

Aquatic Insect Creek Geek Knowledgey

Adapted from: An original Creek Connections activity.
Creek Connections, Box 10, Allegheny College, Meadville, Pennsylvania, 16335

Grade Level: Intermediate

Duration: 35-45 minutes

Setting: Classroom

Summary: Students play a Creek Connections version of Jeopardy to review the main concepts presented in the Aquatic Macroinvertebrate module.

Objectives:

Students will review what they have learned in other Aquatic Insect module activities by answering a series of game show questions.

Vocabulary:

Related Module Resources:

- Other Module activities
- Fact sheets and information in binder to be used as review purposes

Materials (Included in Module):

- Link to game website
- Paper version of Creek Geek Knowledgey (6 envelopes)
- Creek Geek Knowledgey Rules overhead transparency

Additional Materials (NOT Included in Module):

- computer with Internet access and optional volume
- projection unit
- tape
- watch or clock w/ second hand

ACADEMIC STANDARDS (ENVIRONMENT AND ECOLOGY)

7th Grade

- 4.3.7.A Identify environmental health issues.
- Identify various examples of long-term pollution and explain their effects on environmental health
- 4.3.7.B Describe how human actions affect the health of the environment.
- Identify land use practices and their relation to environmental health
- 4.7.7.A Describe diversity of plants and animals in ecosystems.
- Select an ecosystem and describe different plants and animals that live there

10th Grade

- 4.1.10.C Describe the physical characteristics of a stream and determine the types of organisms found in aquatic environments.
- Describe and explain the physical factors that affect a stream and the organisms living there
 - Identify terrestrial and aquatic organisms that live in a watershed
 - Identify the types of organisms that would live in a stream based on the stream's physical characteristics
- 4.3.10.C Explain biological diversity as an indicator of a healthy environment.
- Explain species diversity

12th Grade

- 4.1.10.C Analyze the parameters of a watershed.
- Interpret physical, chemical and biological data as a means of assessing the environmental quality of a watershed
 - Apply appropriate techniques in the analysis of a watershed (e.g., water quality, biological diversity, erosion, sedimentation)
- 4.3.10.C Analyze the need for a healthy environment.
- Explain how human systems affect the environment
- 4.7.10.A Analyze biological diversity as it relates to the stability of an ecosystem. Examine and explain what happens to an ecosystem as biological diversity changes

BACKGROUND:

The other activities in this module have given an opportunity to explore aquatic macroinvertebrates in many ways. Students have identified aquatic insects, learned about their habitat needs, roles in the ecosystem, diet, breathing and movement characteristics, and how aquatic organisms can reveal information about stream health. A fun, interactive, and educational way to review and wrap up this unit theme is to play Creek Geek Knowledgey, the Creek Connections version of Jeopardy. In Creek Geek Knowledgey, as with the TV show Jeopardy, student teams try to guess the question that corresponds to a given statement about an aquatic insect related topic.

OVERVIEW:

Students work in pairs or teams to play Creek Geek Knowledgey, the Creek Connections version of Jeopardy. During the game, the students review what they've learned in other module activities about aquatic insects.

PROCEDURE:

There are two versions of Creek Geek Knowledgey: a computer-based version that requires that you have access to a computer with Internet capabilities and a projection unit to show the game on a screen, and a paper-based version that you need only have a wall or chalkboard and tape to play. The computer-based version is more reminiscent of the real Jeopardy TV game show and is a bit more exciting. If you have access to a computer with Internet capabilities and a projection unit, proceed to "Computer-Based Creek Geek Knowledgey" below. If you don't have this equipment or simply prefer to play the paper-based version, go to "Paper-Based Creek Geek Knowledgey" below.

