

Surviving Extinction - How to Play Guide

Explore how your vertebrate ancestors survived three mass extinctions and gave rise to the great variety of groups alive on Earth today. Learn what adaptations helped make some groups more successful than others. Test your ability to predict which physical, behavioral and physiological traits were instrumental in helping some groups cope with environmental changes. Find out how to survive extinction!

Learning Outcomes

Learning Outcome #1: Explain the benefits of specific adaptive traits for species survival.

Learning Outcome #2: Recognize and categorize key mammalian and reptilian adaptive traits.

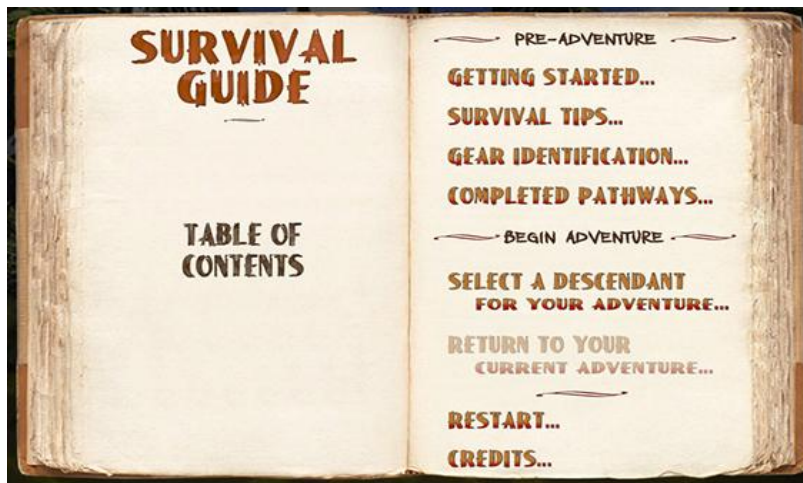
Learning Outcome #3: Describe and order key events (such as dominant animals and mass extinctions) in history from 360 Ma to present.

GAME PLAY INSTRUCTIONS

1. Each learner needs access to a laptop or desktop computer and headphones or earbuds (for listening to videos and sound effects).
2. Test the internet connection of the *Surviving Extinction* online game (<https://vft.asu.edu/survive/>) by logging into computers with student credentials using the browsers Google Chrome or Firefox. Note: the game is not optimized for Safari or mobile devices.
3. Start the game and review the instructions in the **Survival Guide Table of Contents**. Here learners will find the **Pre-Adventure** and **Begin Adventure**

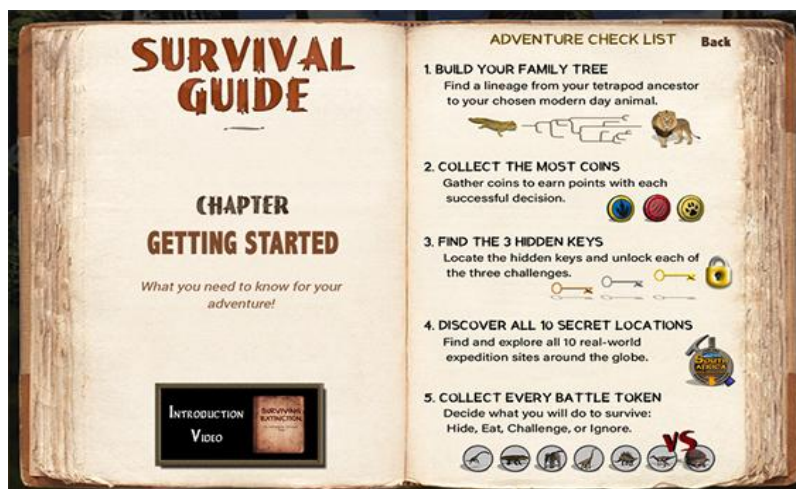


details. It is important to review these sections to be familiar with the game tasks, icons, tokens and gear before starting the lesson with learners.



A. The goal of the game is to complete five main tasks, the most important task is to build an evolutionary tree from your tetrapod ancestor to a chosen modern-day animal. Learners choose to take on the role of different animals and visually explore the environmental and biological changes that occurred from 350 million-years-ago to the present. They must decide which group of animals to follow as their traits change in relation to environmental pressures, ecological niche changes, new species interactions, and key mass extinctions.

