

Forest Domino

By: Sanita Leja (Latvia)
Talsi elementary school

Age 7-14

Learning Objectives

- Observe and highlight aspects of forests and their biodiversity.
- Create an environmental game based on the observations during the hike in the forest.

Introduction This lesson plan aims to encourage students observation and photography skills to spot everything that is part of the forest. Students go on a hike, enjoying their surroundings while taking as many pictures of different forest elements as possible (flora and fauna). These will be used in the creation of a forest domino game.

Keywords: *forest, nature photography, local environment, domino game*

Structure The activity can take place during the course of one whole school day or two half days.

- Outdoor Session 1: Go on a hike to the forest (60 minutes)
- Classroom Session 2: Information processing and uploading images and information (40 minutes)
- Classroom Session 3: Create the game (40 minutes)
- Classroom Session 4: Present and play the game (30 minutes)

Before the Lesson

- Make sure all necessary resources are available.
- See the next page for instructions on a domino game.
- Planning considerations
 - Think ahead and decide on the best season, day, and time for the hike.
 - Inform students at least a day before the hike.
 - Let students and parents know about the hiking route.
 - Advise students on what to take with them on the hike.
 - Inform students on proper clothing to wear on the hike.
- Prepare for the hike in the woods:
 - Discuss expected behavior in the forest with students.
 - Prepare the route.
 - Charge the phones.
 - Prepare and pack the necessary materials for the hike.

Required Resources

- Coloring pencils, printer, gouache colors, brushes, glue, sheets of paper, nature books, encyclopedias, phones or iPad, cardboard.

Assessment

- Assess the forest domino game as a group work final product:
 - Digital knowledge - successful in uploading photos from the phone or tablet to MS Word, and creation of a table in MS Word.
 - Reading -ability to find, read, and understand information in text.
 - Writing - ability to write the names of plants, trees, or animals.
 - Cooperation - successful preparation and playing of the game through group work.
- At the end of the last activity, ask students to write open-ended feedback on a piece of paper in response to the following guiding questions:
 - What was your favorite part of the activity?
 - Do you think you did your best?
 - Could you teach this activity to a friend or family member?

Dissemination

- Share photos of the game with parents and on school social media.
- Give students copies of the game to take home to play with their family members.

Differentiation

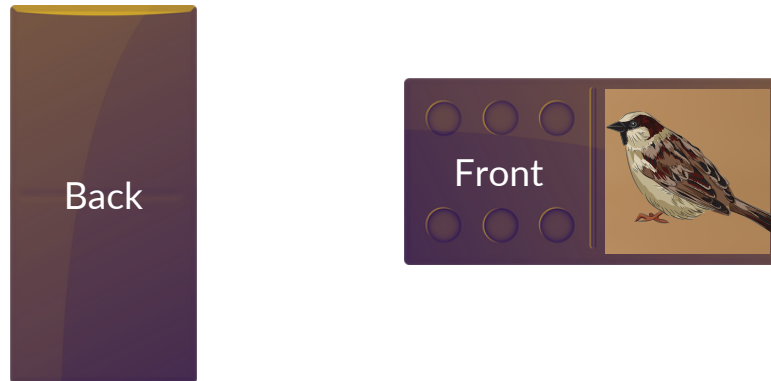
- Adaptations for students with learning difficulties:
 - According to the needs of individual students, reduce the number of photos required and domino cards to be made.
 - Offer support and help when possible. Emphasize participation in group work.
- Extension for gifted students:
 - Challenge students to design their own game with unique rules using the photos and/or cards.
 - Give opportunities for students to design an additional element on the other side of the card.
 - Offer additional responsibilities to students who finish their tasks early: make a place in the class to store the game or help others with their work if they need it.



Forest Domino Game

• Game Pieces

- There are 28 dominoes in each domino game set.
- Each domino is left blank on one side and on the opposite side divided in half. On one half a number of dots will be drawn between 0-6 (as evenly distributed as possible among the total 28 dominoes) and a name or picture on the other half.
- Every dotted domino must have at least one pair.
- Every picture must correspond with a name (14 names and 14 pictures of species).



• Instructions and Rules

- There will be 2 players or several players separated into two teams
- Initially, each player/team receives 7 random tiles, the remaining 14 tiles are left to the 'boneyard pool' off to the side.
- Randomly select a domino from the bone yard. Whichever player gets the highest number of dots goes first. Replace the dominos back to the bone yard and mix them.
- The initial domino is drawn from the bone yard and placed in the middle.
- The first player/ team must find a domino with a matching name, picture, or number of dots.
- If a player cannot put any domino down then they draw one from the bone yard. If they still cannot put one down it is the next players' turn.
- Whichever team finishes their hand of dominoes first wins.
- If finishing is impossible then the number of dots on the remaining dominoes is counted and the player with the smallest number wins.

