ELA/Literacy
Released Item 2016

Grade 4
Research Simulation Task
Characteristics of Great White Sharks
B1419
Today you will research sharks. You will read a passage from “Great White Shark.” Then you will read passages from Shark Life and Face to Face with Sharks. As you review these texts, you will gather information and answer questions about sharks so you can write a response.

Read the passage from “Great White Shark.” Then answer the questions.

from “Great White Shark”

by the Ocean Portal Team

Sharks are much older than dinosaurs. Their ancestry dates back more than 400 million years, and they are one of evolution’s greatest success stories. These animals are uniquely adapted to their ocean environment with six highly refined senses of smell, hearing, touch, taste, sight, and even electromagnetism. As the top predators in the ocean, great white sharks (*Carcharodon carcharias*) face only one real threat to their survival: us. The assaults are many. By-catch: the accidental killing of sharks by fishermen’s long lines and trawlers. Illegal poaching: selling shark fins for soup. Illegal hunting: sports fishing for shark jaws as trophies. Nets: placed along coastlines to keep sharks away from beaches. Pollution: toxins and heavy metals that build up in the shark’s body. In some areas great white populations have plummeted by over 70%. If not stopped, it could lead to the extinction of this ancient species.

![Great white sharks are powerful swimmers, capable of going 50 kph/35 mph.](image-url)

Brains over Brawn
Many scientists now believe that great white sharks are intelligent, highly inquisitive creatures. When great whites gather, they seem to show different behaviors, from open-mouthed gaping at one another to assertive body-slams. These sharks are top predators throughout the world’s ocean, predominately in temperate and subtropical waters. Great whites migrate long distances. Some make journeys from the Hawaiian Islands to California, and one shark that swam from South Africa to Australia made the longest recorded migration of any fish.

The torpedo shape of the great white is built for speed: up to 35 miles per hour (50 kilometers per hour). And then there are the teeth—300 total in up to seven rows.

But more than brawn, the great white shark has a tremendous brain that coordinates all the highly developed senses of this efficient hunter. Its prey, including seals and dolphins, are very clever animals, and the shark has to have enough brains to outsmart them. Despite their reputation as lone hunters, great whites will cooperate with one another, hunting in groups and sharing the spoils. And some researchers have been surprised by how fast they learn.

Sharks have six highly refined senses: smell, hearing, touch, taste, and electromagnetism. These finely honed senses, along with a sleek, torpedo-shaped body, make most sharks highly skilled hunters.

Great whites became the ocean’s top hunters through the evolution of supremely adapted senses and physiology.

SMELL
Great white sharks’ most acute sense is smell. If there were just a single drop of blood floating in 10 billion drops of water, they could smell it! Their nostrils are on the underside of the snout and lead to an organ called the olfactory bulb. The great white’s olfactory bulb is reported to be the largest of any shark.

HEARING

Shark external ears are hard to see: they are just two small openings behind and above the eyes. The ears may be small, but they’re powerful. Inside, there are cells that can sense even the tiniest vibration in the surrounding water. Sharks also have an “ear stone” that responds to gravity, giving the animal clues as to where it is in the water: head up, head down, right side up, or upside down.

VISION

A great white shark has great vision. The retina of its eye is divided into two areas—one adapted for day vision, the other for low-light and night. To protect itself, the great white shark can roll its eye backward into the socket when threatened.

ELECTRO-RECEPTION

Sharks have a sense that humans can only be in awe of—they can sense an electrical field. A series of pores on the shark’s snout are filled with cells called the Ampullae of Lorenzini that can feel the power and direction of electrical currents. Scientists have discovered that sharks can use this sense to navigate through the open ocean by following an electrical “map” of the magnetic fields that crisscross the Earth’s crust.

TASTE

Great white sharks are opportunistic eaters. Depending on the season, area and age, they will hunt seals and sea lions, fish, squid, and even other sharks. They have taste buds inside their mouths and throats that enable them to identify the food before swallowing.

