Exploring the Southern Continent – The Antarctic Treaty	
1. What date was the Antarctic Treaty signed?	December 01, 1959
2. What is a cornerstone of the Antarctic Treaty?	The freedom of scientific investigation
3. Which treaty Article safeguards Antarctica from mining of resources, such as oil or iron?	Article 7
4. How many countries signed (HINT: signatories) the original treaty?	12
5. How many countries currently abide by the treaty?	47
6. When was the most recent International Polar Year?	2007 - 2008

Exploring the Southern Continent – US Research Stations

Use this link (https://www.usap.gov/) to locate and list the 3 Antarctic Research Stations operated by the United States. Browse through the USAP Webcams to view images from these three stations to complete the table below:

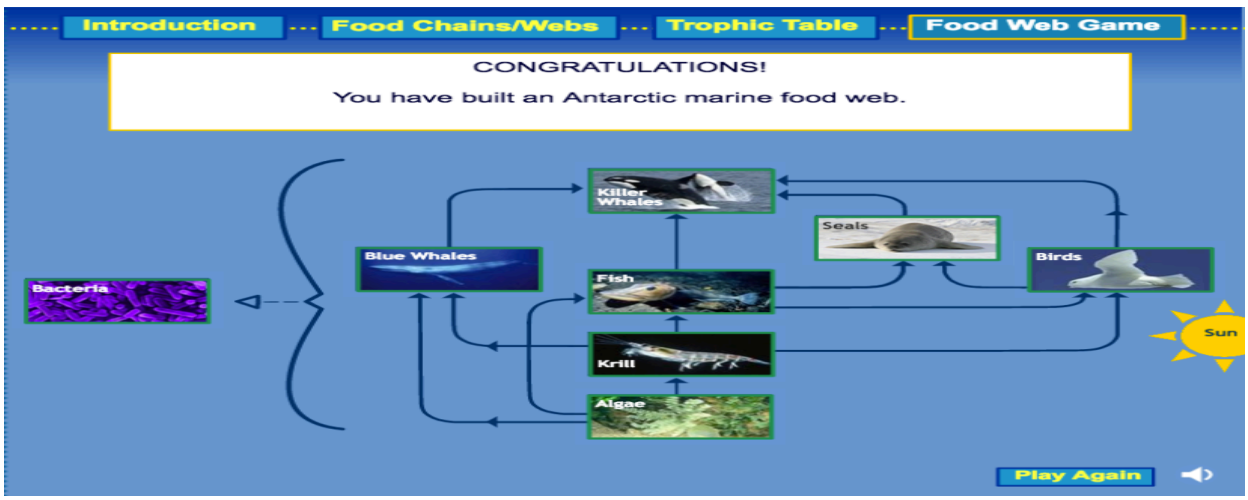
US Research Station	Current weather data			How's the view? (Describe the camera view)
	Date	High-Low Temp (°C)	Wind Chill	
7. McMurdo	(Dates,	Data,	and	Views will vary)
8. Palmer	(Dates,	Data,	and	Views will vary)
9. South Pole	(Dates,	Data,	and	Views will vary)

10. When (year) did the United States establish a research station in Antarctica?	1965
11. Why is most of the research in Antarctica conducted between September and March?	Weather is more favorable for humans, research equipment, and field studies

Exploring the Southern Continent – Antarctica's Food Web

Use this link to locate the Antarctic Food Web Game. Play this game to learn about Antarctica's uniquely aquatic food web: https://unctv.pbslearningmedia.org/resource/lsps07.sci.life.eco.oceanfoodweb/antarctic-food-web-game/#.WYs82oqQwxE

12. Write the correct arrangement in the chart below:



Exploring the Southern Continent – Using Technology to Explore Below the Surface: Glider Data

Use Dr. Josh Kohut's presentation, "**Observing Our Ocean Planet**" to learn how Gliders collect data beneath the surface. Complete the table and questions below using the Glider Data collected on January 27, 2015.

TIME (GMT)	Temperature at Depth				Chlorophyll Concentration at Depth			
	Warmest (°C)	Depth (m)	Coolest (°C)	Depth (m)	Highest (ul/g)	Depth (m)	Lowest (ul/g)	Depth (m)
00:00	1	0 – 20	-1.25	50 – 75	4	5 – 20	0	35 – 200
04:00	1	0 – 20	-.5	50 – 60	5	5 – 20	0	40 – 200
09:00	1	175 – 200	-.5	45 – 55	4	5 – 30	0	45 – 200
20:00	1	0 – 20	-.5	50 – 75	5	5 – 20	0	40 – 200
23:00	1	160 – 200	-.5	40 – 75	4	5 – 20	0	35 – 200

13. Circle the coolest temperature recorded in this data set.

14. Where is the highest concentration of chlorophyll found? (in relation to the depth)	5 and 20 meters
15. Why is the highest concentration of chlorophyll found here?	Chlorophyll indicates productivity and increases in phytoplankton, which require sunlight for photosynthesis and survival.
16. What island is located north of the data collection area?	Anvers Island
17. Identify the latitude/longitude coordinates where the Adelie and Gentoo penguins foraging tracks overlap.	~ -64.89; -64.19
18. What type of relationship is supported between Adelie and Gentoo penguins based on this data set?	Competition

19. Identify the lowest temperature and highest chlorophyll concentration when the Adelie and Gentoo penguin foraging tracks overlapped.	Temp (°C)	Chorophyll (ul/g)
	1	5

20. Tides and Weather events can generate variations in surface currents in this research area. How might variations in surface current affect foraging behavior in the penguins found in this region?

Changes in tides and surface currents can cause movements in the phytoplankton and the zooplankton, including krill, can also be moved. The penguins' foraging behavior will respond to these changes by following the movement of their food source.

Exploring the Southern Continent – Using Technology to Explore Below the Surface: Whale Ecology

Locate the "humpback whale backs" video link at this website: http://polar-ice.org/focus-areas/polar-data-stories/finding-food/ and observe the technique used to tag whales in Antarctica. After viewing the video, locate the numerical links (← Prev 1 2 3 4 5 6 End Next →) to read the through the Polar Data Story for questions 21 - 25:

21. Why do scientists tag and track whales?	To gain a better understanding of their behavior when they are underwater.	
22. Analyze the **Whale Track Data** to determine the time the whale was at the maximum depth during its diving behavior.	TIME (GMT)	DEPTH (m)
	13:00	375
23. Observe the krill data in section 4. Where would you expect to see the whales? Use your mouse to click inside the graph where you think a whale would be. Record that time and depth here:	TIME (GMT)	DEPTH (m)
	14:30 – 15:00 (Answers may	258 – 370 vary)
24. What does LTER stand for?	Long Term Ecological Research	
25. Describe an advantage of using drones to observe whale behavior.	(Answer vary)	