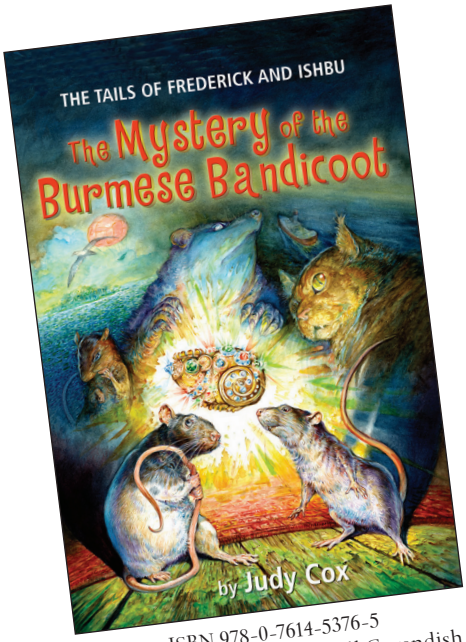
A Curriculum Guide FOR

The Tails of Frederick and Ishbu



ISBN 978-0-7614-5376-5
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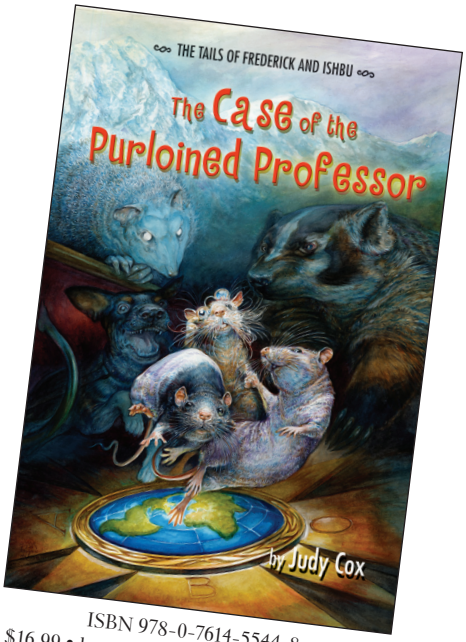
The Mystery of the Burmese Bandicoot

AND

The Case of the Purloined Professor

by

JUDY COX



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Dear Teacher,

Thank you for choosing to read The Tails of Frederick and Ishbu series in your classroom. I think you and your students will enjoy the adventures of the two rat brothers. When I'm not writing books, I work as a reading specialist in an elementary school in Oregon. My books are packed with opportunities for classroom activities—from literature to physics! I've created this curriculum guide with a few of my favorite lesson plans to get you started.

Please visit me on the web at www.judycox.net. I love to hear from my readers!

Happy Reading!

Judy Cox

Frederick and Ishbu are brothers—pet rats that live in a cage in Miss Dove's fifth grade classroom. Ishbu loves carrot sticks and marshmallows. Frederick loves geography and adventure. In *The Mystery of the Burmese Bandicoot,* Frederick and Ishbu venture far from their cozy cage as they brave pirates, fierce storms, and a double-crossing femme fatale to save the world from the Big Cheese's evil plot to destroy humankind. In *The Case of the Purloined Professor,* the Big Cheese is up to no good—again—and it's up to the rat brothers to stop him. This time they travel to far off Scotland and join a brave band of badgers in an effort to rescue Natasha and her professor father. Can Frederick and Ishbu stop the Big Cheese before it's too late?

These delightful, action-packed stories make for great classroom read alouds. Filled with snippets of science, history, geography, and more, The Tails of Frederick and Ishbu offer rich curriculum enhancement and engaging, edge-of-your-seat stories.

Lesson 1 Language Arts: Discussion Questions

Here are some discussion questions to get your class in conversation about the books. After reading, consider these prompts:

The Mystery of the Burmese Bandicoot

- The Big Cheese wants Frederick and Ishbu to bring him a famous statue. Frederick is tempted to go. Why? Ishbu refuses. Why?
- Why do the members of the Bilgewater Brigade work for the Big Cheese?
- In what ways does the story about Frederick's heroism in the pet shop when he was a pup give insight into Frederick's character? Into Ishbu's?
- Why is Frederick taken in by Natasha, while Ishbu remains suspicious of her?
- Do you think Frederick and Ishbu would like to live forever at the temple of Karni Mata? What are the positives of staying there? The negatives?
- Why do you think the Big Cheese wants to rid the world of humans? Why do Frederick and Ishbu want to save humankind?