TOUCH

Great white sharks have an elaborate sense of touch through what’s called the lateral line—a line that extends along the middle of the shark’s body from its tail to its head. This line, which is found in all fish, is made of cells that can perceive vibrations in the water. Sharks can detect both the direction and amount of movement made by prey, even from as far as 820 feet (250 meters) away.
Read the passage from *Face to Face with Sharks*. Then answer the questions.

*Face to Face with Sharks*

*by* David Doubilet and Jennifer Hayes

1. We have photographed hundreds of sharks around the world. Different shark species have different personalities. Sand tiger sharks are calm, and we can swim with them. Great white sharks are very fast, aggressive predators, so we photograph them from a special shark cage. We are always excited to see a shark while we are diving, but we are always careful and cautious because we are visitors in their world.

2. We have never been bitten by a shark. However, some sharks try to bite our camera strobe lights. The sharks sense the batteries’ electric charge, and they think the strobes are alive and might taste good.

3. You never know when you will discover a shark surprise. One day we were swimming in eight-foot-deep water off the coast of Tasmania, a large island south of Australia. We looked down and saw more than 15 sawsharks with long snouts, called rostrums, hiding in green algae. We were shocked to see them there because sawsharks usually live in over 100 feet of water. These female sharks may have come into shallow water to birth their pups.
We had our favorite shark dive on a very calm day off Gansbaai, South Africa. We got in our round metal cage and went in. Right away, a 15-foot great white swam out of the gloom and smashed our cage hard enough to knock us down. She came back to the cage again and again, showing us her razor-sharp teeth and a mouth that could swallow us whole. More and more great whites appeared out of nowhere. Four sharks circled our cage at the same time. We stayed in the cage until the sun went down, even though we were cold. That day, 17 different great white sharks came to check us out. It was the best day ever!

Shark expert Mark Addison named this shark Barbara Ann. She and many other tiger sharks migrate to Aliwal Shoal off South Africa every year. Tiger sharks have beautiful stripes, but like tigers, they can be aggressive and unpredictable.
Using details and images in the passages from "Great White Shark" and "Great White Shark". Write a few lines with Sharks, while one may describe the characteristics of great white sharks.

B1419
Anchor Set
A1 – A9

With Annotations
The characteristics of a great White sharks aggressive and intelligent. It starts with in the picture from Great White Shark. The picture in paragraph one shows a shark looking very aggressive. As predators they attack. That is why in from Face to Face with sharks it says "Great white sharks are very fast, aggressive predators, so we photograph them from a special shark cage." Also from Face to Face with Sharks it says "We had our favorite shark dive on a very calm day off Gansbaai, South Africa. We got in out round metal cage and went in. Right away, a 15 foot great white swam out of the gloom and smashed our cage hard enough to knock us down. She came back to the cage again and again showing us her razor-sharp teeth and a mouth that appeared out of nowhere." Those showed some things that made great white's aggressive. Also, again in Great White Shark it says adding to the fact that they are aggressive it says "These sharks are top predators in subtropical waters. The last thing about how they are aggressive is that in the article of Face to Face with Sharks it says "We are always excited to see a shark while we are diving but we are always cautious because we are visitors in their world. We have never been bitten by a shark. However, some sharks try to bite our camera strobe lights. The sharks sense the batteries' electric charge, and think the strobes are alive and might taste good. After the information you see, you now understand how great white's are aggressive. Great white's are intelligent in different ways. The first reason they are intelligent is that in the text of Great White Shark it says "Many scientists now believe that great white sharks are intelligent, highly inquisitive creatures. When great whites gather, they seem to show different behaviors, from open mouthed gaping at one another to assertive body slams." That is one reason how they are intelligent. In the same article, it says "Great white sharks' most acute sense is smell. If there were just a single drop of blood floating in 10 billion drops of water, they could smell it!" It also says "Sharks have a sense that humans can only be in awe of—they can sense an electrical field. A series of pores on the shark's snout are filled with cells called the Ampullae of Lorenzini that can feel the power and direction of electrical currents." In the article of Face to Face with Sharks it says "We looked down and saw more than 15 sawsharks with long snouts, called rostrums, hiding in green algae. We were shocked to see them there because seasharks usually live in over 100 feet of water. These female sharks may have come into shallow water to birth their pups." Last it says in Face to face with sharks "The sharks sense the batteries' electric charge, and they think the strobes are alive and might taste good." After all the information here you probably see how white sharks are intelligent.

