

Saiga: Spirit of the Steppe Teaching Guide

This teaching guide and corresponding booklet were created for use by the Steppe Wildlife Clubs in Uzbekistan. Knowing that there are a wide range of ages that participate in the clubs, the materials have been designed to facilitate the older students helping to instruct those that are younger. The older students will be referred to as “mentors” and the teachers will be referred to as “instructors.” The booklet and activities, with the help of the instructors and mentors, will be used to encourage learning and thoughtful discussion about saiga and what can be done to help their species. The guide follows the booklet page by page, with suggested topics of discussion as well as ideas as to when to incorporate activities.

Throughout the booklet you may notice words in **bold**. Those words will be used on page 17. The students will be asked to use context clues to write their own glossary of definitions. If possible, place emphasis on these words as progress is made in the booklet.

Main Objectives:

1. Provide the students of Steppe Wildlife Clubs with a better understanding of saiga ecology.
2. Provide the students of Steppe Wildlife Clubs with interactive lessons to teach them about threats facing saiga populations.
3. Empower the students of Steppe Wildlife Clubs to be “saiga heroes” and make a difference in their local community regarding saiga conservation.

What is a Saiga Antelope? (pg. 1)

Explains the different body parts and adaptations of the saiga antelope

Possible topics of discussion:

- What is an adaptation?
- What other body parts do you see that are not listed? What are they used for?

Encourage the students to share what they know about saiga, before getting further into the booklet. Have them write the information down in the booklet, discuss it with their classmates, and/or share with the entire class.

Did You Know? (pg. 2)

Provides basic facts about where saiga are found, what they eat, and their predators

Possible topics of discussion:

- Where do saiga live in relation to the students? Are they close or far away?
- Where else in the world do saiga live?

The map of saiga locations may be harder for the younger students to understand. Encourage the mentors to help them, or show them on a larger map in the classroom if one is available. It is important for the students to understand that saiga live very close to them. Make sure to reiterate that the marked locations on the map are the only places in the entire world where saiga live.

Saiga Shortage: What's happening to saiga antelope populations? (pg. 3)

Explains why saiga populations have been declining

Possible topics of discussion:

- How long have saiga been around? When did their populations start to decline?
- What might be the biggest threat to saiga?
- What does it mean if an animal is endangered? What does it mean if an animal is extinct?

Saiga population decline has been rapid over the last 30 years. This is a great time to further discuss the definitions and meanings of poaching, habitat loss, competition, and disease. This is also a good time to introduce the topics of what it means for animals to be endangered and extinct, and to continue using that terminology in further discussions.

Spirit of the Steppe (pg. 4)

Introduces the reasoning behind the saiga nickname "spirit of the steppe"

Possible topics of discussion:

- Saiga in folklore and fairytales
- The cultural importance and history of saiga

In the booklet, students are encouraged to write down what they remember when they heard of saiga for the first time. This is a great time to discuss the personal stories, experiences, and folklore that the instructors and mentors know of saiga. Sharing these stories with the students, and having them share their own, will be a good reminder of the importance of saiga to the Steppe and their connection to local people.

Have You Herd? (pg. 5)

Provides more information on saiga herds and poaching

Possible topics of discussion:

- Why are saiga poached for their horns? Why are they poached for their meat?
- What happens if too many males are poached? What happens if too many females are poached?
- Genetic diversity and genetic bottlenecks.

Understanding poaching is important. Depending on the age level or what instructors believe is appropriate to share, use this time to discuss why saiga are poached for their horns and meat. Discuss the use of horns in traditional Chinese medicine, and help the students understand that the horns actually have no medicinal properties. Discuss with them what it is made of and why it is important to male saiga to keep their horns. If possible, show the students a saiga horn or other related biofacts. Connections could also be made to rhinos and elephants and the well-known poaching crisis occurring in Africa. This might help facilitate an understanding that the poaching problem is happening in their community, too. This is also a good time to teach about the importance of genetic diversity of a species and/or genetic bottlenecks, especially with the older students who may have a better grasp on these biological concepts.