Computer-Based Creek Geek Knowledgey

Teacher Preparation:

1. Procure and set up a computer with Internet access and projection unit. Turn up the volume on the computer because there are some sounds to this game.
2. Go to the Creek Geek Knowledgey website by typing in <http://creekconnections.allegheny.edu/Jeopardy2/index.html> or by going to <http://creekconnections.allegheny.edu> → Classroom Resources → Scroll down to "Contests/Games" and click on Creek Geek Knowledgey (Aquatic Macroinvertebrates version). Have the computer at this point when you proceed to the student activity. CAUTION: do not click on any of the game's links ahead of time. The game is designed is that when a category question is selected, the link disappears so you know it was used. To get these links to reappear, you may have to reboot the computer. You will have to do this between classes if using this game with multiple classes.

Student Activity:

1. Explain to students that they will be playing a Jeopardy-like game called Creek Geek Knowledgey to review some of the major concepts they learned in other module activities. Quickly brainstorm some of these concepts/topics.
2. Select one person to be the official score keeper and divide the rest of the class into teams. Have the scorekeeper draw a score table on the board.
3. Click on the "Begin Game" link below the Creek Connections logo to proceed.
4. If desired, click on "Read Rules" and quickly go over the rules with your students. You can set any rules you would like, but keep in mind:
 - a) You must find a way to have full groups to "buzz in" rather than just individuals. The best way is to have an entire group raise their hands. When all hands are up in a group, they have successfully buzzed in first. Call on them. If they are

- incorrect, say incorrect and other groups who know should raise their hands immediately. Pick on the next group to have all hands raised.
- b) Let them know that you will not be reading the questions like Alex does on the show, so they can “buzz in” as soon as they want.
 - c) You can decide how strict you want to be on whether the students responses need to be in the form of a question.
 - d) Set an official (get your watch out) or unofficial (wing it) time limit for buzzing in. If no one gets the answer correct or if no one buzzes in, the team with the previous correct answer should pick the next category and amount.
 - e) There are daily doubles in the game. Indicate that any amount a team has can be wagered. A maximum of \$500.00 can be wagered for teams with insufficient funds (< \$500.00).
 - f) Establish rules for final jeopardy. For the real game show, only those teams with positive amounts of money can play. A category for the question will be revealed and based on their feelings about this category, teams can wager any amount of money, but only of what money amount they actually have. They should write down their answers on a sheet of paper - no changing answers.

Make sure students understand the rules well before proceeding with the game.

5. Scroll down to the bottom of the screen and click on “Play Knowledgey” to begin the game.
6. Have the scorekeeper read the categories of the Creek Geek Knowledgey game.
7. You, the teacher, will be the game show host and should select the first “answer” to start the game. Click on this square. The students will read the question on their own. You should watch for the team that buzzes in first.
8. To return to the category page, you simply click the “Back” button on your computer.
9. Play the game according to the rules until all the “answers” have been used or time is running out. Allow for 3 minutes to play “Final Knowledgey.”
10. The team with the most points at the end of the game wins.

Paper-Based Creek Geek Knowledge

Teacher Preparation:

1. Locate the paper-based version of Creek Geek Knowledge in the module. The game consists of six envelopes, corresponding to each of the six Creek Geek Knowledge categories.
2. Determine where you will set up the game. (The chalkboard or a wall will work well.)
3. Find the enclose masking tape (return it please) or some from *your* office supplies.
4. Each of the six category envelopes has six folded 8.5x11” pieces of card stock paper in it, five of which correspond to the five dollar amount “answers” (\$100, \$200, \$300, \$400, and \$500), and one of which is the category title. These pieces of paper are attached together on a string. Simply tape the top of the string securely to that wall/chalkboard. Flip all the cards sideways until the dollar amounts show. Use the diagram below to help you set up the game on the board or wall (the answer key is arranged in this category order!!!).

