Hide & Seek Butterflies

Summary

Students will learn about butterflies and how a butterfly's color and pattern can help its environment protect it.

Materials

Colored toothpicks
- Toothpick Chart
Fabric of Utah's environments
Newspaper
Crayons, markers, or colored pencils
- *How to Hide a Butterfly and Other Insects*
, by R. Heller.
- Butterfly
- *Hide & Seek Data Collection Sheet*

Additional Resources

Books

- *How to Hide a Butterfly and Other Insects*
, by R. Heller; ISBN 0-448-40477-X
- *If At First You Do Not See*
, by Ruth Brown; ISBN 0-8050-1031-9
- *How to Hide a Meadow Frog and Other Amphibians*
, by R. Heller; ISBN 0-448-40965-8
- *How to Hide a Crocodile and Other Reptiles*
, by R. Heller; ISBN 0-448-40477-X
- *How to Hide an Octopus and Other Sea Creatures*
, by R. Heller; ISBN 0-448-40215-7

Background for Teachers

There are different kinds of places, or habitats, where animals live. Each habitat or environment has a climate that encourages certain types of plant and animal life. In Utah, we have deserts, forests, and wetlands all of which are also impacted by altitude. Another habitat that is often forgotten is the city. Animals rely on their environment for many things. Not only do they depend on their environment for food, air, water, and space they rely on it for shelter. Shelter can be provided in many ways. Many animals live in the open or in trees, on plants, or even on the ground. Many animals find safety in their environment by blending in and becoming camouflaged. Since many other creatures eat insects it is important to understand how they remain unseen. The relationship of the physical characteristics of an organism and its environment needs to be understood in order to appreciate and not harm that environment. Butterflies are an insect that is familiar to the children in most communities and are particularly suited to this activity. Other insects or animals can be studied as well if they are particularly important to your area.

The development of inquiry skills is part of the process of discovering explanations for occurrences in our surroundings. As children collect information they need to have a way to record their information to analyze later. The use of a data sheet will aid students in making predictions, collecting their data, analyzing it, drawing conclusions, and providing evidence for their conclusions. Children need to test their predictions and evaluate the results.

Intended Learning Outcomes

6. Communicate clearly in oral, artistic, written, and nonverbal form.

Instructional Procedures

Invitation to Learn

Sprinkle (a pre-counted amount of) colored toothpicks over a section of grass in your schoolyard. Ask the children to find all of the toothpicks. Once they have been found ask the children to place them on a chart to record how many of each color has been found. Explain to the children that originally each color group had the same number of toothpicks. Ask for ideas on why it was hard to find all of certain colors.

Instructional Procedures

Before class prepare one set of crayons (6-8), markers, or colored pencils for each team of four children. The colors in each set should be chosen to match the colors found in the fabric in each different habitat.

Fabric that has natural looking patterns found in different habitats should be mounted and hung around the classroom. Be sure to have a representative fabric from each of Utah's environments (hot desert, high desert, forest, wetland foliage) plus a square of solid black and white. The fabric should be all the same size (36" X 36" is good). Even though these will be already hung prior to the reading of the book, don't draw attention to them.

Read the book *How to Hide a Butterfly and Other Insects* by R. Heller.

Discuss the book briefly to assess the children's understanding.

Divide the class into cooperative learning teams with four students in each. Give each team a pre-selected set of crayons and black lines of four butterflies. Let the children color their own butterfly as they wish using the pre-selected colors.

Bring the students together for a discussion about habitats that were noticed in the book. Ask the children to then describe habitats they might have seen in their community. Hopefully, the children will comment on how dry a desert is and how moist and lush wetlands can be. During the discussion encourage discussion about how a butterfly's color and pattern can help its environment protect it. Other questions might include: What does an animal need to survive? What is a shelter? How many different kinds of shelters can you think of? Ask the children where a butterfly lives and what they think it's shelter might be or ask the child if they know that some animals live in the open on trees, plants, or on the ground. When the question surfaces on how an animal that lives outside in the open can be safe from being seen and eaten it is time to connect the question to the butterfly they each have made.

