Natural Mysteries

Warm up:

- Are you a big "nature person"? Do you have any outdoor hobbies?
- What is the strangest animal, plant, or insect that you know of?
- Do you know any interesting facts about animals or nature?
- Do you think human beings have more to learn from the natural world? What kind of things can we learn?

1. Read the conversation and place the underlined phrases in the categories below.

Dominic: Have you ever heard of the Bermuda Triangle?

Georgie: Yeah, that's the place in the middle of the ocean that's supposedly haunted or something, right?

Dominic: Well, not haunted exactly, but a huge amount of boats and planes just vanish there, and nobody knows why. I was watching a documentary about it last night and apparently more than 50 boats and 20 planes have disappeared without a trace.

Georgie: Yeah, I've heard about that. So, you don't think it's haunted? Then how do you explain all the weird disappearances?

Dominic: Well…. I think it might be whales.

Georgie: Whales? Really? Are you kidding me?

Dominic: Well hear me out. A lot of whales go to the Bermuda triangle to have babies, and whales are known to be very protective. What if the whales are just protecting their breeding grounds by attacking the ships??

Georgie: That… that seems like a bit of a stretch to me. I don't think whales are generally known for attacking ships. And besides, what about the planes?

Dominic: Yeah, good point. But if it's not the whales, then what?

Georgie: Well I think it's possible that it's just a very busy shipping area with a lot of planes and boats that also has a lot of storms.

Dominic: Yeah, I guess so. Still, I like my theory more.

2. Match the underlined phrases from the dialogue in exercise 1 to the definitions.

a) That seems very unlikely to me, I don't think the facts point to this. *A bit of a stretch*

b) I know this sounds strange or unlikely, but let me explain my idea. *Hear me out*

c) What's your theory about this? *How do you explain..?*

d) That sounds crazy, and I don't know if you're serious. *Are you kidding me?*

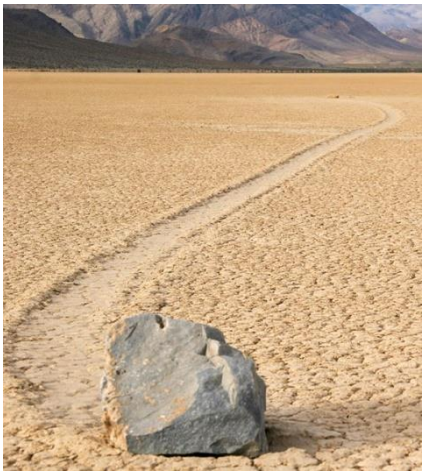
e) I don't know this information first hand, I'm not an expert on this. *Apparently*

f) One explanation for this is..... *I think it's possible that...*

g) I have heard people say this, but I'm very sceptical about this claim. *supposedly*

3. Read about four natural mysteries and speculate with a partner about what caused them. The purpose of the exercise is not to get the correct answer, but to practice speculating. Afterwards your teacher will explain the cause behind 3 of the mysteries, but one remains unsolved.

Sailing Stones of Death Valley



For decades, the "sailing stones" of Death Valley's Racetrack Playa in California mystified visitors. Large rocks, sometimes weighing hundreds of pounds, appeared to move across the dry lakebed, leaving long trails behind them. Despite this, no one had ever seen the rocks actually moving, they just left tracks. Theories ranged from magnetic fields to alien intervention.

In 2014, scientists discovered that during rare winter rains, thin layers of water would form on the flat lakebed. At night, the water would freeze into sheets of ice. As the morning sun warmed the ice, it cracked into large panels that, when pushed by even light winds, could move the stones across the slick mud. This slow, gentle process explained the seemingly impossible movement of these rocks.

The Disappearing Honeybees

In the early 2000s, beekeepers across the globe faced a disturbing trend: colonies of honeybees were disappearing, a phenomenon known as Colony Collapse Disorder (CCD). Bees, crucial to ecosystems and agriculture, vanished *without* leaving dead bodies behind. The cause was initially unknown, sparking fear of a global environmental crisis.

