

Death Zone!

Death Zone! links with the Life processes and living things strand. It looks at keeping healthy, nutrition, circulation and health, as well as keeping warm-materials and their properties. (Sc2 1a, 1b, 2b, 2c, 5a, SC3 1a, 1b, 2c)

Key Science Concepts

- **There are seven life processes for all living things.**
- **Certain conditions are needed to sustain life.**
- **Extreme conditions affect survival and preservation.**
- **Materials are used in thermal insulation.**

Background Knowledge

There are seven life processes that living organisms undertake. These are movement, respiration, sensitivity, nutrition, excretion, reproduction, and growth. (The acronym MRS NERG can be useful for remembering the seven processes)

The human body is made up of cells. Groups of cells make up tissue. A group of tissues that performs a specific function is an organ.

In order for cells to function, grow, and reproduce they need to be kept at an optimum temperature of 37 degrees C (98.6 degrees F), which is body temperature, but we rely on environmental conditions to support this ability.

We can survive colder temperatures by insulating ourselves with materials, and in warmer temperatures by exposing the skin to the air. Thermal insulation is when the transfer of heat energy away from the body is slowed down.

When our bodies become cold, our body temperature drops. Hypothermia will begin to set in when the body temperature drops below 35 degrees C (95 degrees F).

Before the Reading

Word Splash-(Use the attached hand-out) Students will skim the book. Then they will use the selected vocabulary to create a story. Finally, they will pair and share.

During the Reading

Students will use "post-its" to write thoughts/notes on the extreme conditions affect life processes and stick them to the text. Instruct students to summarize, question, or jot down thoughts about the text while reading.

After the Reading

Students share with the class stories from the word splash activity and thoughts from sticky notes to discuss how life processes are affected by extreme conditions.

Challenge Activity

Design a kit for exploration in extreme weather. What items are necessary for the kit to contain for survival, and why? Consider kits needed for exploring the desert, the North Pole and the South Pole.

Extension

Have students expand their word splash to create a diary entry about survival in Antarctica. They must include survival techniques and describe their physical and emotional condition.

True or False Key

F, T, T, F, T, T, F, T, T, F, T, T, F, T, T