Name: _____ Date: _____

Marine Snow Falling Into the Dark

Circle group

Deep in the ocean, far below where sunlight reaches, a slow shower falls through the dark. Researchers who shine lights into the deep water see drifting flakes, like snow in a night sky. Scientists call it marine snow, but it is not frozen at all.

Marine snow is made of bits of organic matter. Dead plankton, pieces of animal waste, fragments of shells, and scraps of larger dead creatures clump together. Sticky threads that tiny organisms release hold them. Most flakes are small, but some are big enough to see easily. They are only a little heavier than the water, so they sink slowly. A flake may take many days or even weeks to reach the sea floor.

This falling food matters, because the deep ocean has no sunlight to help plants grow. Animals that live there depend mostly on what drifts down from above. Some eat the flakes as they pass. Others wait on the sea floor, where the snow settles. On the way down, bacteria break down much of it. So only a small part of what starts at the surface reaches the bottom.

Marine snow also plays a part in Earth's climate. The plankton in it took carbon dioxide from the air while they grew. When their remains sink into deep water, some of that carbon is carried away from the surface. It can stay in the deep ocean for a very long time. So the quiet fall of tiny flakes helps move carbon from the air into the depths.

Questions

1. What is marine snow made of?

_____

_____

2. What holds the flakes of marine snow together?

_____

_____

3. Why do deep ocean animals depend on food from above?

_____

_____

4. Why do the flakes sink so slowly?

_____

_____

5. Why does only a small part of the material reach the sea floor?

_____

_____

6. How does marine snow help move carbon into the depths?

_____

_____

Words to know

organic: made from the remains of living things
plankton: tiny living things that drift in the water
fragments: small broken pieces of something
bacteria: tiny living things too small to see without a microscope
carbon: a basic substance found in all living things

Talk together (every group has these)

1. Find one fact that every group read. How did your sheet say it?
2. What did your sheet tell you that you think another group's did not? Ask them.
3. What is one question about this topic that none of the sheets answered?

Name: _____ Date: _____

Marine Snow Falling Into the Dark

Triangle group

Deep in the ocean, far below where sunlight reaches, a slow and steady shower falls through the dark. Researchers who shine lights into the deep water see drifting flakes, like snow falling in a night sky. Scientists call it marine snow, although it is not frozen at all.

Marine snow is made of bits of organic matter. Dead plankton, pieces of animal waste, fragments of shells, and scraps of larger dead creatures all clump together, held by sticky threads that tiny organisms release. Most flakes are small, but some grow large enough to be seen easily. Because they are only slightly heavier than the water, they sink slowly, and a flake may take many days or even weeks to reach the sea floor.

This falling food matters, because the deep ocean has no sunlight to power plant growth. Animals that live there depend largely on what drifts down from above. Some feed on the flakes as they pass. Others wait on the sea floor, where the snow settles. Along the way, bacteria break down much of the material, so only a small portion of what starts at the surface reaches the bottom.

Marine snow also plays a part in Earth's climate. The plankton that make up much of it took carbon dioxide from the air while they grew. When their remains sink into deep water, some of that carbon is carried away from the surface and can stay in the deep ocean for a very long time. In this way, the quiet fall of tiny flakes helps move carbon from the air into the depths.

Questions

1. What is marine snow made of?

_____

_____

2. What holds the flakes of marine snow together?

_____

_____

3. Why do deep ocean animals depend on food drifting down from above?

_____

_____

4. Why do the flakes sink so slowly?

_____

_____

5. Why does only a small portion of the material reach the sea floor?

_____

_____

6. How does marine snow help move carbon from the air into the depths?

_____

_____

Words to know

organic: made from the remains of living things
plankton: tiny living things that drift in the water
fragments: small broken pieces of something
bacteria: tiny living things too small to see without a microscope
carbon: a basic substance found in all living things

Talk together (every group has these)

1. Find one fact that every group read. How did your sheet say it?
2. What did your sheet tell you that you think another group's did not? Ask them.
3. What is one question about this topic that none of the sheets answered?

