

# Track Time on a Turtle's Back!

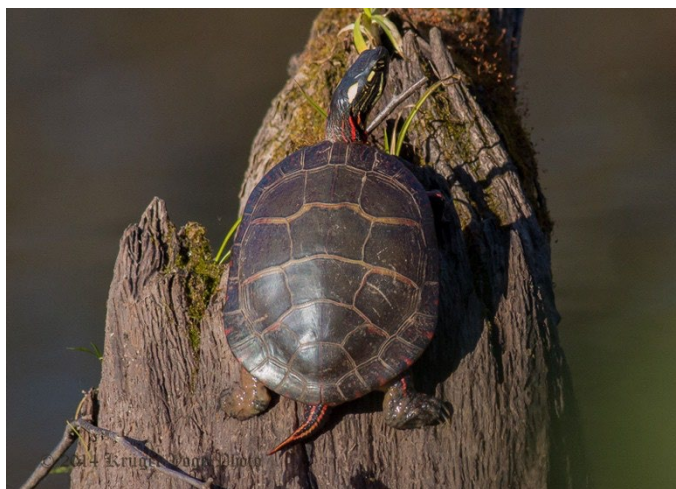
Presenters: Dahlia Benedikt and Reed Moore

Grade Range	Content Area	Materials
Grades 4 - 7 and Everyone	<ul style="list-style-type: none"><li>• Number sense</li><li>• Computational Fluency</li><li>• Pattern recognition</li><li>• Problem-solving</li><li>• Temporal orientation</li><li>• Geometry</li></ul>	<ul style="list-style-type: none"><li>• <a href="#">Online handout</a> (create a copy)</li><li>• 5 dice or <a href="#">virtual dice</a></li><li>• Online <a href="#">day counter</a></li></ul>

## Activity

### Activity 1: Let's Play Turtles and Moons! (Handout page 2)

1. Find a partner. Each player chooses a colour and places one coloured token on month 1 and the other on day 1.
2. Taking turns, each player rolls [5 dice](#) and moves their **day** token the number of spaces shown. When a token passes 28, advance to the next **moon** plate and continue the **day** count.
3. The trick: If you land on a day that is a **multiple** of your **moon number**, divide the **day number** by the **moon number** and move back that number of spaces. (For example, if you are on the 3<sup>rd</sup> moon and land on 18, move your token back 6 spaces, to day 12.)



### Activity 2: Locating ourselves in the Anishinaabe Calendar (Handout page 3)

**As you go...** What do you notice about the calendar on Turtle's back?  
Jot down what you notice on page 4 of your handout.

**Task: Find TODAY on the lunar calendar**

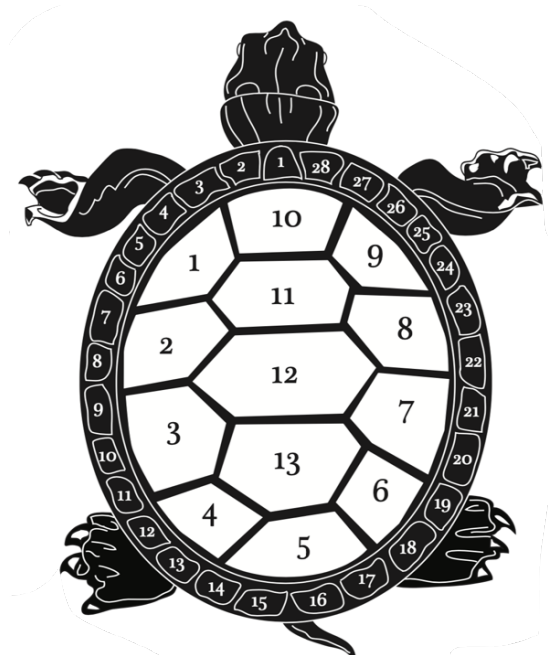
1. *Think first:* How can we figure this out? What information do we have?

Hint: The Lunar New Year was on January 21<sup>st</sup>, 2023.

2. Use the [day counter](#) to calculate the number of days between 2 dates. Check the box for “include end day.” When you have your answer, drag the tokens on the Turtle to show today’s moon and day.

3. *Pause and reflect:*

- a. How did you figure this out?
- b. Can you think of a ‘rule’ for calculating any given date on the Turtle calendar?
- c. How far are we from the next new moon? When was the last full moon?



**Task: Find YOUR BIRTHDAY on the lunar calendar**

4. *Think first:* Before you calculate, make a guess about which **Anishinaabe moon** your birthday will fall on.

- a. What made you make this guess? What *else* could you base your guess on?

5. Use the method you used before to calculate the Anishinaabe moon/day that your birthday falls on. Drag the tokens on the Turtle to show your birthday’s moon and day.



**Reflection: Notice and Wonder**

- A. Do you think your birthday falls in the same place on the lunar cycle each year, or does it change? Why?

- B. What are some things you notice about the Anishinaabe calendar on Turtle's back?
- C. How does this calendar differ from the one we typically use (the Gregorian calendar)? What does each calendar have us pay attention to?
- D. What do you notice about the names of the moons? Why do you think they are named the way they are?
- E. What does the Turtle calendar teach us about Anishinaabe relationships to the seasonal cycle and what they view as important?



