



# Natural Selection: Snurfle Islands

Directions: Go to the following URL: (Link on Moodle)

<https://biomanbio.com/HTML5GamesandLabs/EvoClassGames/snurfleislandshtml5page.html>

Tap "Start a New Game". Tap "Yes!" for touchscreen function. Continue tapping "Tap or Click Here!" to move forward through the module until you reach the Main Menu.

Tap the "Background Button" twice. Read the information and answer the questions below:

1. What is evolution?

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2. What are some key facts about Natural Selection? Be sure to include the terms: *Natural Selection, Offspring, Population, Adaptations, Limited Resources, Fitness, Survival, Reproduce & Genetic Changes.*

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Tap the "Play the Game Button" once:

3. What is the goal of the game?

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Tap the "Play the Game Button" again to reach the "Choose Your Adaptations!" page. Tap each adaptation on the right to see its description. Choose adaptations that will allow you to survive on one of the islands listed below. When choosing adaptations, it'll cost you survival points! Survival points will be calculated into a percentage for points on the assignment. So choose wisely! Once you are decided on which adaptation to use, tap "Add Adaptation!" to add them to your Snurfle. Tap "I'm done!" when you think you have all the adaptations you need to survive.

## The Snurfle Islands:

**Fruity Paradise:** Lots of fruit and no predators!

**Aqua Caves:** An underwater playground, or a death trap, depending on your adaptations.

**Diverse Isle:** Several challenges await your on diverse isle!

**Frosty Island:** It's cold here! If you can't stay warm, you won't survive and reproduce!

**Lava Caves:** Beware falling rocks, lava flows, and food scarcity in the lava caves!

**Desert Island:** It's hot and dry here on Desert Island! Also, food is **SCARCE** (limited)! Watch out for predators, too!

**Aerial Islands:** Floating fruit abounds on these small islands, but can you get to it before the completion?

**Predator Isle:** Predators lurk everywhere on this island! Pick adaptations to help you survive!

**The Vortex:** This mysterious vortex will transport you to one of the other islands. Will your Snurfle be adapted enough to survive? Since natural selection organisms **CAN'T** choose their traits to match the environment, this level simulates natural selection most realistically!

**Navigate the islands, choosing the island of which your snurfle will now survive best. Tap each island to read its description from above. Tap "Go!" to begin the game. A few tips while you play:**

- Once on the island, you need to search out the fruit to eat. Each fruit is worth 10 survival points.
- You need to find a mate to produce offspring, but you'll only be able to produce offspring if you have a net gain of survival points at the end.
- More survival points = more offspring!

**After finding your mate, tap "Tap Here!" This screen will tell you the fitness and how many genes you passed on. At the end of the game your ideal results are "Awesome Fitness" with the most offspring possible! This will award you with the highest points earned for that island. Tap "Tap Here!" again.**

**Tap "Main Menu". Tap "Go to Score Sheet" twice. This screen will show your score per island, along with an overall percentage. Type your name in the name box. You also received points for completing the background information. Tap "Return to Main Menu" and continue playing the game navigating a few islands for survival until you are satisfied with your overall score.**

**You will also be awarded points for taking the quiz. Tap the "Take the Quiz" button twice. Tap "Tap or Click Here!" Take the Quiz. Your score sheet will appear when you are finished.**

**Make sure your name is still present in the name box. You will not receive points without a name. Take a screenshot of your scoresheet and submit it to Moodle. Use the iPad function, NOT the "Take a Screenshot" button, this button does not work.**

### Analysis Questions:

1. Which island needed the least amount of adaptations? Why?

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2. Which island did you find to need the most adaptations? Why?

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3. What did you find to be the most beneficial adaptation overall? Why?

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4. What did you find to be the least beneficial adaptation overall? Why?

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5. What were some of the limiting factors that your Snurfle encountered during its lifetime?

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6. Explain why natural selection is sometimes referred to as "Survival of the Fittest"?

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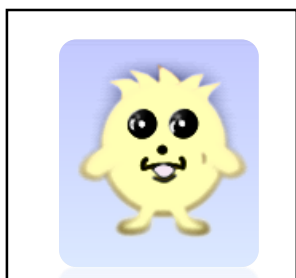
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### Create a New Species of Snurfles!

In the box below, create a new species of Snurfles that will need to adapt to a newly created island that has just formed in the ocean. Draw and label the new adaptations on your Snurfle. Give your island a creative name and a brief description. Your adaptations must help your Snurfle to survive to pass on its genes for generations to come! Explain how each one does!



Island Name:

Island Description:

Adaptations and Explanation: