


In2steam Lesson Plan (Activity) Template

1. Name of the lesson	<i>Inquisitive Insects</i>
2. Target group	Students aged 8-9 years old (or younger)
3. Duration	2 hours
4. STEAM Skills/ 21st Century Skills	Critical Thinking Creative Thinking 
5. Expected outcomes	By the end of this unit, students will be able to: <ul style="list-style-type: none"> • Learn the basic parts of an insect; • Gain experience with folding, bending, and curling art-making materials.
6. Subjects and topics covered	Science; math (basic geometrical shapes); arts/crafts.
7. Methodologies	Inquiry Based Learning
8. Integration of the Arts	Arts are integrated as crafts during the entire exercise, since students are asked to develop their insect by coloring, gluing materials, etc.
9. Learning Environment	Classroom or a mix (outdoors and indoors activities).
10. Required resources	<ul style="list-style-type: none"> • Paper; • Glue; • Construction paper; • Coloring materials; • Cellophane paper; • Chenille stems.
11. Prior knowledge a. teacher b. students	In order to deliver this lesson, the teacher will need to have the following knowledge and skills set: <ul style="list-style-type: none"> • be familiar with insect biology. In order to be able to participate and contribute to this lesson, the students will have achieved the following standards: <ul style="list-style-type: none"> • Understand/recognize all organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air
12. Detailed description of the step-by-step sequences of the unit, incl. specific activities to support the learning experience	STEP 1: ensuring prior necessary knowledge: <ul style="list-style-type: none"> • Ask students to close their eyes and visualize an insect. Ask them to think about the different parts that make up the insect they are imagining. Ask students to share out some ideas with the whole class. • Show a basic image of an insect to the class. Point out the main parts such as the head, thorax, abdomen, wings, legs, eyes, antenna, etc. This

is also a great time to introduce exoskeletons. Optional: Have students label the parts of an insect in their science notebooks.

- Show a few more images of insects to the class. Talk about the similarities and differences between these insects. Students might notice things like the different number of wings, legs, leg shapes, body shapes, antenna shape and size, etc. Relate the differences in the insects you've shown them to the differences between humans. Point out a few differences between humans such as eye and hair color, height, age, number of teeth, things they like to learn, and other various experiences. Explain to students they will be creating art that represents things that make them unique.

STEP 2:

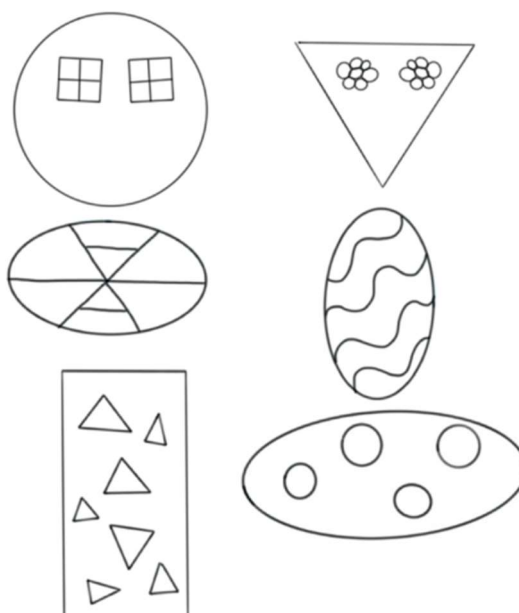
- Hand out the questionnaire (see annex) to students, and guide them through the questions, explaining that their answers to the questions will help determine what their insect looks like.

STEP 3:

- After students have answered the questions, hand out a piece of printmaking paper or colored tagboard and direct students to use a pencil to draw/create the head, thorax and abdomen as they go through the attributes that correspond with their answers to the questionnaire.

STEP 4:

- Head shape: students will draw a square, triangle or circle depending on their answers.



STEP 5:

- Thorax shape: students will draw a horizontal or vertical oval depending on their answers.

STEP 6:

- Thorax design: students will draw straight lines or wavy lines depending on their answers.

STEP 7:

- Abdomen shape: students will draw a vertical rectangle or horizontal oval depending on their answers.

STEP 8:

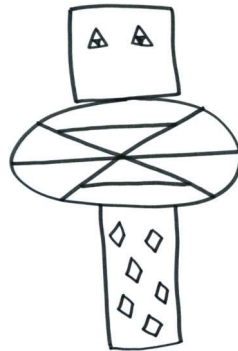
- Abdomen design: students will draw a certain number of a certain shape depending on their answers.