Saiga Survival (pg. 6)

Includes writing prompts and discussion questions that are to be completed after playing the "Saiga Survival Game"

This page in the booklet works best if completed after playing the Saiga Survival Game. The game instructions and discussion questions can be found on **page 6 of this Teaching Guide**.

On the Move (pg. 7)

Explains the basics of migration, its importance, and potential human-caused barriers to saiga movement

Possible topics of discussion:

- What is migration? Do you know of any other animals that migrate?
- Relate the adaptation of migration back to previous discussion about adaptations
- Do humans migrate?
- What have humans done/continue to do that makes migration difficult for saiga?

Facilitate discussion on human and animal migrations. If you can, relate saiga migrations to human migrations by discussing their similarities and differences. See if the students can think of ways that people influence saiga migrations. See if they can also think of changes we might be able to make to lessen our impact on saiga movement.

Mapping Migration (pg. 8)

Includes writing prompts and discussion questions that are to be completed after playing the "Mapping Migration" game

This page in the booklet works best if completed after completing page 7 regarding migration, and after playing the Mapping Migration game. The game instructions and discussion questions can be found on **page 8 of this Teaching Guide**.

Growing Up Saiga (pg. 9)

Provides information on the importance of safe places for saiga babies

Possible topics of discussion:

- What do baby saiga need to survive?
- Why might saiga females choose to have their babies near food and water with places to hide?
- What happens if there are no places with food, water, and shelter for saiga moms?

Encourage students to think critically about the importance of resources and safety for saiga babies. Relate back to the previous discussions on saiga herds, genetic diversity, and the importance of a healthy habitat for saiga.

Feeding Frenzy (pg. 10)

Introduces the concept of plant identification and a healthy saiga diet

Possible topics of discussion:

- What does a healthy meal for humans look like? What does a healthy meal for saiga look like?
- What type of plants do you think saiga eat? Can you identify any?

This page in the booklet encourages the students to get outside. The idea of this mini-lesson is to help students understand that saiga food grows all around the steppe, and it is important to make sure they have the food they need to survive. If possible, instructors should help students identify plants that saiga eat, and to draw those plants in their booklet. Help students remember to use their observation skills to notice the shape of the leaves, the shape of the stem, any flowers or buds they might see, etc. For an extension to this activity, students could even gather some of the plants and start a classroom garden that represents different types of saiga food.

Home on the Eurasian Steppe (pg. 11)

Explains the basic attributes of a steppe habitat and the animals that call it home

Possible topics of discussion:

- What is a steppe? Do you live in a steppe habitat? Why or why not? What do you see?
- What animals live in the steppe? Have you ever seen any of the animals listed?

Encourage discussion on the steppe habitat ecosystem and the animals that live there. See if the students can come up with different types of food that these animals eat. This discussion should flow right into the next page...

Steppe food web (pg. 12)

Includes an example of a steppe ecosystem food web and discussion questions regarding the relationship of the animals

Possible topics of discussion:

- What are the animals you see in the food web?
- What is a food web?
- The arrows show how energy moves in an ecosystem. Do all living things need energy?
- How are the animals connected? How would the food web change if one animal disappeared?

Use this time to discuss the connectivity of an ecosystem and how all animals depend on each other. Help the students think critically and answer the discussion questions regarding the effect that extinction of a species would have on the ecosystem.

A Call to Conservation! (pg. 13)

Introduces the topic of conservation and provides ideas for students to get involved in saving saiga

Possible topics of discussion:

- What are some things that you can do to help saiga?
- What can the community do to help saiga?

- What can the government do to help saiga?
- What can scientists do to help saiga?