From all the information you see here, I think you now see the characteristics of a great white shark.
This response opens by identifying great white sharks as "aggressive and intelligent," and immediately references an image from “Great White Sharks.” The aggressive nature of great whites is effectively developed with clear reasoning (As predators they attack). Relevant text evidence provides an example of the specific behavior of an individual shark who demonstrated aggression by smashing into the shark cage in “Face to Face” and the aggression of the species described in “Great White Sharks” as the ocean’s top predator. Ample relevant text evidence relates current scientific opinion regarding great whites' intelligence with their strong sense of smell and electro-reception. Although the example from “Face to Face” describes behavior observed in sawsharks, the response is effectively developed even if this evidence is discounted. Ideas are not only grouped by characteristic, the details and examples provided are connected to one another and either to intelligence or aggression with meaningful linking elements (adding to the fact they are aggressive, it says [and] That is one reason on how they are intelligent. In the same article it says). The result is a coherent response that is organized with clear writing.
The passages "Great White Shark" and "Face to Face with Sharks" prove that Great White sharks have many characteristics. They use many of their senses, they are aggressive, and they are more scared of humans more than we are scared of them.

They use their senses to catch prey and get them to places. They have really high senses. There are 3 main senses. One of the senses is smell. Great white sharks can smell a tiny drop of blood in 10 billion drops of water. In the text from "Great White Shark" it says "If there were just a single drop of blood floating in 10 billion drops of water, they could smell it!" Another one of their senses is hearing. They could hear the tiniest vibration in the water. In the text from "Great White Shark" it says "there are cells that can sense even the tiniest vibration in the surrounding water." The 3rd and final sense is a Great white’s vision. If something was going to attack a Great white shark it would roll its eye backward into its socket. In the text from "Great White Shark" it says "To protect itself, the great white shark can roll its eye backward into the socket when threatened." These examples show how a great white shark uses its senses.

Next Great Whites, can also be aggressive. It can slam hard enough into a cage to make a person in it knock down. In the text "Face to Face with Sharks" it says "A 15-foot great white swam out of the gloom and smashed our cage hard enough to knock us down." Also they use their sharp teeth when they attack. They bite hard. In the text "Face to Face with Sharks" it says "She came back to the cage again and again, showing us her razor-sharp teeth and a mouth that could swallow us whole." Finally they attack not only with their mouths and sharp teeth but also they use their body. In the text "Great White Shark" it says "from open-mouthed gaping at one another to assertive body-slams." These examples show how dangerous and aggressive a great white shark could be.

Finally, we should not be scared of Great Whites because they are the ones that are scared of us. Fishermen accidentally catch Sharks by the fishermen’s long fishing lines. In the text "Great White Shark" it says "The assaults are many. By-catch: the accidental killing of sharks by fishermen’s long lines and trawlers." Also some people kill sharks on purpose for their fins. In the text "Great White Sharks" it says "Illegal poaching: selling shark fins for soup." The final example is that people kill sharks for trophies. In the text "Great White Shark" it says "Illegal hunting: sports fishing for jaws as trophies." These examples show how the sharks are more scared of us than we are of them.