STEP 9:

- Number of eyes: students will draw a certain number of eyes depending on their answers.

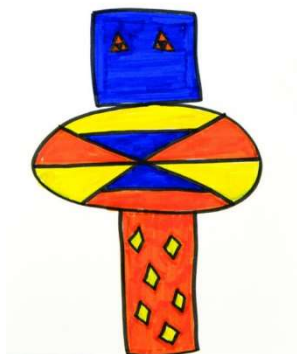
STEP 10:

- Once the head, thorax, and abdomen have been drawn in pencil, have students use a dark colored marker to outline their pencil lines.



STEP 11:

- Have students color their insect however they'd like, allowing them to freely express their creativity.



STEP 12:

- Explain that for the legs, antennas, and wings students will be gluing on various art-making materials. Have students gather three chenille stems that are the closest match to the flavor of ice cream they listed as their favorite. Allow students to experiment with how they'd like to

bend their chenille stems to make an interesting leg shape (zig-zag, wavy, spiral, etc.). Using tacky glue, adhere the six legs to the sides of the insect body they colored previously. Have students place the leg with a dot of tacky glue on the chenille stem, and press it down on their paper for 30 seconds.



STEP 13:

- For insects' wings, students will need to gather two, four, or six pieces of tissue paper/cellophane depending on their answers. Students will either pinch the corner of their tissue paper, or accordion fold it, depending on their answers. Students then glue their wings to their insects however they'd like.



STEP 14:

- For the insect's antennas, students will need to gather two art straws in a color of their choice. Depending on their answers, students will make their antennas curly or fold them in a zig-zag. Have students glue their antennas onto their insects.





STEP 15:

- Finally, give students the freedom to add any facial features they'd like such as a nose, mouth, or tongue (proboscis). Using additional chenille stems, art straws, or construction paper will add interest.



STEP 16:

- Have students mount their inquisitive insect on a piece of construction paper, and sign the backside.

	 <p>STEP 15:</p> <ul style="list-style-type: none"> Finally, give students the freedom to add any facial features they'd like such as a nose, mouth, or tongue (proboscis). Using additional chenille stems, art straws, or construction paper will add interest.  <p>STEP 16:</p> <ul style="list-style-type: none"> Have students mount their inquisitive insect on a piece of construction paper, and sign the backside.
13. Gender-inclusive strategies and activities planned	During assessment, make sure everyone gets to use the same materials, avoid gender stereotypes such as pink colour and ribbons for girls etc.
14. Assessment & Evaluation	Display artwork where everyone can see. Review the questions and which shapes and designs correspond to each. Have students guess which insect belongs to which student, and tell which attribute(s) helped them come to that conclusion, encouraging the use of vocabulary words. Together with students make an overview of the classroom trend related to the questionnaire answers.
15. Annexes	Questionnaire
16. Intellectual property rights (IPR) / Origin of the activity	Lesson planned adapted from: Art Makes Us Smart and Learn it by art.

Annex 1: Inquisitive Insect Questionnaire

1. What is your favourite subject out of these three?

- Math (square head)
- Science (triangle head)
- Native language (Portuguese, Italian, Turkish, Greek, polish) (circle head)

2. Have you ever walked, scooted, or rode your bike to school?

- Yes (horizontal oval thorax)
- No (vertical oval thorax)

3. Where do you like to play the most?

- Inside (straight lines in thorax)
- Outside (wavy lines in thorax)

4. Have you lost a tooth?

- Yes (vertical rectangle abdomen)
- No (vertical oval abdomen)

5. How many letters are in your first name? _____

- (This tells you the number of spots on your insect's abdomen,
- but the next answer tells you the shape of the spots!)

6. In your family, are you the...

- Oldest child (circular spots)
- Middle child (square spots)
- Youngest child (triangle spots)
- Only child (diamond spots)

7. How many types of transportation have you been on? _____

Examples of types of transportation: car, train, boat, bicycle, motorcycle, airplane, subway, sled, horse, gondola etc.

(This tells you the number of eyes your insect will have.)

8. What is your favorite flavor of ice cream? _____

9. Do you have any pets?

- Yes (curly antennae)
- No (zig-zag antennae)

10. Do you know what you want to be when you grow up?

- Yes (pinched wings)
- No (zig-zag wings)

11. How do you part your hair?

- On the side (two wings)
- In the middle (four wings)
- I don't part my hair! (six wings)