Take the opportunity to discuss the importance of everyone getting involved in conservation. With the students, brainstorm ways that people can help, no matter who they are. When asking the questions above, the students may need an example to get them started. Giving them an idea (i.e. scientists help by studying saiga movements) might give them a better understanding of what is being asked. Remind the students that little conservation acts are just as important as big conservation acts and that everyone can make a difference.

Extra! Extra! Read All about It! (pg. 14)

Provides space for creating a news story about saiga

This page in the booklet works best if completed right before the Conservation News Story activity. The activity instructions and discussion questions can be found on **page 12 of this Teaching Guide**.

Supporting Saiga (pg. 15)

Highlights a few ways that the Uzbekistan community is helping to support saiga conservation

Possible topics of discussion:

- What is a reserve? Why is it important to set aside protected land for saiga?
- Why is it important to find unique ways (like the Kuralai Embroidery Project) for community members to earn an extra income?

This is a great time to discuss the details of the Saigachy Reserve and the importance of this protected area. Don't forget to mention that the students can visit a part of this area with their families, and how visitation helps the reserve and the community. See if the students can come up with other creative ways that community members can earn some extra income in order to afford an alternative to saiga meat.

Saving Saiga (pg. 16)

Encourages the students to think critically about what they can do to help saiga

Possible topics of discussion:

- What is the favorite thing you learned about saiga?
- Who will you teach about saiga?
- What will you do at home to help saiga?

Encourage the students to share what they have learned with friends or family, reminding them that knowledge is a great start to helping saiga. If possible, show them the videos that children made alongside the Saiga Conservation Alliance as a creative example of helping saiga. The videos are on YouTube and are called "A Steppe Tale" and "A Steppe Tale 2."

Words to Know (pg. 17)

Provides space for students to write the definitions of words they have learned relating to saiga

Throughout the booklet, there are words written in bold. See if the students can create their own “dictionary” of these words, writing the definitions in on page 17. Remind them that these are words that are great to learn and use when talking about saiga.

Keep Learning about Saiga (pg. 18)

Provides a list of resources for students to learn more about saiga

Discuss the listed resources with the students. Feel free to add resource ideas that might also be great for the students to know.

Saiga Survival Game

Objective: To get students thinking about what impacts saiga survival, and to facilitate discussion surrounding resource availability and poaching.

Instructors:

This game involves getting students up and moving around. It is similar to a relay race, so the more students that are able to participate, the better! The goal of the game is to have one saiga remaining, and to use the game to start a discussion.

Mentors:

Help facilitate the entire game. Assign a person to be the “game master,” and dictate when a relay begins and ends. Help the younger students remember what role they are playing, and where they should go when they are “out.”

Materials:

- A large group of students
- A large space to play the game

Instructions:

1. Assign students a “role” for the game. The roles include saiga, food, water, shelter, poachers and predators. Teach students their designated “role” sign that they will be acting out throughout the entire game:
 - a. Saiga – Student should hold their fingers to their head like “horns”
 - b. Food – Student should act like they are eating food
 - c. Water – Student should outstretch their arms and wiggle them in a wave motion
 - d. Shelter – Student should put their hands over their heads in a triangle like the roof of a house
 - e. Poacher – Student should act like they are using a bow and arrow
 - f. Predator – Student should outstretch their arms like an eagle and “soar”
 - g. Ranger – Student should place their hands on their hips like a superhero

2. You will need **one** food, water, and shelter character for every **one** saiga, excluding one. For example, if you have 2 students playing the role of a saiga, you will need no more than 5 students as resources: that way, not all saiga can have all three resources. You can choose to have a poacher or predator to begin, but it is not suggested for the first round. Use the ratios outlined below to make sure you have the proper number of saiga and resources for your group:
 - a. 6–8 Students: 2 Saiga, 4–6 Resources
 - b. 9–11 Students: 3 Saiga, 6–8 Resources
 - c. 12–15 Students: 4 Saiga, 8–11 Resources
 - d. 16–19 Students: 5 Saiga, 11–14 Resources
 - e. 20–23 Students: 6 Saiga, 14–17 Resources

3. Set up the students in the game space. You should have three distinct areas, if possible. You could use cones or other objects you have available to mark each area. The saiga all go to one outside area, the resources (food, water, shelter), all go in the middle area, and the poacher goes in the last outside area. See the diagram to the right for a general idea.



