Welcome to Data Explorers: Choose your adventure

Teacher Guide

Introduction to Data Explorers: Choose your adventure

Learning Objectives + Summary

Time: 5-10 minutes per standalone section, ~45 minutes to complete fully (or longer if you wish to expand your sessions).
Skills: Harnessing Data, Informational Skills, Climate Sciences, Collaborative Role-Play
Recommended age: 11-14 (but easily adaptable for other age groups)

Students Will…

1. **Understand** what data is and how it can be collected and verified
2. **See** how data is applied to real-world problems and career paths, and how it can create positive change.
3. **Role-play** an adventure across the Rainforest to confront ecological challenges.
4. **Develop** teamwork, problem-solving, and storytelling skills, while exploring data-driven solutions to environmental issues.

Think: "I understand how data can inform decisions to protect the planet."
Feel: "I feel confident using data and motivated to learn more, so I can have a positive impact."
Do: "I recognise the presence of data in the real world, will continue learning, and consider careers that use data to promote sustainability."

How to Get Started (Teacher's Guide)

Step 1: Gather Your Materials

- Print or write down the provided story clues clearly.

Step 2: Familiarise Yourself with the Story

- Students will enter a magical rainforest to investigate why animals are disappearing.
- They'll meet a worried child, discover a scientist has been kidnapped, and use clues and data to find solutions.
- The main goal is for students to ask thoughtful questions, explore clues, and discuss solutions together.

Step 3: Set Up the Adventure

- You will need to describe the rainforest setting at the start. (No complicated maps or worlds necessary—just imagination!)
- You will present the clues at the right moments to help students explore the mystery.
- Students will need to ask questions and lead discussions about the clues provided. This could take longer than planned so the tip is to manage your time and the conversation at every step.

Step 4: Running the Activity

- You should encourage students to explore ideas openly—there are no right or wrong answers, just curiosity and teamwork.
- Continually emphasise the importance of using questions, clues, and data (information) to solve environmental problems.

Step 5: Reflect Together

- After the story ends, you will summarise what the students discovered, for example:
  - Animals disappeared because of deforestation.
  - Deforestation means cutting down wide areas of trees.
  - Data (graphs, clues, observations) helps understand problems and find solutions.
- Remember to celebrate student teamwork and problem-solving by enthusiastically acknowledging their efforts.

Final Note

- Don't worry about strict game rules—focus on storytelling and exploration.
- Keep it simple: clearly narrate the story, let students interact, and guide discussion.
- The activity emphasises imagination, questioning, and teamwork—no prior experience needed!

Rainforest Realm: A 'choose your adventure' game

Lesson Plan and Script

Step 1: Scene-Setting Introduction

(Teacher reads aloud clearly and enthusiastically)

"You are a team of interdimensional data scientists who spend their time travelling through the universe solving scientific mysteriesYour job is to use your investigative skills to find out where you are and what is happening. Listen to the clues and use your imagination to work out the rest.

You step through a swirling portal. For a second, everything goes black. When you open your eyes, you find yourselves in a lush rainforest. Vibrant green trees surround you - but it's very quiet"

Teacher Guidance (Brief, Clear Discussion - 2 minutes):

It's time to gather some data to find out where you are! Invite students to ask exploratory questions to better understand their surroundings. All of this information is data:

- Describe your surroundings
- What can you see around you?
- What can you hear?
- What does it feel like?
- Is there anything unusual or worrying here?

Step 2: Encounter with a Worried Child

(Teacher continues clearly and sympathetically)

"As you walk deeper into the forest, you see a child about your age sitting by the path, looking worried and sad."

Child (clearly, worriedly):
 "All the animals are disappearing… My family used to see them everywhere, but now there's nothing. I'm scared. Can you help me find out what's happening?"

Teacher Guidance:

Clearly prompt students to begin thinking about why animals might disappear, emphasising curiosity and open-ended thinking.

Step 3: Investigating the Problem – Students Ask Questions

(Teacher clearly sets expectations for exploration)

"We're data scientists, so let's help this child by asking good questions. Instead of guessing, we'll come up with questions to learn more about what's happening to the animals. These questions will help us discover more information - or data - to understand what is happening"

Clearly encourage students to suggest questions like:

- "When did you first notice the animals disappearing?" *(Helps determine timing)*
- "What animals are disappearing the most?" *(Looks for patterns or trends)*
- "Have there been changes in the forest, like new buildings, roads, or fires?" *(Explores human impact)*
- "Has the weather changed lately?" *(Connects environmental data)*
- "Have others in your village noticed anything strange?" *(Draws on local knowledge)*

Teacher Guidance:

Clearly affirm student questions without labeling them as "right" or "wrong."
 Example feedback: "Great question—that will help us learn more!"

Child
 "I'm sorry, I don't know the answer to all these questions. You should go to my village to find out more. They can help you."

Step 4: Visiting the Village – The Scientist Has Disappeared!

(Teacher introduces a new mystery)

"You head to the nearby village for answers. When you ask about the disappearing animals, villagers seem anxious."

Villager (clearly anxious):
"Our village scientist was studying the animals and the forest. He'd be able to answer all of your questions — but now he's gone missing! We need him to understand what's happening."

Teacher Guidance:

Clearly prompt students to discuss briefly:

- "Why might the scientist's disappearance be important?"
- "How could this relate to the animals disappearing?"

You don't need to confirm or deny students idea, just allow them to discuss and then say "let's find out"

Step 5: Finding Clues to Locate the Scientist

(Teacher facilitates clue analysis)

"You split up to get more data and discover several clues about the missing scientist. Let's explore these clues together."