Scientists found that several pesticides disorient bees and impair their ability to return to the hive. Additionally, the varroa mite, a parasite, weakened bee populations by spreading viruses. By understanding these causes, efforts to protect and revive bee populations have been more effective, though it is still a major environmental issue.

The Taos Hum

In the small town of Taos, New Mexico, some residents report hearing a low-frequency hum that seems to have no identifiable source. Known as the "Taos Hum," this persistent sound has been described as a distant engine or buzzing noise, but only a small percentage of the population can hear it.

Various scientific investigations have been conducted, including checks for industrial sources, geological activity, and even military equipment, but none have conclusively pinpointed the origin of the hum. It remains a peculiar auditory phenomenon, with no clear explanation.

The Tunguska Explosion

In 1908, an enormous explosion flattened around 1300 square kilometers of Siberian forest near the Tunguska River. The blast was so powerful that it knocked people off their feet 70 kilometers away and could be heard hundreds of kilometers from the site. Despite this, there were no impact craters or fragments of a meteor, leaving scientists baffled for decades.

In the 1960's researchers determined that a meteoroid or comet had entered Earth's atmosphere and exploded mid-air. The object, about 60 meters wide, disintegrated due to the immense pressure and heat generated as it sped toward Earth, releasing energy equivalent to about 185 Hiroshima bombs. This airburst explains the lack of impact craters and the widespread devastation.

4. Read about the Chernobyl nuclear crisis and ask and answer the questions below.

In 1986 a nuclear reactor in Chernobyl had a catastrophic meltdown, and is now considered to be the worst nuclear power plant accident in history. The incident was caused by a combination of flawed reactor design and operator errors during a safety test. Many people were killed immediately, but the bigger problem was the nuclear fallout. “Fallout” is the term given to the radioactive particles after a nuclear incident that spread radiation in the area, damaging the ecosystem for years to come. Some particles lose their radiation quickly, but others have a half-life of decades. The process of a particle losing its radiation is called “decay.” While Chernobyl was undoubtedly a tragedy, in the years to come it was studied extensively by scientists who wanted to track and test the decrease or “decay” of radioactive material in an ecosystem. The decay in plants and animals more or less followed the scientists’ predictions, except for one very strange anomaly: wild boars.

a) Have you ever heard of the Chernobyl disaster before? What do you know about it and what do you think of it?

b) Does your country use nuclear power? Are you generally for or against it?

c) Are there any countries you think should not have nuclear power plants?

5. You are going to watch a video about the mystery of radioactive boars which contains the vocabulary in the box. Complete the sentences using the vocabulary.

flies in the face of	random	steady	evacuate
unlike	put a pin in it	soil	contaminated

a) We need to *evacuate* the town, the volcano could explode at any time.

b) That's a really good point, but *put a pin it* and we'll come back to it later.

c) The *soil* here isn't very good for farming, not much will grow.

d) At first the numbers seemed completely *random*, but then a pattern formed.

e) The food was *contaminated* with radiation, so nobody wanted to eat it.

f) This information *flies in the face* of everything we thought we knew about the universe.

g) *Unlike* penguins, most birds are able to fly.

h) The radiation seemed to decrease at a *steady* rate.

6. Watch the video[1] and answer the questions. Pause the video at the 5 minute mark and speculate about the cause of the wild boar paradox.

a) What has been happening to the level of radiation in most animals around Chernobyl? *It has been steadily decreasing*

b) How many people died due to the meltdown at Chernobyl? *31 at as a direct result, but after that 1000s due to cancer.*

c) Why did so many scientists study the Chernobyl exclusion zone? *It was a valuable opportunity to study how nature reacts and recovers from radiation.*

d) In your own words, what is the wild boar paradox?

e) What is cesium 137? *A radioactive isotope that has a long half-life.*

f) What were the Soviets doing in the 50s that could have had an effect on the boars? *Nuclear weapons tests*

g) In your own words, what is the cause of the "wild boar paradox"? *The weapons tests in the 50's caused radiation which went deep into the earth with water, and it still being sucked back up by mushrooms, which are eaten by boars.*

[1] https://www.youtube.com/watch?v=7fSy52SIWdg