4. The “game master” (a mentor or instructor) will yell “Go!” and Round 1 will begin:
 - a. Every saiga will run into the middle section and grab one resource that they will take back across their saiga line. They will do this until they have collected **one** food, **one** water, and **one** shelter. There will be enough resources for all but one saiga.
 - b. During this time, the saiga will try to avoid the poacher, who has run across the line and will try to tag a saiga to bring back across the poacher line. Once tagged, the saiga must sit out the next round.
 - c. The saiga without all the needed resources will also be “out” and will now join the side with the poacher as a “predator” or as a “ranger.”
5. A mentor or the instructor will remove a resource or two from the middle section and have those students sit out.
6. The “game master” will yell “Go!” and Round 2 will begin:
 - a. Every saiga will run into the middle section and grab one resource that they will take back across their saiga line. They will do this until they have collected **one** food, **one** water, and **one** shelter.
 - b. During this time, the saiga will try to avoid the poacher and the predator, who have run across the line and will try to tag a saiga to bring back across the poacher line.
 - c. The poachers will need to avoid the rangers, who will be looking to tag a poacher, “arrest” them, and bring them back across the poacher line. Any “arrested” poacher will need to sit out one round.

- d. The saiga without all the needed resources will be “out” and will now join the side with the poacher as a “predator” or “poacher.”
7. A mentor or the instructor will remove a resource or two from the middle section and have those students sit out.
8. At any point, instructors can have a student that was “out” come back into the game as a baby saiga. If a baby saiga is added, don’t forget to bring back more resources as well.
9. The game will continue with as many rounds needed until there is **one** saiga remaining. That student will be deemed the winner.
10. The instructor or mentors should then facilitate discussion using the outlined discussion questions.

Note: The game can be modified or changed to fit the available student number and resources. It is up to the instructor to decide when to add poachers, predators, rangers, and/or baby saiga.

Discussion Questions:

1. Why did every saiga need food, water, and shelter?
2. What did the saiga find challenging about the game?
3. Did the poachers and predators make the game harder or easier, why?
4. Do you think that saiga face the same challenges every day in the steppe? Why or why not?
5. Can you think of anything else that would be useful to saiga for their survival? During the game, there was one saiga left– do you think that would be good or bad for survival? Why?

Migration Partner Puzzle

Objective: To learn about saiga migration, and to facilitate discussion on how man-made objects can impact saiga movement across the steppe habitat.

Instructors:

At the end of this document you will find graph paper that can be printed and used for this lesson. Listed below are the materials and instructions for the assignment. The activity can be modified to better fit your available materials and time constraints. The activity is designed for students to work with a partner. It is important that students do not see each other’s paper for the game to work. Think of this game as a version of the popular game “Battleship.”

Mentors:

You can be the partner to a younger student, or you can provide guidance to student groups. Your goal is to make sure that the younger students understand how to set up and play the game. Use the provided example to do a quick demonstration of the activity.

You may also ask questions and start discussion about saiga migration, why it is important, and how humans can impact the migration.