4. Start the game and review the instructions in the **Survival Guide Pre-Adventures** section. Here you will find the **Adventure Check List** that describes the five main game tasks.



- Encourage learners to review the **Survival Gear** and **Survival Tips** before starting the game.

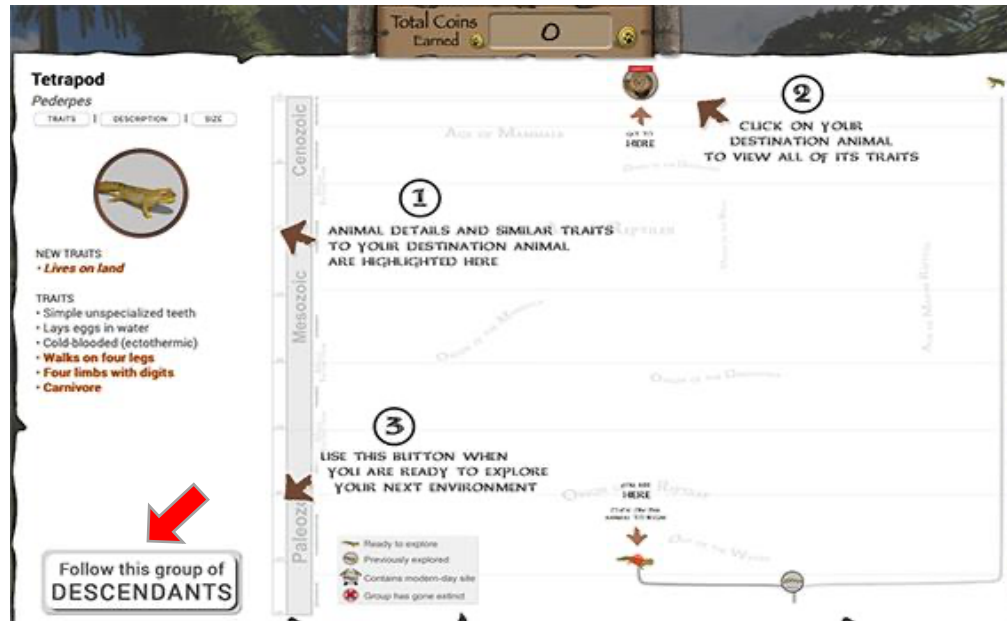


- To begin the game, learners must **Select a Descendant** from the group of living destination animals. Once they have selected a destination animal, they will go to the evolutionary tree screen (family tree) to start the game.