In conclusion, Sharks use their senses in different ways, they are dangerous, and they are running for their lives more than we are for our lives.
Anchor Paper 2

Reading Comprehension and Written Expression
Score Point 4

This response is an example of a traditional five paragraph essay with an introduction which identifies the subject matter for the three body paragraphs (They use their senses, they are aggressive, and they are more scared of humans more than we are scared of them). The rubric does not require, nor encourage a specific format, and thus this strategy does not, by itself, affect the assessment of the response. In this case the organization is effective, because the writing is clear and the response is coherent. The first body paragraph develops the strength of great whites’ vision, smell and hearing. In each case a detail from the text provides support. Although the text in this paragraph is largely repetition of the previous statement, in the following paragraph each text reference contributes further development. For example, the response first notes that a shark “can slam hard enough into a cage to make a person in it knock down.” The text provides an example of a time this has happened. Each idea in this section is similarly developed with a general statement and specific text support.
Do you want to learn about sharks? Well after reading "Great White Shark" by the Ocean Portal Team and "Face to Face with Sharks" by David Doubilet and Jennifer Hayes I learned the characteristics of great white sharks that you will want to know. Great white sharks are aggressive, intelligent, and unpredictable.

Great white sharks are aggressive. For example, in the text, "Great White Shark" it says, "When great whites gather, they seem to show different behaviors, from open-mouthed gapping at one another to assertive [aggressive] body-slams." Also, in the text, "Face to Face with Sharks" it says, "Great white sharks are very fast, aggressive predators, so we photograph them from a special shark cage." These quotations prove that great white sharks are aggressive.

Great white sharks are intelligent. For example, in the text, "Great White Sharks" it says, "It's prey, including seals and dolphins, are very clever animals and the shark has to have enough brains to outsmart them." Also, in the text, "Face to Face with Sharks" it says, "One day we were swimming in eight-foot-deep water off the coast of Tasmania, a large island south of Australia. We looked down and saw more than 15 sawsharks with long snouts, called rostrums, hiding in green algae. We were shocked to see them there because sawsharks usually live in over 100 feet of water. These female sharks must have come into shallow water to birth their pups." These quotations prove that sharks are intelligent.

Sharks have different personalities. For example, in the text, "Face to Face with Sharks" it says, "Sand tiger sharks are calm, and we can swim with them. Great white sharks are very fast, aggressive predators..."

In conclusion, sharks are aggressive, intelligent, and they have different personalities. I hope you enjoyed reading my essay. Did you know that more sharks are killed by humans every year that humans are killed by sharks? **GO LEARN MORE ABOUT SHARKS!**
This response demonstrates comprehension of the passages with the analysis that great whites are "aggressive, intelligent and unpredictable." A paragraph is devoted to each of these attributes. The use of a topic sentence (Great White sharks are aggressive), linking elements between evidence (Also, in the text) and a summary (These quotations prove that great white sharks are aggressive) provide formulaic, but mostly effective organization. The development is mostly effective with relevant text from both "Great White Sharks" and "Face to Face with Sharks" used as support (Sharks are intelligent. For example, in the text, "Great White sharks" it says, "it’s prey including seals and dolphins, are very clever animals and the shark has to have enough brains to outsmart them). Some of the text relates to other types of sharks, which is effective when sand tiger sharks are used for comparison (sharks have different personalities), but not as effective when the behavior of sawsharks is offered as an example of great white sharks’ intelligence. Additionally this response does not mention any information related to images beyond the words “aggressive” and “unpredictable” which are used in the caption for the final image in “‘Face to Face.”
There are many characteristics of great white sharks. According to the Passage "Great White Shark" great white sharks have a good sense of smell, hearing, touch, taste, sight and electromagnetism. They are also very powerful swimmers. They are capable of going 50 kph. Sharks are very intelligent. For example, they can sense an electrical field, when they gather they seem to show different behaviors, and they can coordinate all of the highly developed senses. Great white sharks are top predators throughout the world's ocean in temperate and subtropical waters. They also became the top hunters through the evolution of supremely adapted senses and physiology. According to "Face to Face with Sharks" some sharks are calm and some are wild. For example, a shark once tried to knock someone down. Sometimes sharks just swim around and stay more calm than others. As you can see, sharks have many different characteristics.
This response is mostly organized with a brief introduction and conclusion which repeat the prompt. The "many" characteristics of great whites are grouped by passage with details from “Great White Shark” followed by evidence from “Face to Face with Sharks,” and including details taken from image captions. Linking phrases (they are also, For example) are used in places, but not in others (They are capable of going 50 kph. Sharks are[also] very intelligent), where connections between ideas are unclear. Most characteristics are explained by text details (sharks are very intelligent. For example, they can sense an electrical field), while other characteristics are individually undeveloped (hearing, taste, sight). Overall, the development is mostly effective. Language is specific, in part because it is liberally borrowed from the passages, and contribute to the clarity of the response.
The characteristics of a great white shark is smart. In "Great White Sharks" it says that when the sharks gather together, they show different behaviors like open-mouthed gaping at one another to assertive body-slams. Also in "Face to face with sharks" it says that when they were in their metal cage to see the sharks, the sharks came again and again. Then slowly, more sharks arrived. The first shark probably "told" them and the other sharks came.