The Case of the Purloined Professor

- Was it hard for Frederick to leave Ishbu behind when Frederick leaves Miss Dove's classroom with Natasha? Why does Ishbu follow afterwards?
- What types of animals work for the Big Cheese? Why do Snip and Snarl work for him?
- Are Frederick and Ishbu jealous of Mo-Mo? Why?
- Why does Duncan help Frederick and Ishbu?
- The Ancient Brotherhood of the Badgers initiates Frederick and Ishbu into their organization. Why does the A.B.O.B. break with custom and allow the rats to join? Can you think of organizations in the human world that are similar to the A.B.O.B?
- How do Frederick and Ishbu use their wits to discover the Big Cheese's hideaway? What clues lead them there?

Both books

- How do Miss Dove's lessons help the rats?
- Even though Frederick and Ishbu argue, they still remain loyal to each other. Think of a time you've shown loyalty to a family member or friend.
- Each book ends with the rats back in their cage in Miss Dove's fifth grade classroom. Do you think they are happy to be home? What adventure might they have next?

Extension: Stop reading after any chapter and have the students predict what will happen next. Have the students write the predictions in their literature journals. After the next chapter is read, discuss the predictions. Were the students' predictions correct? Were they surprised?

Lesson 2 Language Arts: Use a Venn diagram to compare and contrast

Frederick is the brave one. Ishbu is the hungry one. Frederick is athletic and quick. Ishbu is plump and slow. But although the rat brothers are different, they share many characteristics.

Use a Venn diagram to visually compare and contrast different aspects of Frederick and Ishbu's personality traits. Have the class generate a list of the characteristics of each rat, writing the traits that Frederick and Ishbu have in common in the intersection of the two circles.

Materials: white board or overhead projector, Venn diagram template (guide page 7)

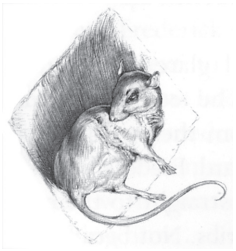
Discussion:

- What characteristics does Frederick have that allow him to solve problems? What characteristics get him into trouble?
- What characteristics does Ishbu have that Frederick does not? How are they helpful for solving problems?
- What characteristics and personality traits do the rats share? How do they help the rats overcome obstacles? How do they hinder the rats?

Extension: Add a third overlapping circle and challenge the students to suggest a character from the books. Will they choose The Big Cheese? Or Natasha? Or one of the other characters? What traits might Frederick and Ishbu have in common with these other characters?

Lesson 3 Geography: Longitude and Latitude

Frederick recalled Miss Dove's explanation of latitude: "Picture a fat man wearing a belt. The equator is like a belt around Earth. Remember *lat* means *fat*, and you'll always know that latitude goes around." Later he remembered her advice: "Lines of longitude go up and down Earth, like the segments of a peeled orange."—*The Mystery of the Burmese Bandicoot*



In *The Mystery of the Burmese Bandicoot,* Frederick finds a jeweled statue with a mysterious inscription: 37°46'30"N 122°25'10"W. He is able to crack the statue's secret code using Miss Dove's lesson on latitude and longitude.

Materials: globe, atlas, worksheet (guide page 8), student maps of the United States with lines of latitude and longitude marked

Discussion:

- Explain that any location on Earth is described by two numbers—latitude and longitude. These are called coordinates (like the coordinates used in graphing). Travelers can use coordinates to find any place on Earth.
- Using a globe, show how the lines of longitude divide the earth into segments, like the sections of a peeled orange. Longitude lines are counted from the Prime Meridian (a line that passes through Greenwich, England). Lines east of the Prime Meridian have an E next to them; lines west will have a W.
- Lines of latitude circle the earth like a belt. They tell how far above or below the equator a place is. Lines north of the Equator have an N, and lines south will have an S. Using both latitude and longitude gives a set position. Demonstrate by finding coordinates for the state or city in which you live.
- Hand out the worksheet for longitude and latitude (guide page 8) and maps of the United States and have the students find the locations.

Extension: Using a globe or atlas, have the class figure out the location etched on the statue in *The Mystery of the Burmese Bandicoot.* The secret code that Frederick finds on the statue gives coordinates in degrees, minutes, and seconds. Simplify it for use with student atlases by dropping the seconds so the coordinates read 37°46'N 122°25'W. Have them write secret codes to each other, describing the location of famous landmarks such as the Grand Canyon or Lake Ontario.

Lesson 4 Geography: Mapping

They soared across the United States, Frederick searching every break in the clouds for a glimpse of some landform he'd heard Miss Dove describe—the white capped ridges of the Sierra Nevada; the Great Salt Lake, shining like a mirror; the bare and lonely plain of the Great Basin; the towering majesty of the Rockies.—*The Case of the Purloined Professor*

Frederick and Ishbu travel the globe to save the world from their evil nemesis, the Big Cheese. Your students can chart their course on a globe or map.