Identify Me	What Am I?	Anatomy	Food & Shelter	Life of a Bug	Ecological Significance
\$100	\$100	\$100	\$100	\$100	\$100
\$200	\$200	\$200	\$200	\$200	\$200
\$300	\$300	\$300	\$300	\$300	\$300
\$400	\$400	\$400	\$400	\$400	\$400
\$500	\$500	\$500	\$500	\$500	\$500

Student Activity:

1. Explain to students that they will be playing a Jeopardy-like game called Creek Geek Knowledge to review some of the major concepts they learned in other module activities. Quickly brainstorm some of these concepts/topics.
2. Select one person to be the official score keeper and divide the rest of the class into teams of two or more students. Have the scorekeeper draw a score table on the board.

3. Go over the rules at the end of this activity write-up. An overhead transparency of the rules is also included for your use. Also look at instruction #4 from the above computer-based version instructions. Make sure students understand the rules well before proceeding with the game.
4. Have the scorekeeper read the categories of the Creek Geek Knowledge game.
5. You, the teacher, will be the game show host and you should select the first “answer” to start the game. Flip up the folded piece of paper. It will be up to the students to read the text on the card on their own - unless the room setting is too big and students cannot read the print, then you will need to read the card. As soon as a team knows the answer, they can “buzz in”. You should watch for the team that buzzes in first. Since you will be reading, you might want the score keeper watch for the team who buzzed in first or have some other student be the official reader while you remain the judge.
6. Once a given “answer” has been used, flip it sideways so that the dollar amount side no longer shows. Be careful not to flip any of the other pieces of paper by accident.
7. Play the game according to the rules until all the “answers” have been used or time is running out. Allow for 3 minutes to play “Final Knowledge.”
8. The team with the most points at the end of the game wins.

DISCUSSION:

Discuss any questions or unclear concepts as they arise during the course of the game.

EVALUATION:

- Students have accurately answered most of the Creek Geek Knowledge questions.

EXTENSIONS AND MODIFICATIONS:

- Have students create even more Creek Geek Knowledge categories and questions.
- Use Creek Geek Knowledge as a quiz or exam and have students work individually and right down their answers on pieces of paper.

NOTES (PLEASE WRITE ANY SUGGESTIONS YOU HAVE FOR TEACHERS USING THIS ACTIVITY IN THE FUTURE):

Activity Version: May 2003



OVERHEAD : CREEK GEEK KNOWLEDGY RULES

Knowledgy Rules

- All answers must be in the form of questions (optional).
- The teacher will not be reading the questions like Alex does on the show, so teams can “buzz in” as soon as they want.
- There will be a time limit for a team to “buzz in”.
- To “buzz in” will be defined as follows: ALL team members must raise their hand. The first team with all members with hands raised will be picked to answer the question. Judgement of who is first is at the discretion of the teacher.
- Once a team buzzes in, they will only have 10 seconds to respond to the question. You can talk it over with your team before responding, but once a response has been “shouted out,” that response will be considered the team’s answer.
- If a response is incorrect, the teacher will say “incorrect” and another group can buzz in (first group to have ALL team members hands raised). Your team can only "buzz in" once per every answer screen.
- Correct responses are awarded the amount of points that the screen shows. The scorekeeper will add this amount to your score.
- Incorrect responses will result in the amount shown on the screen being subtracted from your score. The scorekeeper will do this.
- If nobody buzzes in or if nobody responds correctly, selection of the next category and amount goes to the team that responded correctly to the previous question.
- There are two daily doubles. Any amount a team has can be wagered. A maximum of \$500.00 can be wagered for teams with insufficient funds (< \$500.00). If the answer is incorrect, no other team can buzz in. The team that participated in the daily double picks the next category/amount.

Final Knowledgy

- Only those teams with positive amounts of money can play.
- A category for the question will be revealed and based on their feelings about this category, teams can wager any amount of money, but only of what money amount they actually have. Write this amount on a piece of paper.
- You will have roughly 30 seconds (until the song stops playing) to come up with a correct response written on paper, in the form of a question. You will not be able to change your answer after the 30 seconds has elapsed.
- Incorrect responses lose the amount wagered.
- Correct responses are awarded the amount wagered.

WINNER:

The team with the most money/points at the end of the game wins.