Nana's Turtle Beach Lesson Plan
Following the Energy
Grade 4
Text: *Nana's Turtle Beach*
Time: 60–75 minutes

Essential Question
How does energy move through an ecosystem, and why does every living thing matter?

Big Idea
The Sun provides energy for life on Earth. That energy moves through plants, animals, and entire ecosystems. If one part of the food chain changes, everything else can be affected.

Learning Objectives
Students will:

- Trace the movement of energy through a food chain.
- Identify producers, consumers, and decomposers.
- Explain how organisms depend on one another for survival.
- Use evidence from *Nana's Turtle Beach* to explain ecosystem relationships.
- Describe how humans can positively and negatively impact food webs.

Materials

- *Nana's Turtle Beach*
- Food Chain Cards (provided)
- Yarn or string
- Ecosystem Energy Worksheet
- Colored pencils
- Chart paper
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Vocabulary

- Producer
- Consumer
- Herbivore
- Carnivore
- Omnivore
- Decomposer
- Food Chain
- Food Web
- Energy
- Ecosystem
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Hook (10 Minutes)
Hold up a picture of the Sun.
Ask:
“What do sea turtles eat?”
Then ask:
“Where does that food get its energy?”
Continue asking questions until students realize everything traces back to the Sun.
Write:
Sun → Plants → Animals → Larger Animals
Explain:
“Even sea turtles are powered by sunlight—they just get that energy secondhand.”

Read & Discuss (15 Minutes)
As you read *Nana’s Turtle Beach*, have students listen for:

- Plants
- Animals
- Things animals eat
- Ways organisms help one another

Create an anchor chart titled:
“Where Does the Energy Go?”

Activity 1: Build a Food Chain (20 Minutes)
Divide students into small groups.
Each group receives organism cards such as:

- Sun
- Mangrove
- Algae
- Plankton
- Fish
- Marine Iguana
- Blue-footed Booby
- Sea Turtle
- Shark
- Decomposer

Students arrange the cards into logical food chains.
Example:
Sun
↓
Mangrove
↓
Small Fish
↓
Sea Turtle
↓
Shark
↓
Decomposer
Students draw arrows showing the direction energy travels.

Activity 2: Human Impact Challenge (15 Minutes)
Read each scenario.
Students predict what happens next.

Examples:
Scenario 1
Plastic pollution kills many fish.
What happens to:

- Sea turtles?
- Birds?
- Sharks?

Scenario 2
Mangroves are removed.
What changes? (Where do baby fish hide from predators? How does water ger filtered and cleaned? Where do juvenile green sea turtles go to eat seagrass and algae and hide from predators?)

Scenario 3
Ocean temperatures rise.
How might this affect:

- Sea turtles?
- Fish?
- Marine iguanas?

Students explain their reasoning using evidence from the story.

Group Discussion
Ask:

- Which organism seemed most important?
- Could the ecosystem survive without producers?
- What surprised you?
- Why do scientists protect habitats instead of only protecting animals?

Lead students to conclude:
“Protecting one species often protects many others.”

Assessment
Students complete:
Energy Journey
Choose one organism from the story.
Write:
“I am a _____.”
“My energy started with _____.”
“I depend on _____.”
“If _____ disappeared, then _____.”
Include an illustration.

Exit Ticket
Complete:
“Everything matters because energy depends on _____.”

Extension Activities

Build a Food Web

Use yarn to connect students holding organism cards.

When one student drops the yarn, everyone sees how the entire web changes.

Conservation Challenge

Students create a poster titled:

"Protect the Food Web"

Include three actions people can take, such as:

- Reduce plastic pollution
- Protect mangroves
- Keep beaches clean
- Respect wildlife
- Reduce light pollution

Florida Standards Alignment

Science

- **SC.4.L.17.2** – Explain that animals obtain energy by eating plants or other animals.
- **SC.4.L.17.3** – Trace the flow of energy from the Sun through producers and consumers.
- **SC.4.L.17.4** – Recognize ways plants, animals, and humans impact the environment.

English Language Arts (B.E.S.T.)

- **ELA.4.R.2.2** – Explain how relevant details support the central idea.
- **ELA.4.R.3.2** – Analyze relationships among events, ideas, and concepts.
- **ELA.4.C.1.4** – Write explanatory texts using information from a source.