### Extensions & Additional Resources

**Moons and months:** Why do you think there are 13 moons in a year rather than 12? What is one *year* measured by? If there are 13 moons in a year, why are there 12 months in the Gregorian calendar year?

**The sun and the moon:** We define one *year* as the time it takes for Earth to travel one full orbit around the sun. Over that time, the amount of sunlight we get each day changes. What moon/day will have the MOST sunlight this year? What moon/day will have the LEAST sunlight? (Hint: when is the summer solstice and winter solstice?)

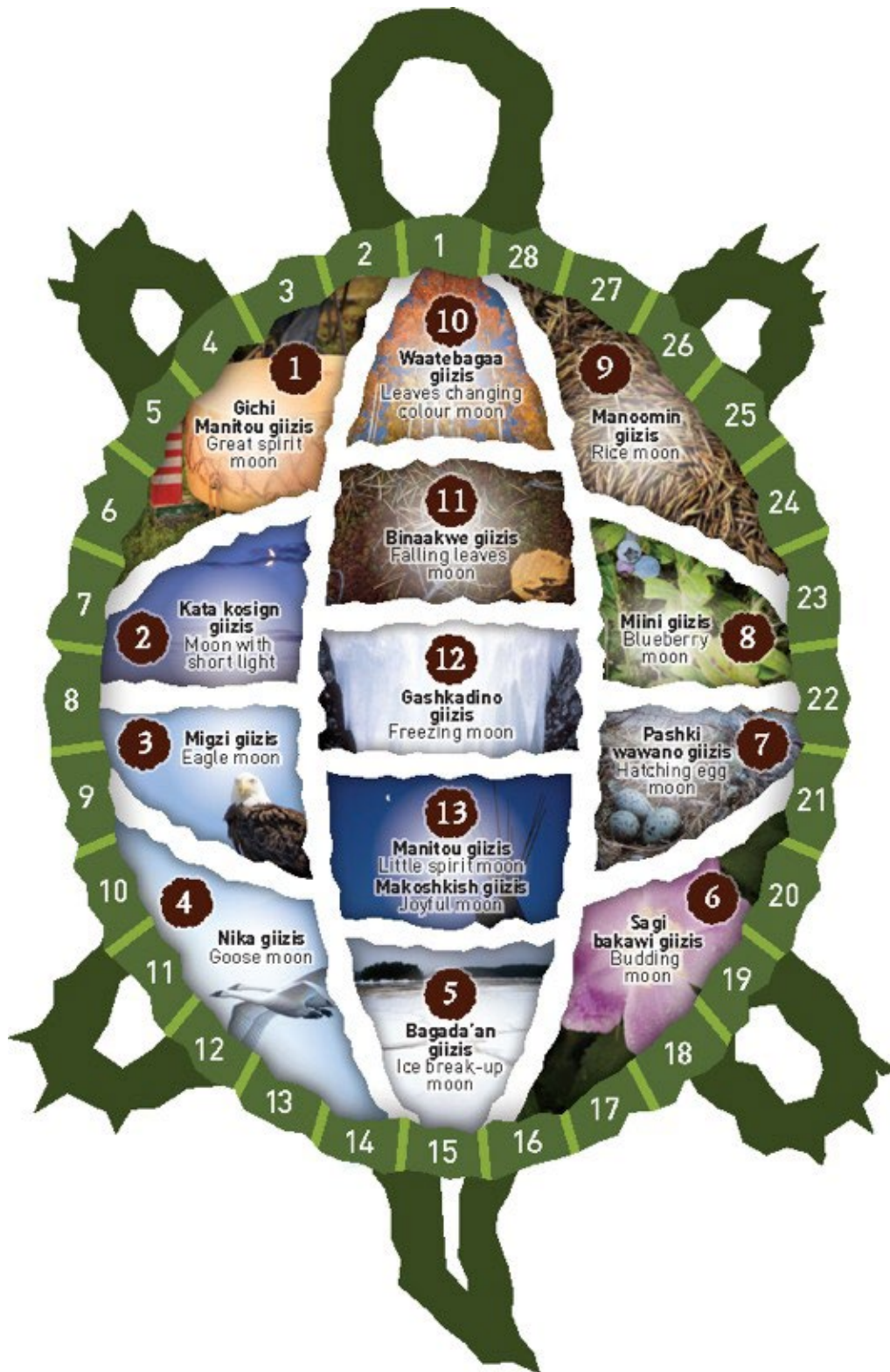
**Calendar corrections:** Since seasonal cycles don't happen in perfectly whole numbers of days, different calendars have ways to correct this (e.g., leap years). What 'problems' do you think could arise in this calendar, and what ways could they be corrected?

**Indigenous calendars:** Explore and learn about other Indigenous or lunar calendars used in your culture or local area. What similarities and differences do you see?

**Additional resources:**

1. Free cut-out book: [13 Moons on Turtle's Back](#) (2022) by Ojibwe Saulteaux educator Sandra Samatte
2. Ojibwe.net activity: [Giizisoo-Mazina'igan: The Thirteen Moons and Turtle's Back](#) (2022)
3. Find and download more Anishinaabe seasonal calendars tracing traditional land use activities throughout the year: [Pimachiowin Aki](#) (2023)

# Giizisoo-Mazina'igan



(Image from [Pimachiowin Aki](#), 2023)