Clearly present each clue, one at a time, allowing discussion after each:

Clue #1 *A torn map marking a distant area with a mysterious red 'X'.*
Clue #2 *Footprints from boots leading from the scientist's lab into the forest.*
Clue #3 *Scientists journal entry describing illegal tree-cutting activities nearby.*
Clue #4 A sharp, broken piece of metal

Teacher Guidance:

- Reinforce student responses positively.
- Keep discussions brief and explorative; emphasise there's no single correct response, only thoughtful connections.


Step 6: Rescue the Scientist – Solving the Mystery

(Teacher narrates the rescue)

"You decide to follow the map to the area marked with a red X. As you get around the corner, you hear a muffled sound, getting closer. You step through the trees, and suddenly before you is a vast area of deforestation. You hear the sound again, coming from below you. You hurry to move some logs and find the scientist is trapped in a pit dug into the ground. Quickly you throw down a rope and help them out.."

Scientist (clearly relieved and informative):
"Thank you! I'm so glad you found me. Loggers kidnapped me because I discovered their illegal activities. They work for a big company that wants to sell this land to farmers. They're cutting down so many trees, destroying the homes of the birds and animals and insects. Here's a graph I made that shows this clearly."
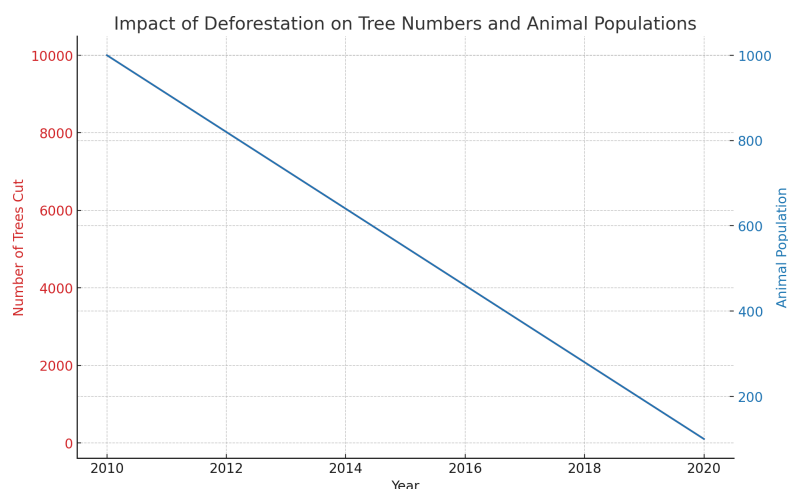
Teacher Guidance:

At the end of this activity, explain that data like the scientist's graph helps us understand environmental problems. Example:

- "What does this graph clearly show us?"
- "Why does losing trees cause animals to disappear?"

Clearly emphasize that the students' questions and clues led them to solve this mystery using data and investigation.

Step 7: Return to Village – Plan Solutions

(Teacher facilitates solution-focused thinking)

"Returning to the village, you're celebrated as heroes,. The villagers lay out a big feast and carry you on their shoulders to the table for the celebrations. The next day the elders invite you to a meeting, to help them one final time.

They ask "How can we stop this deforestation? What can we do to protect our rainforest home?"

Let's think about how we can help restore the rainforest and protect animals."

Guide students to generate ideas (remember, there are no right/wrong answers, and encourage creativity):

- **Reforestation:** "How could we plant new trees to help animals return?"
- **Protection:** "What rules or actions could stop more trees from being cut down?"
- **Awareness:** "How could we teach others why forests are important?"
- **Partnerships:** "Who could help the village protect the forest (e.g., environmental groups)?"
- **Workshops:** "How can we educate people about protecting wildlife?"

Clearly reinforce all ideas, emphasising creativity, collaboration, and action.

Step 8: Celebrate Success & Award Medals

(Teacher concludes enthusiastically)

"The villagers are sad, but it's time to leave them. They thank you, awarding each of you a special leaf-shaped medal representing courage, conservation, and teamwork. Your curiosity, careful questions, and use of data helped protect this beautiful rainforest!"

Final Message to Students:

"By asking good questions, exploring information, and working together, you can always make a meaningful difference to protect our environment!"

''Data means information we can count or measure—like the number of trees or animals. By exploring data, asking questions, and thinking creatively, we can understand problems and find solutions to protect the environment."

Teacher Facilitation Tips:

- Avoid overly stimulating or chaotic questions.
- Affirm and praise students' curiosity and questions.
- Clearly frame the activity as exploratory, without "right" or "wrong" answers.
- Guide conversations toward practical solutions connected to students' ideas.
- Clearly summarize key messages on data's importance for environmental protection.

Extension Activities

- **Be A Fact-ivist!**
  Encourage students to gather real-world data (like local recycling rates) and present it creatively—just as they did in-game.
  [Be A Fact-ivist](#)

- **Dive Into Data on SDG 4**
  Explore educational data on global school closures during COVID-19 to see how data shapes our understanding of worldwide issues.
  [Dive into Data on SDG 4](#)

- **NetApp Data Explorers**
  Continue building data literacy with free educational modules from NetApp's Data Explorers program.
  [Data Explorers](#)

- **World's Largest Lesson**
  Find more resources about the UN Global Goals and how to bring sustainability into your teaching.
  [World's Largest Lesson](#)

Annex

Printable clues table

Clue #1 *A torn map marking a distant area with a mysterious red 'X'.*
Clue #2 *Footprints from boots leading from the scientist's lab into the forest.*
Clue #3   *Scientists journal entry describing illegal logging activities nearby.*
Clue #4 A sharp, broken piece of metal

Graph:

Impact of Deforestation on Tree Numbers and Animal Populations