

注意：解答用紙は2枚あります。それぞれに学籍番号と氏名を記入してください。

**問題1**

次の文章は"Changing Arctic Conditions Threaten Polar Bears"と題した記事で、5つのパラグラフから構成されている。この英文に関する以下の間に、原文に則して日本語で答えなさい（直訳でなくてよいが、原文の内容を十分に踏まえて書くこと）。

American researchers spent two summers studying polar bears on the Arctic sea ice. They found that sea ice, where polar bears spend much of their lives, is melting faster than experts predicted it would. The researchers say this change in the animals' home territory is threatening their survival. Polar bears live on the ice. It is where they hunt, mate and raise their young. But a team of researchers has found that the animals' ice habitat is warming up, and shrinking.

The team was from the University of Wyoming. Its members worked in the Arctic between 2008 and 2010. Merav Ben David was among the researchers. She says they learned that polar bears often have trouble finding food. She says the lack of food can affect their mental health. Ms. Ben David says if the animals do not eat enough food in the spring, they are in poor health when winter arrives.

The researchers traveled on helicopters and ships. They captured more than 20 polar bears, and tested their blood. Before releasing the animals, the researchers equipped them with devices to measure temperature. They then followed the movement of the polar bears on ice and on land.

Other studies had suggested that the bears could deal with a lack of food in the summer by reducing their activity -- like the animals do when they hibernate in the winter. But Ms. Ben David says the researchers discovered that did not happen. "We found that polar bears are incapable of reducing their metabolic rate to the level that we see during winter hibernation. So there are limits on how long they can go without feeding in the summer."

Ms. Ben David says 20,000 to 25,000 polar bears live in the Arctic. She says the world should take action to protect them. She says countries must work to limit the greenhouse gases that studies have linked to rising temperatures. She says if that does not happen, polar bears could one day disappear from our planet.

habitat – n. the environment where a plant or animal normally lives

hibernate – v. to spend the winter sleeping or resting

incapable – adj. not able to do something

metabolic rate – n. the rate at which a living thing (animal, people) turns food into energy

greenhouse gases – n. gases blamed for the greenhouse effect, which is defined as the warming of the atmosphere by air pollution

(Science in the News, Voice of America Learning English 2015年7月30日の放送原稿より抜粋)

- (1) 研究者たちは、北極海の海氷がどのような状態であると述べているのか、答えなさい。
  
- (2) 研究者たちは、ホッキョクグマは具体的にどのような問題に直面していると述べているのか、説明しなさい。
  
- (3) 研究者たちは、どのような方法でホッキョクグマの状況を調査したのか、答えなさい。
  
- (4) 研究者たちは、ホッキョクグマは夏にはどのような状態にあると述べているのか、説明しなさい。
  
- (5) Ben David氏は、ホッキョクグマを危機から救うために、何をしなければならないと言っているのか、答えなさい。

学籍番号		氏名	
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**問題2**

Answer the following questions in English using more than 50 but less than 100 words for each question.

(1) Describe your research activities.

(2) What kind of practical use is expected when your research is completed ?

(3) How is your research related with the important challenges in this century (global warming, food crisis, population explosion, energy depletion, digital divide, etc.) ? If you cannot answer the question, you may describe one of these challenges.

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