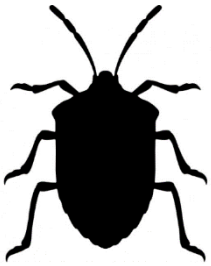
Insect Puzzle



Purpose:

- In this activity, students will get to know the basics parts of various insects by creating their own insects with puzzle pieces.

Objectives:

- Students will be able to identify an insect and name the main body parts that are used to identify an insect.
- Students will be able to identify and organize different groups of insects by Order.

Materials:

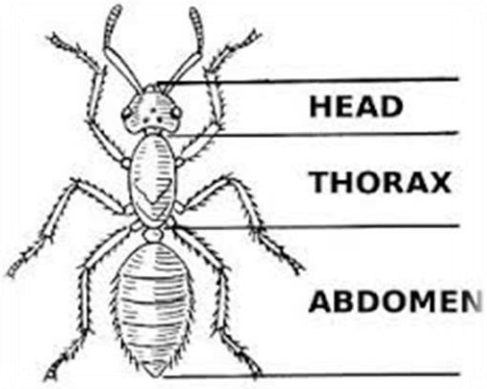
Provided in Kit:

- CD with intro and conclusion slideshow (1 piece)
- Insect Puzzle pieces (35 pieces total)
    - Head (1piece)
    - Thorax (1piece)
    - Abdomen (1 piece)
    - Legs (6 pieces)
    - Antennae (2 pieces)
    - Fly wings (2 pieces)
    - Lady Bird Beetle Wings (2 pieces)
    - True Bug Wings (1 piece)
    - Dragonfly/Damselfly Wings (4 pieces)
    - Butterfly Wings (4 pieces)
    - Parts Labels (5 pieces)
    - Order Labels (6 pieces)

Not Provided in Kit:

- Magnetic Board or Whiteboard
- Computer
- Projector

Time Required: 1 hour
Appropriate grades: 1st-2nd, 4th-5th grade
NGSS and Common Core Standards:
1-LS1-1. Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.
2-LS4-1. Make observations of plants and animals to compare the diversity of life in different habitats.
4-LS1-1. Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and



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Activity:

Introduction	• Start activity with "The Parts of an Insect" CD slideshow.
Body	• Hand out all the insect pieces to the students. • Ask the students if they have one of the 3 main body parts. If they have a head, thorax, or abdomen, then have them stick it to the board. • Ask the students who has a word to label one of the 3 main body parts. Have these students bring their piece up and label the body part they think is correct. Then ask the rest of the students if they agree with the labels. • Once labeled correctly have them say the words together- Head, Thorax, and Abdomen. • Ask the students who has a leg to come and attach the leg where they think it belongs. Make sure the students know that all legs are attached to the thorax. • Ask the students who has an antenna and have them attach the antenna to the insect. Let the students know the antennae are attached to the top of the head on an insect. • Ask the students who has a label for the legs and antennae. Have them bring the labels up to put on the board next to the correct parts. • Once this is finished ask the students what insect they have just created? *An ant!* -(4th and 5th grade level- have students identify Order and label Order Hymenoptera)  • Remove the labels. • Ask the students who has a clear wing. Have these two students come and attach the wings. Make sure to remind the students that the wings are attached to the thorax. Ask the students what insect they have created now. *A fly!* -(4th and 5th grade level- have students identify Order and label Order Diptera) 

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	• Fold up the fly wings so they are parallel with the body. Then ask the students who has a red wing. Have these two students attach the wings. Ask the students what insect they have created. *A Lady Bird beetle (Lady bug)! An identifying characteristic of a beetle is the straight line down its back.* -(4th and 5th grade level- have students identify Order and label Order Coleoptera)  • Remove all wings and set aside. • Ask the students who has a green wing. This one student should attach the wings to the insect. Ask the students if they know what insect they have created. *A Shield bug (example: Stink bug)! These are true bugs.* -(4th and 5th grade level- have students identify Order and label Order Hemiptera)  • Remove the stink bug wings. • Ask the students who has a white wing (these are opaque). Have these four students come and attach the wings as they see fit. Remind them they are attached to the thorax. Ask the students what insect they have created. *A dragonfly or damselfly!* -(4th and 5th grade level- have students identify Order and label Order Odonata)  • Remove the dragonfly/damselfly wings • Ask the students who has a yellow/black/blue wing? Have these four students come up and attach the wings. Then ask the students what they have created. *A butterfly or a moth!* -(4th and 5th grade level- have students identify Order and label Order Lepidoptera) 
Closure	• Remove the butterfly wings and review the body parts of the insect- Head, Thorax, and Abdomen.

	• Follow insect puzzle activity with PowerPoint of "Insects." This PowerPoint shows some example of insects from around the world. • Ask students how they think the insects' differently-shaped bodies help them survive. • Students may draw or journal about their favorite insect and explain what they learned about it. • Ask the students where they think these insects may live, based upon the different body and wing shapes of the insects.

Modifications:

For 1st/2nd grade:

- Have students search for insects outside around your school. What bugs are they?
- Have students design their own insect. Where do they think that insect lives? What niche does it fill in the environment? What traits does it have that are like human traits?
- Have students create their own pin boards as a project. Students will go home, college bugs over several weeks, and pin them to boards. They will identify and label the types of bugs they have collected.

For 4th/5th grade:

- Have students search for insects outside around your school and identify the correct group or Order.
- Have students research an insect of their choice.
- Have the students learn the classification of the insects. The kit contains labels of the insect Orders that will be created in the activity. Once the students create an insect, have them identify what Order the insect belongs to (see additional information for more background about each Order).
- Have students create their own pin boards as a project. Students will go home, college bugs over several weeks, and pin them to boards. They will identify and label the types of bugs they have collected and organize them by Order.