Name: _____ **Date:** _____

Section: _____

Natural Selection Island Simulation Activity

Island Insects: Survival Game

Phase 1: ENGAGE (2 minutes)

Getting Started: Open peebedu.com and navigate to Natural Selection Island Simulation

Click '`Introduction`' - it's like a survival game for insects!

The Challenge: Insects must find the right island to survive. Each island has a favorite color!

- Green island likes: _____ insects

- Brown island likes: _____ insects

Your Prediction:

What happens to a red insect on a green island? _____

Phase 2: EXPLORE (7 minutes)

Watch the Action

Click '`Start`' with default settings.

Quick Observations:

After 50 frames:

- Most insects on green island are: _____

The Special Black Insects: Black insects can live on TWO islands!

- Which ones? _____ and _____

Try This:

Make Islands Hard to Reach: Reset. Change '`Water Survival`' to 0.2 (very low).

- Can insects travel easily? YES / NO

Make One Island Super Picky: Reset. Change '`Red Selection`' to 10 (very high).

- Non-red insects on red island: SURVIVE / DIE
- This island becomes: MIXED / PURE RED

Phase 3: EXPLAIN (4 minutes)

How It Works

Survival of the Fittest:

- Insects that match their island: LIVE / DIE
- Insects that don't match: LIVE / DIE

Movement Matters: When insects can easily travel (high water survival):

- Islands have: SAME / DIFFERENT insects

When travel is hard (low water survival):

- Islands have: SAME / DIFFERENT insects

Why This Happens:

Circle the best explanation:

Phase 4: ELABORATE (1 minute)

Real Animals

This happens in real life too!

Arctic Fox Example:

- In winter (white environment) → _____ fur survives better

Your Example: Think of another animal that matches its environment: _____

Phase 5: EVALUATE (1 minute)

Quick Check

Main Idea: Animals with traits that match their _____ survive better and have more _____.

Isolation: When animal groups can't mix, they become: SAME / DIFFERENT

Final Question: Why do the Galápagos Islands have different types of finches on each island?

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Fun Fact: This is how new species form - when groups can't mix, they evolve differently!

Key Vocabulary

See activity for vocabulary specific to this topic.