sources, or they die.

On one hand, droughts can cause death for humans and some other animals. According t the article "crops and livestock died." This is not good for their environment who may rely on them. According to the video, deer and quail began to stop reproducing in Texas. According to the chart, in mid-1980, 10,000 people died from a drought/heat wave.

On the other hand, there are lower lake levels and monetary losses. According to the chart, "six states in the southeast had record low lake levels." This can hurt the life of the lake and food chains. Also, according to the chart, "a drought in the summer of 1988 cost 40 billion dollars." This is a huge monetary loss.

In conclusion, crop loss, deaths, lower lake levels, and monetary losses are some negative impacts of drought.