Materials:

- Copies of the provided grid paper (1–2 copies per student, depending on time)
- Writing utensil for each student
- Colored pencils, crayons, or markers, if available

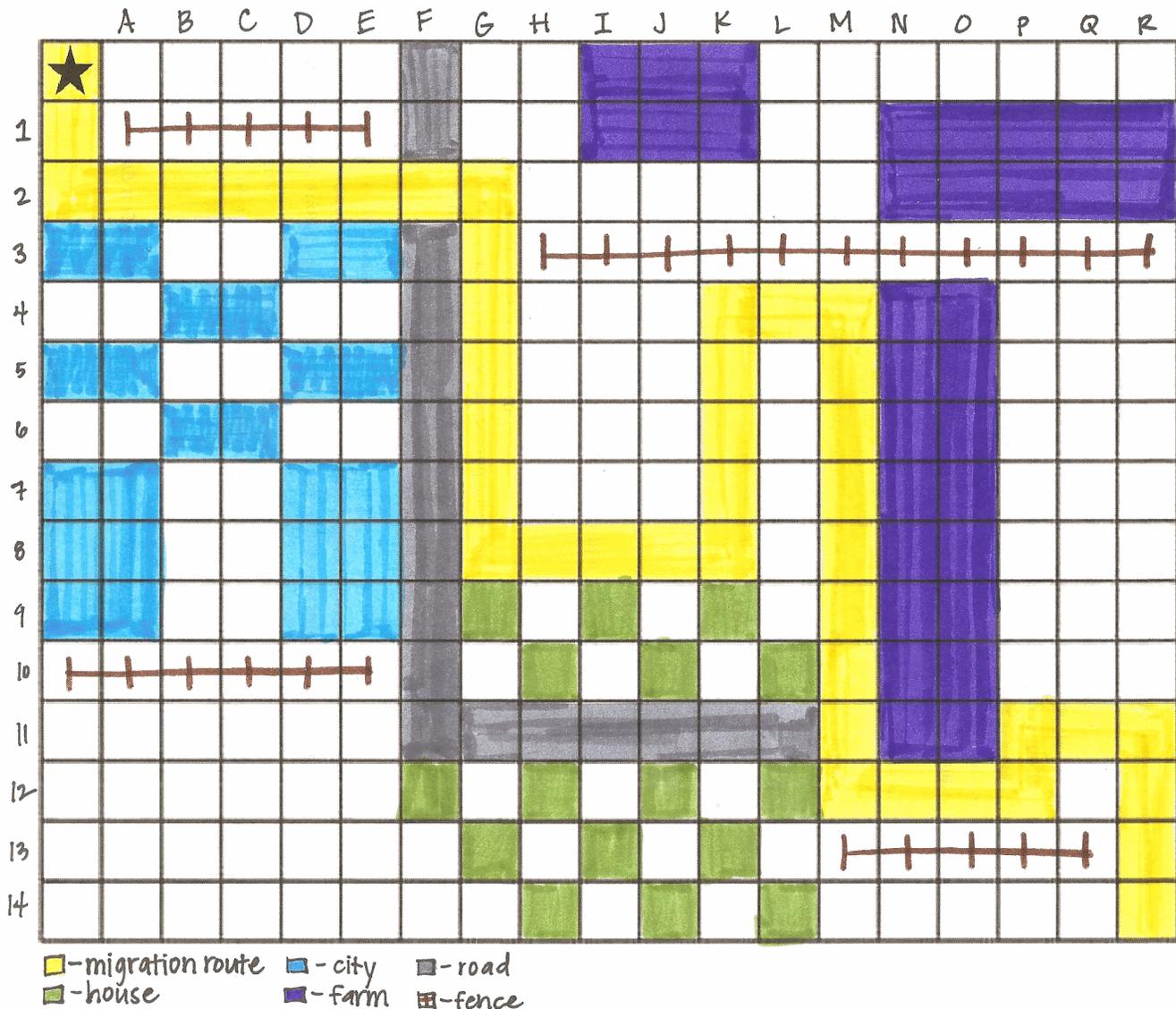
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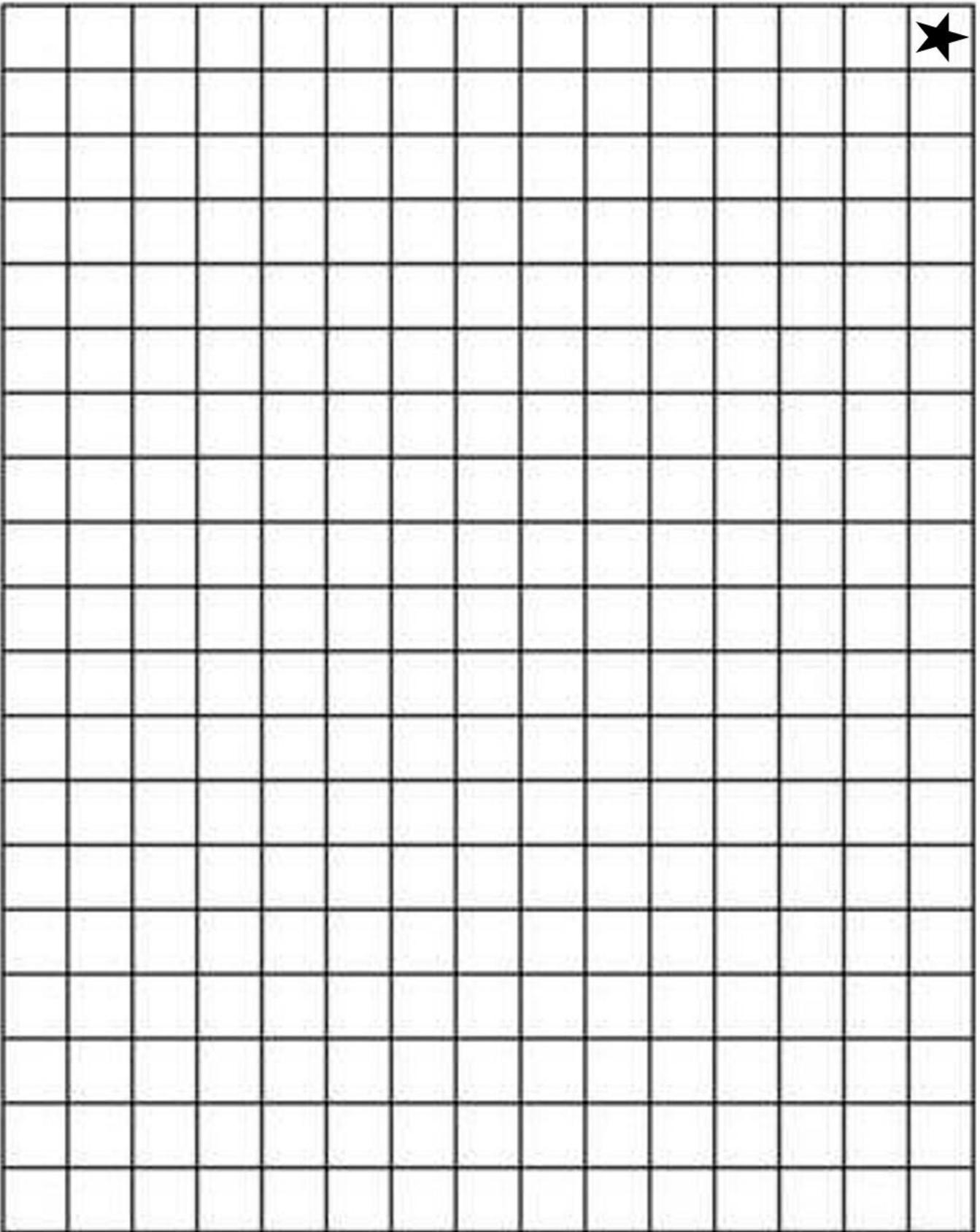
1. Pair up students and provide each student a blank sheet of graph paper.
2. Have students turn their graph paper so that the long sides are horizontal. The star should now be in the top left corner of the paper. Ask students to put letters alphabetically across the top row (to the right of the star), and numbers numerically down the first column (below the star). **See example on pg. 10.**
3. Student #1 will set up a habitat on their graph paper following the instructions below. It is important that Student #1 has some way to hide their paper so that Student #2 is not able to see it– books, file folders, or clipboards work well. While Student #1 is developing their game pattern, Student #2 should make themselves a key so they know what colors/patterns go where during gameplay.
 - a. Map out a migration pattern for your saiga by coloring blocks of the grid. The “migration route” must consist of squares that are touching and begin at square A1 and end at square R14 (no diagonals).
 - b. Create however many man-made obstacles for your map as you want, using a different color or symbol to represent each type of obstacle. Make sure you do not use the squares that are part of your migration pattern.
 - i. Roads: 5–10 squares in a line
 - ii. Fences: 2–15 squares in a line
 - iii. Houses: 1–2 squares each
 - iv. City: Groups of 2–6 squares
 - v. Farms: Groups of 6–16 squares
 - vi. Any blank spaces remaining on the grid is “steppe habitat”
4. Student #2 will leave their graph blank, with the exception of the letters and numbers from Step 2.
5. Student #2 will now try to discover Student #1’s saiga migration route, without seeing their map. This will be done by asking questions, using the letters and numbers as location markers. See the example dialogue below:
 - a. Student #2: “Is there a saiga at A1?”
Student #1: “Yes”
Student #2: “Is there a saiga at B1?”
Student #1: “No, there is a road there.”
6. If the answer given is “Yes,” Student #2 marks that spot on their graph paper with a color or symbol.
7. If the answer given is “No,” Student #2 marks that spot on their grid with an “X”.