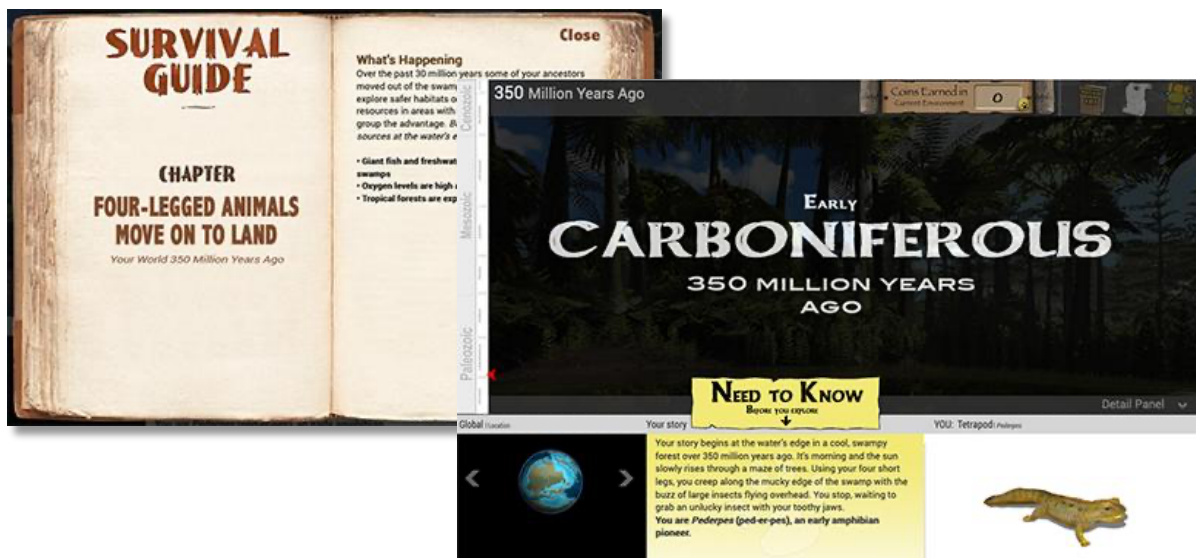


- In the evolutionary tree, learners will see their destination animal at the top, and the animal they are currently at in the tree marked with a red dot (in this case they will start with the first animal, the early tetrapod, *Pederpes*). Once that animal and its environment have been explored, new animals will appear on the

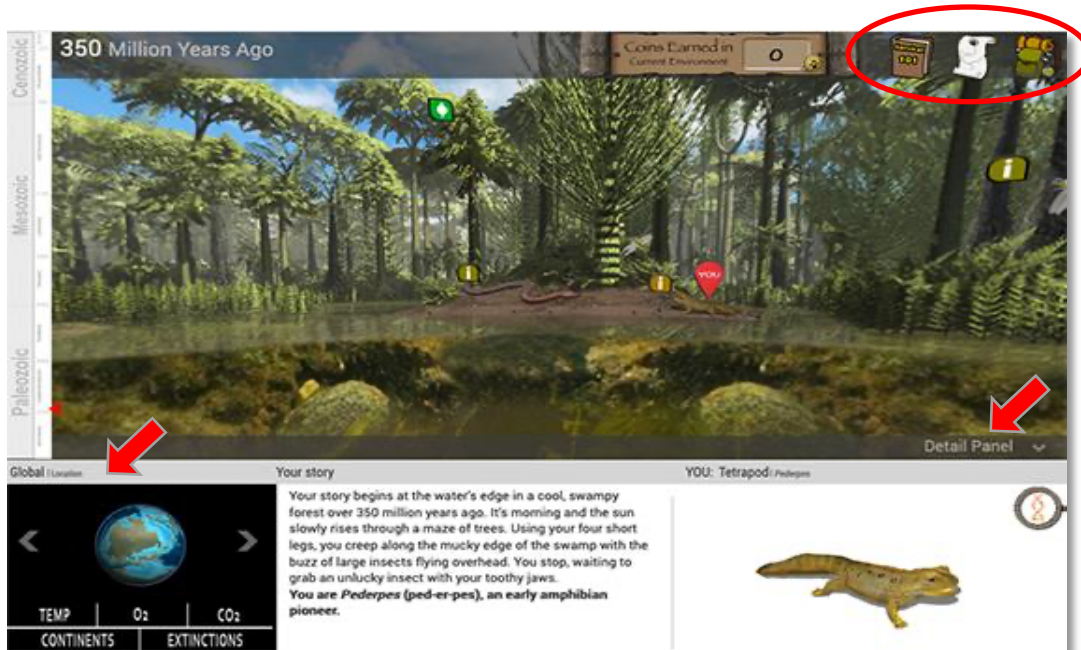
tree. The learner must again decide which animal to follow, clicking on **Follow this group of Descendants**, to reach their living animal. They can get hints on what animal is the best choice by comparing each animal's traits with their living animal.



8. Once learners have chosen to follow a group of descendants, they will *become* that animal and can begin exploring its environment. They can earn points by collecting Life, Extinction and Trend Coins. Tell learners to watch for hidden Real-World Expedition locations and the Key Challenges as they play the game.



- Learners will enter 360-degree reconstructed environment where they will see spinning coins with questions, they must answer to earn coins. They will also find icons with more hidden details, Globe and Detail panels (arrows) that open and close, the evolutionary tree (map), backpack and main menu (circle).



- Within each environment, there is a main animal and others that are part of the ecosystem that they it will come face-to-face with in **VS Battles**. Learners must use what they learned to figure out how to react in these battles to collect more points.



11. The backpack icon contains information on the progress in completing evolutionary pathways (lineages), Key Challenges and the hidden Real-World Locations. Encourage learners to check these often as they play.