Data collection-- point out each labeled environment in the room. Give each child a Data Collection sheet. Each student needs to then examine his or her butterfly and predict which habitat would be the safest for it. This will be recorded on the sheet. Since each habitat is labeled the children can copy the name onto their paper. As a group each prediction will be tested. The groups will rotate from habitat to habitat with their butterflies. Each insect will be taped onto the fabric and the group will decide if this habitat helps the butterfly hide or not. When they have decided which habitat camouflaged the butterfly the best the children will mark their sheet. The children then leave their butterfly on the habitat that it seems best suited. When this portion is complete the small group will look at their decisions and compare their choices. If the students have decided that a butterfly is better suited to a different habitat it can be moved.

Conclusions-- the teams need to identify why they think their butterflies were best suited to certain environments. Children may identify color, shape, or wing pattern as the reason a butterfly can hide in a given habitat.

After the small groups talk about their completed data sheets, members from each team explain their ideas to the whole group. This takes some guiding if your children haven't done this before.

Ask the children to create a drawing of a camouflaged butterfly. These can be compiled into a class book and looked at again and again.

During this whole process a newspaper has been hanging in a different part of the room. Very carefully placed on the newspaper is a butterfly made of newspaper. Choose a portion with lots of type to create a butterfly that will blend right in. The children might notice this right away and they might not realize the camouflaged butterfly is there until the teacher points it out. Whenever the children notice it, take a moment to ask and answer questions that might be generated. The teacher might ask "Why couldn't we see this butterfly earlier?" and the children should be able to identify the pattern and color of the butterfly's wings as the reasons.

Extensions

Curriculum Extensions/Adaptations/ Integration

Two and three inch sections of colored chenille pipe cleaners used as caterpillars can be hidden in plain sight in your classroom. These 'caterpillars' could be used as the invitation to learn or as an extension to this activity. Ask the children to find as many as they can and chart the results. Determine which ones were the hardest to find. This could also be used as a forum to evaluate understanding.

Consider working with a fourth grade buddy class as a follow up exercise. Have your kindergartners teach their fourth grade friends how to do this investigative activity. After the activity has been completed and the new conclusions drawn, have the buddy pairs create butterflies that will be camouflaged in those environments. This time it will be with the benefit of experience and new knowledge. This investigation fits neatly into kindergarten and fourth grade CORE Standards.

Math- Create freely formed pieces of art that use the crayon resist technique. Be sure to stress the concept of symmetry as a type of pattern. After drawing with crayons, paint using watercolors, and cut the butterflies out. Integrate these into a math bulletin board.

Language- An acrostic poem could be created with the word butterflies.

Family Connections

A family butterfly garden is a wonderful way for insects, specifically butterflies, to be enticed to the backyard. Planning of the garden can begin in the cold weather months and planting can begin in the spring. The child will have experiences that will extend Kindergarten learning into the summer.

If the weather is warm enough that the butterflies have begun showing up a Butterfly sighting log or chart could be kept.

Assessment Plan

Ask the children to create a drawing of a camouflaged butterfly. Look for evidence that the child is trying to hide the butterfly visually camouflaging it.

Ask a series of questions such as, "What did you learn about butterflies and where they live?"

Keep a portfolio for each child to document his or her growth and progress in acquiring inquiry skills and content knowledge.

Bibliography

Research Basis

Stein, M., McNair, S., & Butcher, J. (2001). Drawing On Student Understanding. *Science And Children*, 38 (4), 21

Young children can often express their understanding and concept development more effectively through drawings than verbally or in written assignments. They are often more engaged in details of their understanding when they draw. Examining drawings, their emerging understandings become

evident.
Hudson, P. & Hudson, S. (2001). Linking visual arts with science & technology in the primary classroom. *Australian Science Teachers Association*, 17 (4), 29.
Integration has obvious benefits for alleviating and addressing the overcrowded curriculum. Through visual arts, primary science and technology students can transfer and consolidate knowledge and synthesize new experiences. Students need to have a wide range of perceptual experiences relating to their environment.

Authors

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