8. Student #2 continues to ask questions to Student #1 until they have determined Student #1's entire saiga migration route.
9. If there is time, students can switch roles, with Student #2 creating the habitat and Student #1 guessing the migration route.
10. After all the students have completed the activity, use the outlined discussion questions and corresponding pages in the students' booklets to discuss migration.

Discussion Questions:

1. What problems did you or your partner face when trying to find the saiga migration route?
2. Are these problems the same the saiga have to deal with during their migration through the steppe? Why or why not?
3. Which of these problems are due to humans? What can humans do to help solve these problems?
4. After learning about saiga migration and playing the game with your partner, why do you think migration is important? What can you do to help saiga migration?





Conservation News Story

Objective: To get students thinking critically about the meaning of conservation and the threats facing saiga.

Instructors:

This activity can be done a variety of ways and is to be paired with the creation of a conservation news article based on the information they have learned about saiga so far. Feel free to use any combination of activity suggestions to suit your needs and your time.

Note: Conservation and topics about poaching can sometimes sound sad or negative. Encourage students to cover the facts but end with a positive message about how communities can help with saiga conservation.

Mentors:

You can be a partner to a younger student, or take on a different leadership role as you see fit. Help the students develop their news story, and encourage them to think about how the community can help in saiga conservation.

Materials:

Materials will vary based on activity. See activity descriptions below.

Instructions:

Outlined below are some choices for this activity. Feel free to modify or add to these as you see fit.

1. **News Poster:** Have students create a larger version of their news article onto a poster. They can add to the story and decorate to enhance their article. Post around the classroom or other shared space to showcase the students' work.
2. **Action Now! Poster:** Have students brainstorm ways that their community, families, or friends can help saiga. Have them pick one of those ideas and create a poster encouraging people to take action. Post around the classroom or other shared space to showcase the students' work.
3. **News Broadcast:** Have students work together as a team to act out their news article in a news broadcast. They can take turns role playing each of their stories, or they can choose one to work together and expand upon. If the resources are available, you can also videotape the broadcasts and display them to the entire group in the future.
4. **Movie Trailer:** Have students work together to create a short film or "movie trailer" to demonstrate what they have learned about saiga and conservation. This could be videotaped or simply role-played.
5. **Comic Book:** Have students make a short comic book depicting a story about what they have learned about saiga so far.