

Sik-Sik's Summer

by Constance Taylor & Wendy Kenny

Teacher's Guide



Summary: *Sik-Sik's Summer – An Arctic Ground Squirrel Tale* by Constance Taylor & Wendy Kenny is the photographic story of an Arctic ground squirrel in Alaska. With only about 3-4 months to be awake between her hibernation cycles, summer is a busy time for Sik-Sik. Captivating photographs take young readers into the daily life of this amazing animal as she forages for food, cares for babies, watches for danger and much more.

Objectives: This book is a fun way to begin teaching children about the Arctic ground squirrel species. Important facts are woven into the story with additional fact pages found at the end of the book.

Teaching Activities: Supplement learning with these fun classroom or at-home activities designed to be adapted for use from PreK through 3rd grade to promote the following:

- creativity & critical thinking
- social-emotional development
- scientific exploration
- physical activity
- art
- student engagement

➤ FREE worksheets and videos are available at <http://arcticgroundsquirrel.fathompublishing.com>

Social-Emotional Activities

Emotional Expressions/Discussion

Help the children practice emotional expression and empathy with this activity. Call out a situation that might happen to an Arctic ground squirrel, and encourage them to make an emotional face to demonstrate how they think the ground squirrel would feel. **Option:** you can also discuss the situations and imagine what the ground squirrel might think, say or feel.

➤ **Suggested situations:**

- You are just waking up from hibernation and haven't eaten for 8-9 months.
- You see a Bald Eagle overhead. (How might you feel differently if you also have babies?)
- You are a baby ground squirrel and your mother is making you stay inside the den.
- After having nothing to eat but roots and dried sticks you find a field of dandelions.
- You come back to your den after foraging to find a bear has dug into the opening.
- You are digging a tunnel and find a large rock in your way. (Hint: there is video of the ground squirrel in this book pushing a rock half as big as her out of her tunnel.)
- It's a beautiful, sunny day on the hillside, no predators around, and you have a full belly.

Science Discussions & Activities

Longest Hibernation of All

Activity: Create a Den – let students create a small den nest that a ground squirrel might curl up in during hibernation.

Material Ideas: small boxes, grasses, leaves, moss, twigs, cotton balls, pillow stuffing, etc. If an outdoor wooded area is available, it might be fun for students to collect their own materials.

Discussion: Discuss the amazing hibernation of Arctic ground squirrels before or during the activity.

- **Arctic ground squirrel hibernation facts:**
 - Arctic ground squirrels are known to have the longest, deepest hibernation of any other animal on the planet.
 - They hibernate for 8-9 months out of the year when the Arctic is cold and dark.
 - During hibernation, their bodies enter a state called “torpor” where their body temperature drops below freezing to about 27°F, the lowest recorded body temperature of any mammal. This is known as supercooling. No other animal is known to survive such a low body temperature.
 - During this time, their heartrate can slow down to one beat per minute.
 - Periodically during hibernation, at intervals of about 2-3 weeks, they will shiver and shake for 12-15 hours to generate heat and bring their body temperature back up to around 98°F. They do this without waking up. After they stop shivering, their body temperatures drop again to the supercooling level.

Comparing Squirrels — *(corresponding worksheet is available online)*

Display a picture of an Arctic ground squirrel and a picture of a tree squirrel and compare the species.

- Ground squirrels and tree squirrels are part of the same rodent family (*Sciurus*). There are 28 species of tree squirrels and at least 62 species of ground squirrels in the world.

Similarities:

- Physical features: large almond-shaped eyes on the side of their heads, rounded heads and little ears, short necks and short fur.
- Diet: all squirrels are omnivores
- Diurnal: they sleep at night and are active during the day

Differences:

Arctic Ground Squirrels

- Shorter legs
- Shorter, less bushy tail
- Live in burrows underground
- Run inside their burrow when scared
- Stand on their back legs
- Hibernate all winter long



Tree Squirrels

- Longer legs
- Longer, bushier tail
- Live in trees
- Climb the nearest tree when scared
- Stand on all four legs or sit on back legs
- Do not hibernate



Physical Activities

Arctic Ground Squirrel Life Cycle Role Play

Change the pace in the classroom and get the children moving with this activity. Call out directions for children to follow and act like Arctic ground squirrels.

- It is winter and you are hibernating in your den *curl up as tight as they can*
- Your body temperature has dropped too low, you need to warm up *shiver and shake to raise body temperature*
- Back to deep hibernation *curl up again and be still*
- The ground is warming up *start shifting around about to wake up*
- It's spring! Time to wake up *wake up, stretch*
- You are hungry and need to eat a lot of food *forage and nibble like a ground squirrel*
- You hear a sound *sit up tall and freeze*
- Danger nearby! *scurry to den*
- It's safe to come out again *children can forage, eat, scurry, sit and watch, etc.*
- Time to work on your den and tunnel *pretend digging and burrowing*
- Winter is coming, time to hibernate again *curl up as tight as they can*

Arctic Ground Squirrel Relay - played like red light/green light

Set up: Mark a starting line on one end of the play area and another line at the other end of the play area. Divide children into two or more teams and line up by one line. **Option:** *this could also be played individually instead of as relay teams.*

Play: The goal is to be the first team to have all its players scurry from one line to the next and back again. Played like red light/green light, but the caller says “scurry” and “freeze.” Whenever the caller says “scurry” the first player on each team begins moving to the next line. When the caller says “freeze” players must freeze and stand tall like a ground squirrel. Once a player makes it back to the starting line, the next one on their team goes, and so on until all players have scurried.

Art Activities

Have students draw a picture of an Arctic ground squirrel. You can let them look at pictures from the book, or find pictures and videos on our website to use as reference. Here are some ideas to inspire their creativity:

- Arctic ground squirrel peeking out of its tunnel
- Arctic ground squirrel standing tall on a hillside
- Arctic ground squirrel with bushy tail curved upward
- Arctic ground squirrel nibbling food
- Arctic ground squirrel next to fireweed

Student Engagement Activities

The following activities are suggestions to give individual students or groups of students the opportunity to engage further with what they have learned about Arctic ground squirrels.

➤ **Turn and Talk to a Friend**

Share with each other some facts that you learned about Arctic ground squirrels.

What was your favorite part of the story?

If you were a character in the story, who would you want to be, and why?

➤ **Write a letter**

○ Write a letter to a friend or family member, and tell them about *Sik-Sik's Summer*. Include 3 details from the story.

○ Write a letter to one of the characters in the book. Tell them what you liked best about them, and ask them 3 questions you are curious about (that weren't answered in the book).

➤ **Creative writing — (*creative writing worksheets are available online*)**

The book doesn't tell us what happened to Sik-Sik's children after they set off on their own.

What do you think they did? Write a short story about it. Or draw a picture.

➤ **Interview with an Arctic ground squirrel**

Prepare a skit with a partner. One of you is an Arctic ground squirrel who has just awakened from hibernation. The other is a news reporter interviewing the Arctic ground squirrel. Use your imagination!

Helpful Websites

- **National Park Service** — <https://www.nps.gov/dena/learn/nature/arcticgroundsquirrel.htm>
- **Alaska Department of Fish & Game** — <http://www.adfg.alaska.gov/index.cfm?adfg=arcticgroundsquirrel.main>
- **Wikipedia** — https://en.wikipedia.org/wiki/Arctic_ground_squirrel
- **Active Wild** — <https://www.activewild.com/arctic-ground-squirrel/>
- **Coolaboo** — <https://www.coolaboo.com/animals/mammals/arctic-ground-squirrel/>

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