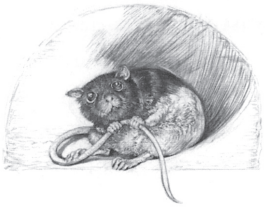
Materials: atlas or globe, outline world map (Note: maps can be downloaded at http://www.nationalgeographic.com/xpeditions/atlas/)

Use the clues below to chart Frederick's and Ishbu's journey around the world in *The Case of the Purloined Professor.* This activity can be done as a whole class, in small groups, or individually. If doing this activity as a whole class on a bulletin board map, consider using push pins and yarn to track the journey.

Clues:

1. Frederick and Ishbu stow away aboard an airplane. As they take off, Frederick sees Coit Tower, the Golden Gate Bridge, and Alcatraz. Where are they? Put a star on the city.
2. Frederick looks out the window of the airplane. He sees the Sierra Nevada Mountains, the Great Salt Lake, and the Rocky Mountains. Draw a line on the map from Clue 1 through these features.
3. Frederick awakens to see the Statue of Liberty below. Where are they? Continue the line from Clue 2 to the city. Put a star on this city.
4. The rats plan to fly to Inverness, Scotland. What large ocean must they cross? Draw a line on the map from Clue 3 across this ocean.
5. The rats leave the airplane at the largest lake in Scotland. Where are they? Continue the line from Clue 4. Put a star on the map at this famous lake.
6. Frederick and Ishbu take a herring boat from Scotland to Norway. Continue the line from Clue 5 across the North Sea.
7. From Norway, the rats take a ferry to Denmark. Continue the line on the map from Clue 6 to Denmark.
8. The rats stow away in a delivery van and ride from Denmark to Germany. Draw a line on the map along a possible route.
9. The rats ride a barge up the Rhine River through Germany to France. Find the Rhine River on your map. Continue the line as you trace a route from Germany to France along the river.
10. Frederick and Ishbu cross into Switzerland, where they take a postal bus across the Alps. Locate the Swiss Alps on your map. Continue the line from Clue 9 to the Swiss Alps.
11. With the help of a friend, the rats ride the Glacier Express train to Zermatt. What famous natural landmark do they see? Put a star on this mountain and end your line there.

Extension: The rats' journey home to San Francisco is not described. Pretend you are their travel agent. How would you route them home? What forms of transportation could they use? What adventures might they have along the way?



Lesson 5 Creative Writing: Postcards from Frederick and Ishbu

"Let's go home, Freddy. We don't belong here. We aren't wild rats. We belong in a nice, warm, safe cage in Miss Dove's classroom."—*The Mystery of the Burmese Bandicoot*

Materials: postcard template (guide page 9) copied onto card stock

Ishbu and Frederick miss their teacher, Miss Dove, and her fifth graders. Have the students write postcards from Frederick or Ishbu to Miss Dove, as they travel around the world. Research landmarks or famous sights the rat brothers might see on one of their journeys. Have students design and color the front of the postcard. Don't forget the stamp!

Extension: Make a travel scrapbook of Frederick and Ishbu's journeys. Include photos, drawings, journal entries, and artifacts they might have brought back with them.

Lesson 6 Math: Paper Airplane Distance Contest

"We wouldn't leave tracks if we could fly," Ishbu said, remembering the raven. "Fly," murmured Frederick. His eyes lit up. "We can't fly, but we *can* glide!"

—*The Case of the Purloined Professor*

In *The Case of the Purloined Professor,* Frederick and the rats build paper gliders to escape the Big Cheese. Have your students build and fly paper airplanes and hold a flight distance contest, and then graph the results.

Materials: lightweight paper, tape measure or rulers, graph paper

Directions:

1. Have the students design and fold their own airplanes, using models from books, or making their own designs.*The Paper Airplane Book* by Seymour Simon is a good source of designs.
2. Set up a landing strip in a large space such as a hallway or cafeteria.
3. Launch the airplanes.
4. Have the students measure the distances their airplanes flew.
5. Compile the distances into a table by writing them on the board—shortest to longest. Use this data to prepare the graph.
6. Discuss types of graphs: line, bar, and pie. Select the best type of graph for the information.
7. Graph the data. Discuss how graphs make information more visual.

Extension: Use a stopwatch to record "hang time" (time aloft) and graph that as well. Which designs stayed aloft the longest? Which designs flew the farthest?