Name: _____ Date: _____

Marine Snow Falling Into the Dark

Square group

Deep in the ocean, far below the point where sunlight can reach, a slow and steady shower of particles falls through the darkness. Researchers who shine lights into the deep water see drifting flakes that look like snow falling in a night sky. Scientists call this marine snow, although it is not frozen in the slightest.

Marine snow consists of bits of organic matter. Dead plankton, pieces of animal waste, fragments of shells, and scraps of larger dead creatures all clump together, bound by sticky threads that tiny organisms release. Most of the flakes are small, but some grow large enough to be seen easily. Because they are only slightly heavier than the surrounding water, they sink slowly, and a single flake may need many days or even weeks to reach the sea floor.

This falling food is important, because the deep ocean has no sunlight to power the growth of plants. The animals that live there depend largely on what drifts down from above. Some feed on the flakes as they pass, while others wait on the sea floor, where the snow eventually settles. Along the way, bacteria break down much of the material, so only a small portion of what begins at the surface actually reaches the bottom.

Marine snow also contributes to Earth's climate. The plankton that make up much of it absorbed carbon dioxide from the air while they were growing. When their remains sink into deep water, some of that carbon is carried away from the surface and may remain in the deep ocean for a very long time. In this way, the quiet descent of tiny flakes helps to move carbon from the air into the depths.

Questions

1. What does marine snow consist of?

_____

_____

2. What binds the flakes of marine snow together?

_____

_____

3. Why do deep ocean animals depend largely on food drifting down from above?

_____

_____

4. Why do the flakes sink so slowly?

_____

_____

5. Why does only a small portion of the material reach the sea floor?

_____

_____

6. How does marine snow help to move carbon from the air into the depths?

_____

_____

Words to know

organic: made from the remains of living things
plankton: tiny living things that drift in the water
fragments: small broken pieces of something
bacteria: tiny living things too small to see without a microscope
carbon: a basic substance found in all living things

Talk together (every group has these)

1. Find one fact that every group read. How did your sheet say it?
2. What did your sheet tell you that you think another group's did not? Ask them.
3. What is one question about this topic that none of the sheets answered?

For the teacher: Marine Snow Falling Into the Dark

Each student sheet carries a shape, not a level. The same topic and facts, written three ways.

Circle: Marine Snow Falling Into the Dark

Easier · 253 words · Flesch-Kincaid grade 4.9

1. Bits of organic matter such as dead plankton, animal waste, and fragments of shells.
2. Sticky threads that tiny organisms release.
3. There is no sunlight deep down to help plants grow.
4. They are only a little heavier than the water.
5. Bacteria break down much of it on the way down.
6. Plankton take in carbon dioxide while they grow, and when their remains sink, the carbon goes into deep water.

Triangle: Marine Snow Falling Into the Dark

This passage · 265 words · Flesch-Kincaid grade 6.8

1. Bits of organic matter such as dead plankton, animal waste, and fragments of shells.
2. Sticky threads released by tiny organisms.
3. There is no sunlight deep down to power plant growth.
4. They are only slightly heavier than the water.
5. Bacteria break down much of it along the way.
6. Plankton take in carbon dioxide while they grow, and when their remains sink, the carbon is carried into deep water.

Square: Marine Snow Falling Into the Dark

Harder · 283 words · Flesch-Kincaid grade 8.4

1. Bits of organic matter such as dead plankton, animal waste, and fragments of shells.
2. Sticky threads released by tiny organisms.
3. There is no sunlight in the deep ocean to power the growth of plants.
4. They are only slightly heavier than the surrounding water.
5. Bacteria break down much of it along the way.
6. Plankton absorb carbon dioxide while they grow, and when their remains sink, that carbon is carried into deep water.