The Great White also has very good senses. In "Great White Sharks" it says that their senses make them very good and skilled predators. Their nose can smell very faint things and their eyes can see both in day and night.

As you can see, a great white's characteristics is that they are smart.
### Anchor Paper 5

**Reading Comprehension and Written Expression**

**Score Point 2**

The chosen characteristic of great white sharks is that they are "smart," and the analysis demonstrates basic comprehension of the passages. There is some development provided by text support and reasoning (*The first shark probably "told’ them and the other sharks came*). The development is appropriate as all of the details relate to the intelligence of sharks, but the writing is only somewhat coherent; For example, the fact that sharks display different behaviors when gathered in groups lacks the reasoning and language to connect these ideas. The lack of linking terms in much of the response (*The Great White also has very good senses*) leaves it somewhat unclear how ideas are connected. There is some organization demonstrated, with support related to sharks’ senses together in one paragraph, and a statement that functions as a basic introduction and conclusion.
Great white sharks are the top predators in the ocean. According to "Great White Shark" great white sharks have six highly refined senses of smell, hearing, touch, taste, sight, and electromagnetism. According to Face to Face with Sharks they are very fast and aggressive predators so they have to photograph them from a special shark cage. In the text "Great White Shark" I also found that they have a tremendous brain that coordinates all the highly developed senses. In both texts they show how the great white shark is the smartest, fastest, and most aggressive shark in the ocean.
This response centers on the status of sharks as "the top predators in the ocean," clarifying in the concluding statement that "The great white is the smartest, fastest, and most aggressive shark in the ocean." Most of the text support relates to this role, but not always clearly. For example, "highly developed senses" assist in the hunt, but the response lacks the reasoning or meaningful linking elements to connect these ideas. The ideas are not logically ordered going from one passage to another; However, the brief introduction, conclusion and linking terms (According to, I also) demonstrate some organization.
There are many characteristics of a Great White shark. The characteristics are the sharks are very aggressive and fierce animals. You would not want to swim with a Great White. In the Passage, *Face to Face with Sharks*, it states that "Some sharks try to bite everything they see." Also according to "Great White Shark" these sharks are fast and very furious creatures. These are the characteristics of the *ANGRY Great White Shark*! 
A perfunctory introduction and conclusion bookend this response which, along with a basic linking term \textit{(also)}, demonstrates limited organization. The statement that sharks are "aggressive and fierce animals," demonstrates comprehension of the ideas explicitly stated in the passages. However, the text evidence from each passage is minimal (\textit{According to "Great White Shark" these sharks are fast and very furosisous creatres}).
The characteristics of a great white shark is they have a very good sense of smell they have very small ears but very good hearing, they have good eyes and can roll them into the socket when threatened, they are the oceans top hunters. great white sharks can not taste the food before swallowing it, they can detect how far prey had moved and were they have moved, they even have a sense of electromagnetism, they have very sharp teeth, and a huge mouth.
This response is comprised of a list of several characteristics of great white sharks (top hunters, have a sense of electromagnetism, sharp teeth). There is limited organization as some characteristics are paired with a simple extension (they have very small ears but very good hearing, they have good eyes and can roll them into the socket when threatened). There is no reasoning, but the response includes enough text support to be considered minimally developed.
The characteristics in Great White Sharks and Face to Face with Sharks are they both have to deal with sharks, show great white sharks are predators, and show scientific facts about sharks.
The response recognizes that the passages both “show great white sharks are predators, and show scientific facts about sharks” This analysis is not inaccurate, but given neither idea is developed with text or reasoning, the response is undeveloped.
Practice Set
P101 - P105

No Annotations Included
Have you ever wondered about the characteristics of great white sharks?