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Activity

Take a Hike

Introduction

- Meet with the students in the classroom.
- Inform the students about the goal of the lesson and the tasks (each student receives a paper with the goal and tasks).
- Initiate a discussion about the rules to be observed in the forest and write them down.
- Hand out a map with the hiking route marked to each student.

Development

- Go on the hike with students.
 - Divide the students into three large groups.
 - Instruct students during the hike to take at least 10 photos of the biological diversity in the forest.

Conclusion

- Hold a closing feedback session with students before leaving the forest to return to school.
- Ask students what they enjoyed about the activity.
- Ask students what would they like to learn more about in terms of forest biodiversity.

2 Activity

Information processing and uploading images and information

Introduction

- When arriving back at school allow students time to remove their hiking gear and settle back into the indoor environment
- Ask students to sit in a circle together to discuss what they saw, heard, smelled, felt, etc. on the hike.
- Take some feedback from students on the photos that they took and what they are proud of/ what was frustrating.
- Instruct students to bring their camera/ tablet to the desk to begin transferring photos.

Development

- Instruct students on how to transfer photos from their device to the computer.
- Ask each group to upload their photos to MS Word.
- Under each photo from the hike ask students to type the name of the species.
- If the species is unknown offer resources to help identify it (plant and animals identifier apps, books, etc.).
- Ask students to identify and learn more about the biodiversity in their photos using books and internet resources.

Conclusion

- Check each group's photos and species names.
- Instruct students to print their documents (using eco-friendly ink and paper)

3 Activity

Create the Forest Domino game

Introduction

- Go over the instructions for the Forest Domino game with students.
- Instruct each group to collectively make a set of 28 dominoes for a complete playing set.
- If possible, let students do the math to divide the number of dominoes each player must make.

Development

- Show students how to set the printer settings so that plant or animals species photos and their corresponding names will be printed in size 4x4 cm.
- Instruct students to begin making constructing the forest domino game.
 - From the cardboard boxes (reusable material) tell the students to cut out cards (size 5x15 cm) to use as a base.
 - Encourage discussion among students about why they think reusing paper is beneficial.
 - Instruct students to divide one side of the cardboard domino into two equal parts with the help of a ruler.
 - Show students how to turn the cards into dominos by glueing the pictures on one side and on the other side draw the dots, as in a domino game.
 - *Tip:* Ask each group to label the dominos with their group number on one side so that they can be sorted easily if they get mixed up with another group's set.

Conclusion

- If a group finishes before the others, allow the students to mentor the others.
- Students can help each other by counting the dots, organizing the names and photos to be put on the cards, etc.
- Ask students to reflect on the importance of using recycled resources in making the forest domino game.

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Activity

Present and play the Forest Domino game

Introduction

- Instruct students to gather their domino game together, making sure that they have all 28 cards.
- The domino sets can be kept together with a rubber band, cloth bag, small basket, etc.
- Ask students to create a playing space for their game either by combining desks together or on a space on the floor or carpet.

Development

- Ask a volunteer student to recap the game instructions for their peers.
- Place a copy of the instructions on the smart board or in a place where they can be seen by all.
- First allow a group to play their own domino game so that they can check that the dots, names, and photos are all placed how they wish.
- Then, ask each group to trade their forest domino game with another group.
- Give students the opportunity to experiment with the game.
- If students are excelling at the game you can invite them to add some additional rules or twists to their game.

Conclusion

- A student from each group will have the chance to take home their group's forest domino game over the weekend to play with their family-
- Ask the members of each group to write their names on a chart to mark down when each person has had their turn.
- Encourage students to tell and teach their families about the biodiversity they observed in the forest.



Students take photos in the forest for the game



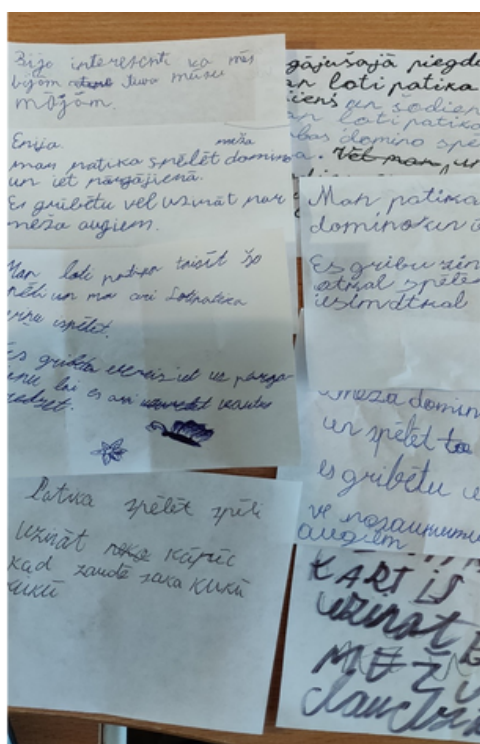
Students begin drawing card templates



Students are uploading the pictures to MS word.



Students playing the Forest Domino game



Student feedback from the lesson

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