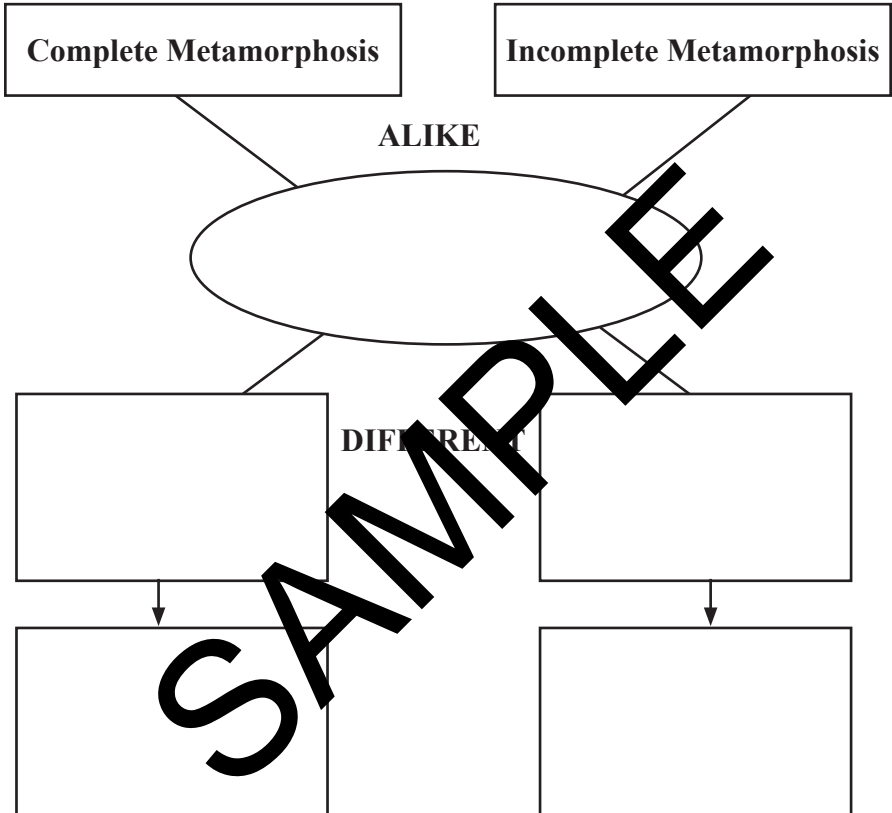


COMPARE & CONTRAST

Metamorphosis Types

Complete the graphic organizer by comparing and contrasting the characteristics of complete metamorphosis and incomplete metamorphosis.



Use information from the graphic organizer to determine which type of metamorphosis is being described: complete or incomplete.

1. _____ The young larva eats and eats, preparing for the period of change. In this case, the larva looks completely different from the adult it will become.
2. _____ As a young larva changes into an adult, it changes dramatically, but not all at once. The adult is sometimes similar to the larva, usually with remarkable differences such as wings.

COMPARISON OF PRIMARY SOURCES

The Life of a Butterfly

The life cycle of a butterfly is often used as a symbol, simile, or metaphor for comparison with human life. Complete the chart and answer the questions.

Quotations:	The message or moral of each quotation:
<p>“Just living is not enough,” said the butterfly, “one must have sunshine, freedom, and a little flower.”</p> <p>— <i>Hans Christian Anderson</i></p>	
<p>“We delight in the beauty of the butterfly, but rarely admit the changes it has gone through to achieve that beauty.”</p> <p>— <i>Unknown</i></p>	
<p>“There is nothing in a caterpillar that tells you it’s going to be a butterfly.”</p> <p>— <i>Richard Buckminster Fuller</i></p>	
<p>“We are like butterflies who flutter for a day and think it is forever.”</p> <p>— <i>Carl Sagan</i></p>	

1. Which quotation most likely comes from an author’s work of fiction? Give evidence to support your choice.
2. The saying, “Don’t judge a book by its cover,” shares a common message with which quotation? What is the meaning of this message?
3. Use an online resource to learn more about the author of the fourth quotation. How does this knowledge affect your interpretation of his message? Describe what his quotation is likely comparing.

Plant Life Cycles

Read the text and answer the questions.

Just as animals have life cycles, plants have life cycles too. Plant life cycles include three stages: seed, seedling (young plant), and plant (adult). The process begins when a seed falls onto or is placed into soil. Water, sunlight and air nourish the seed until it sprouts into a seedling. The seedling grows larger and stronger toward adulthood. As an adult, a plant is able to make its own seeds for reproduction. When an adult plant's seeds are dropped or spread, the life cycle begins again.

Did you know? Some seeds grow into plants that not only produce flowers, but they also produce fruit we can eat. One common fruit-bearing plant is an apple tree. The apples contain the seeds of the apple tree. Apples that are not eaten fall to the ground and rot. The seeds inside may produce a new apple tree.

1. What is the purpose of this text?
2. Use the text to list things plants need to grow and live.
3. What special ability do adult plants have that seedlings do not?
4. If all the apples from a tree are picked, what is the result?
5. Use the text to complete the table about plant life cycles.

Stage	Describe it	Draw it

Endangering the Life Cycle

Read the text and answer the questions.

The life cycles of plants and animals are delicate. A life cycle can be disturbed, interrupted, or stopped completely.

What can affect a life cycle? Life cycles can be altered by two means—nature or the actions of people. Sometimes a significant natural event, like a volcanic eruption, wildfire, flood, or drought, can affect a life cycle. Human activity can also have harmful effects. People may cut down forests faster than trees can grow. Human waste and pollution sometimes poisons the land, water, and air that plants and animals need to live. In some countries, hunting has caused many animals to become endangered or even extinct.

Sometimes plants and animals become endangered—there are so few of that plant or animal left alive it is close to becoming extinct. When a plant or animal no longer exists, it is extinct. Once something is extinct, it is gone forever.

1. Use the text to define endangered.
2. Use the text to define extinct.
3. Describe the relationship between endangered and extinct.
4. Name four natural events that can affect life cycles.
5. A. Give three examples of ways humans can affect life cycles of plants and organisms.
B. Are these effects positive or negative? Explain your answer.
6. What effect does pollution have on the life cycles of plants and animals?
7. Use what you have learned about life cycles to explain the double-effect of events or actions that cause plants or animals to die early.
8. Research an endangered animal. Learn what is being done to try to prevent it from becoming extinct. Describe who is involved, the efforts they are making, the problems they face, and the successes they have had. Predict whether they will succeed or fail, and cite evidence from your research to support your prediction.