Great white sharks are aggressive it tells you that in the story Great white sharks in the paragraph 6. Great white sharks can smell blood in 10 billion drops of water it states that in paragraph 6. Great white sharks are very fast they can swim 35 miles per hour.

In the story from face to face with sharks it tells about different kinds of sharks. In paragraph 3 its about saw sharks. Saw sharks come in shallow water to give birth to there pups. Saw sharks usually live in 100 feet water.

In the story great white sharks in paragraph 3 it states that great white sharks have 300 teeth in total. Great white sharks have really good vision it states it in paragraph 8 great white sharks eyes are divided into two areas. One is adapted into for day vision and the other eye is night time to be able to see.

Great white sharks are very unique and fun to learn about.
In this essay I will describe the characteristics of great white sharks. I will describe their senses.

One characteristic is their smelling. Great white sharks could smell single drop of blood floating in 10 billion drops of water. In the passage "Great White Shark" it says "If there was just a single drop of blood floating in 10 billion drops of water, they could smell it!"

Another characteristic is their hearing. Great white sharks have external ears that are hard to see. Their ears might be strong but they are powerful. They can sense the tiniest vibration in the surrounding water. The also have an "ear stone" that can tell them where they are in the water in the water. In the passage "Great White Shark" it says "Sharks external ears are hard to see. It also says "The ears may be small, but they are powerful. Inside, there are cells that can sense even the tiniest in the surrounding water. Sharks also have an "ear stone" that responds to gravity, giving the animal clues to where it is in the water: head up, head down, right side up, or upside down."

Another characteristic is vision. A great white shark has great vision. The retina of its eye is split into two areas: one for day, and the other for low light and night. The great white shark can roll its eye backward to protect it if threatened. In the passage "Great White Sharks" it says "A great white shark has great vision. The retina of its eye is divided into two areas— one adapted for day vision, the other adapted for low light and night. To protect itself the great white shark can roll its eye backward into the socket when threatened."

Another characteristic is electro-reception. Sharks can sense an electric field. Scientists have discovered that sharks use this sense to navigate through the ocean. In the passage "Great White Sharks" it says "They can sense an electric field. It also says "Sharks use this sense to navigate through the open ocean."

Another characteristic is taste. The sharks eat according to the season, area, and age. In the passage "Great White Sharks" it says "Depending on the season, area, and age, they will hunt seals and sea lions, fish, squid, and even other sharks."

Another characteristic is touch. Sharks touch through lateral lines. In the passage "Great White Sharks" it says "Great white sharks have an elaborate sense of touch through a lateral line."
The Begining of sharks was a long long long time agow like The dinisors Thre anesters whre aike to like The shark and The look ness Monster.
The great white sharks have many different characteristics like their ancestry dates go back 400 million years ago, great white sharks are aggressive. Also, people from face to face with sharks have never been bitten. These are characteristics of great white sharks.
There are characteristics in the passages about sharks. Great whites are fast. They can go up to 35 mph swimming. They are endangered because of human activities. Some are accidental fishing line killings, jaws for fishing trophies, illegal poaching and more. They could be deadly, but if you go in with a shark cage you will be fine. They are intelligent, they can communicate and do things that are pretty impressive. Clearly sharks have many characteristics.
**Practice Set**
(Order of Scores: Reading Comprehension and Written Expression, Conventions)

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<th>Paper</th>
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<tr>
<td>P101</td>
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