Lesson 7 Science: Mousetrap Marshmallow Catapult

"A catapult…," Frederick said, surveying the room. "What can we use? We need a source of energy." He spotted a cardboard box in the corner. Stenciled across the front were big red letters: RAT TRAPS. His fur rose at the sight, but he bravely opened the box and dragged out one of the traps.

"Don't mess with that!" Ishbu called out.—*The Case of the Purloined Professor*

In *The Case of the Purloined Professor,* Frederick and the rats escape from the Big Cheese's hideout by building a catapult from a rat trap. Your class can build catapults from mousetraps to launch marshmallows. (Note: Adult supervision is needed.) See a photo and additional instructions at the following website: http://www.hometrainingtools.com/mousetrap-catapult-project/a/1577/

Materials: mousetraps (Note: do not use rat traps), erasers, plastic spoons, craft sticks or tongue depressors, duct tape, strong rubber bands, scissors, pliers

Directions: Students work in pairs or teams.

1. Use pliers to remove any staples from the trap.
2. Pull back the snap bar until it is flat against the base of the trap. Rubber band the snap bar against the trap so it can not spring back.
3. Stack two erasers and tape them to the base of the trap next to the spring (fulcrum).
4. Remove the rubber band and allow the snap bar to gently rest against the erasers.
5. Tape one tongue depressor horizontally across the snap bar on the side closest to the erasers. Tape the other tongue depressor to it, so it extends vertically.
6. Tape the spoon to the vertical stick, with the bowl pointing up.
7. Hold the base, or tape it to a solid surface such as a desk, table, or floor. Load a marshmallow into the spoon. Pull back, and release!

What Happens? Newton's first law of motion: Objects in motion tend to remain in motion, unless acted on by an outside force. When the catapult is released, the lever arm and marshmallow move forward, propelled by the energy from the spring. The erasers stop the lever arm, but the marshmallow remains in motion until it hits something or until the force of gravity overcomes its motion.

Extension: Measure and graph the distances that the marshmallows travel. Hold a contest to see whose catapult launches marshmallows the farthest. Use colored mini marshmallows to track. Challenge students to invent a better catapult by changing a variable, such as the length of the throwing arm or angle of the catapult.

Lesson 8 Just for Fun

> **"Will there be food?" Ishbu's stomach gurgled at the thought—crisp carrot sticks, sunflower seeds, maybe a chewy, stale marshmallow treat. (Miss Dove's students had always been generous with leftovers.)**—*The Mystery of the Burmese Bandicoot*

Cooking is a great way to reinforce lessons on fractions, following directions, and reading for content. Your class can use the following recipe to make their own marshmallow treats.

Recipe for Marshmallow Treats

Makes about 16 squares, depending on size

Ingredients:

⅓ cup margarine
1 10-oz bag of large marshmallows OR 4 cups of mini marshmallows
6 cups crispy rice cereal

Directions:

Melt margarine in large pan over low heat. Stir in marshmallows until melted and completely incorporated with the margarine. Cook three minutes. Remove from heat and add cereal. Stir until the cereal is completely coated. Press the mixture into a buttered 9" x 13" x 2" pan. Cool and cut into squares.

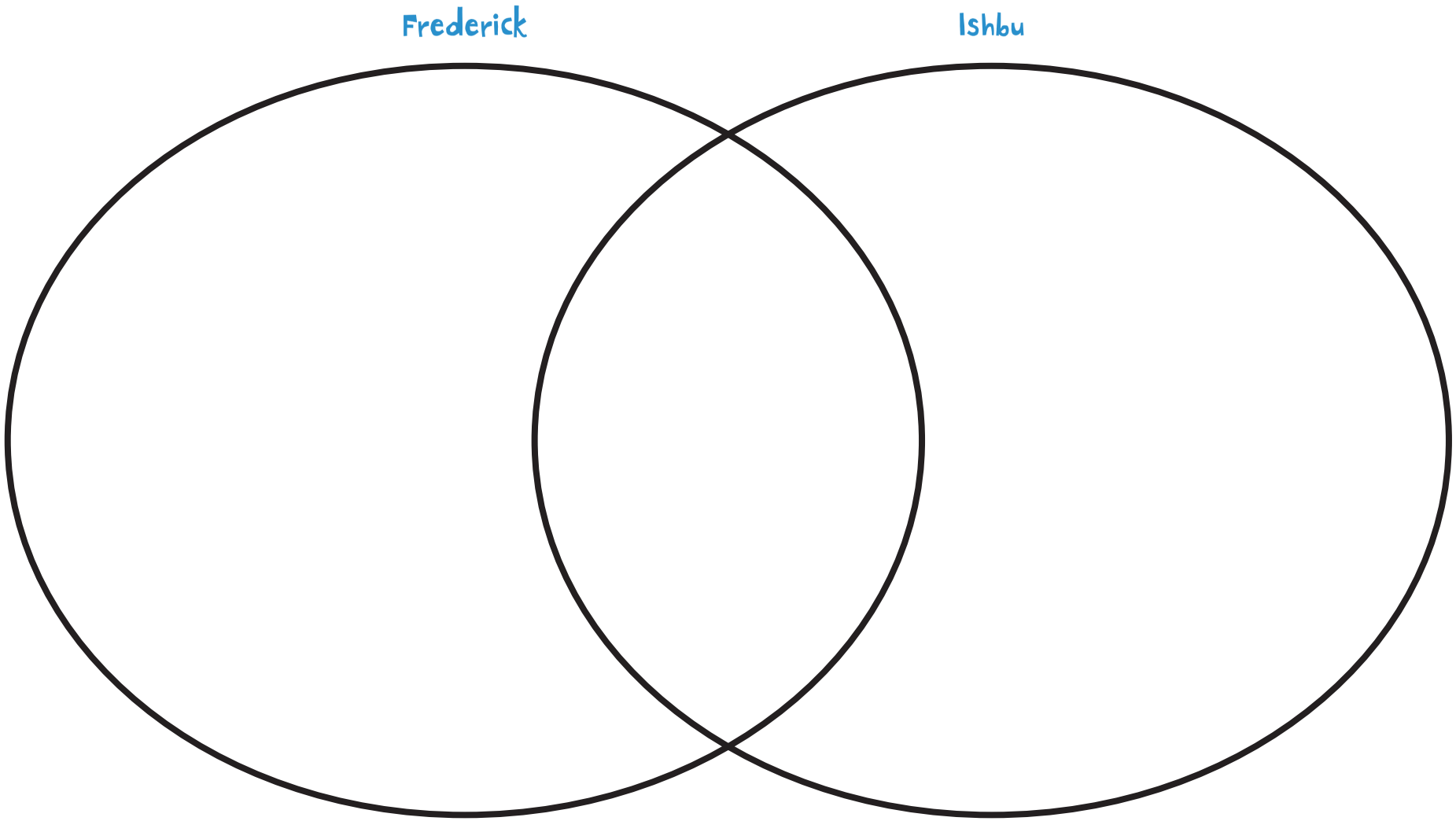
Extension: Turn this into a math lesson by challenging the class to figure out how many pans of treats they need so everyone can have two. How would they increase (or decrease) the recipe? Or can they do some creative geometry to cut the treats in a more economical fashion? If they only had measuring cups for ⅓ and ¼ cups, how would they convert the ingredient amounts? You can also add other ingredients such as M&M, nuts, or coconut to the mix. Ishbu likes them all!

About the Author

Judy Cox is the oldest of five children and grew up near San Francisco, the starting point for Frederick and Ishbu's many adventures. She earned a master's degree in elementary education from Northern Arizona University and has taught kindergarten through third grade in schools in Arizona, Idaho, and Oregon, and also taught at the Oregon Museum of Science and Industry. She currently works as a reading specialist at an elementary school near her home in Ontario, Oregon. She has published eighteen children's books and more than thirty short stories in children's magazines such as *Cricket, Spider,* and *Highlights for Children.* For more information about Judy Cox, please visit her website: www.judycox.net.

Personality Traits of Frederick and Ishbu

Compare Frederick and Ishbu by writing words in the Venn diagram that describe each character.



Latitude and Longitude

Using a globe, atlas, or map of the United States, identify the states at the given latitude and longitude coordinates. Remember Miss Dove's trick for recalling the difference between the two: "'Picture a fat man wearing a belt. The equator is like a belt around Earth. Remember *lat* means *fat,* and you'll always know that latitude goes around.'"

1. 35° N latitude, 110° W longitude. _____

2. 47° N latitude, 105° W longitude. _____

3. 45° N latitude, 85° W longitude. _____

4. 40° N latitude, 80° W longitude. _____

5. 35° N latitude, 80° W longitude. _____

Answers:

1. Arizona
2. Montana
3. Michigan
4. Pennsylvania
5. North Carolina

A Postcard to Miss Dove

Write a postcard from Frederick or Ishbu to Miss Dove and her class using the template below. Pick one of the stops on Frederick and Ishbu's many worldwide adventures as the origin of your postcard. Include facts about that place or landmark in your message to Miss Dove. Don't forget to draw a stamp! Cut out the card and decorate the picture side of the postcard with an image of the city, country, or landmark you're writing about.

THE TAILS OF FREDERICK AND ISHBU BY JUDY COX

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