Leaves can be found most places and are often ignored. However, when examined closely, leaves can be beautiful and fascinating, sparking awe and curiosity! Spots and color markings, holes and other eaten parts, veins, edges, and other markings offer countless mysteries to try to explain. Igniting an interest in exploring leaves can get learners noticing and exploring leaves everywhere they go.

**Exploring Leaves**

**Preparation and Engagement Guidance**

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**Target audience:** This activity is best for learners 6-years-old and older, or younger learners with adult support.

**Materials**

- A printed copy of this document to refer to during the activity
- Appropriate number of Exploring Leaves flip card decks for your organization (depending on how many learners you expect to use them)
- 5–10 interesting fallen leaves
- 2–3 magnifiers for the table (more if you are offering them to learners to borrow while they explore)
- (Optional) 1 printed activity sign
- (Optional) 1 clear plexiglass menu stand to display the activity sign

**Preparation**

If this is your first time using Flip Cards, review *Flip Card Activities: Background Information* for more information on preparation, materials to support learners, and engagement guidance. The following steps are our recommendations and should be customized for your site and program.

1. Decide whether to include an optional card.
   a. Card 14b is optional in this deck. Take a look around your site. If you think learners will be likely to find galls on leaves, keep this card in the deck. If not, remove this card from the deck.

2. Print sets of the Flip Card activity.
   a. We recommend printing on cardstock and/or laminating for ongoing use.
   b. Print each card in color, single-sided, actual size.
   c. Cut each individual card to the 4” x 6” trim size. (Use the inner set of crop marks as your guide.)
   d. Hole punch the circle in the top-left corner of each card.
   e. Use a book binder ring (½” to 1”) to collate each card deck.

3. Try out this activity yourself! Your experience using this flip card deck in the space in which learners will use them will help you share specific examples and point learners to interesting things to look at.

4. If there are dangerous leaves in the areas where learners will be exploring, consider creating and printing a visual guide to the leaves (to accompany the Exploring Leaves flip card deck) to indicate which leaves learners should NOT touch.

5. Review and customize the Engagement Guidance (on the next page). Think about your space, your audience, the time you will have with learners, and how you might want to best engage them.

6. Collect leaves. Look around your outdoor nature area for fallen leaves with spots, parts eaten, interesting colors, etc. For example, live oak, bay, madrone—whatever is available in your area. It’s best to use freshly collected leaves because colors tend to fade fairly quickly.

7. On the day you will be sharing this flip card deck with learners:
   a. (Optional) Place the large activity sign on the menu stand on the table. (The activity sign is a large version of the first card in the deck.)
   b. Place sets of the Flip Card activity on the table. If you’re not using the large activity sign, place the first card of each set facing up. If you are using the large activity sign, place the second card of each set facing up.
   c. Place 5–10 interesting leaves and the magnifiers on the table near the flip card decks.
Engagement Guidance
Here is an example of how you might engage learners at the beginning of their experience when they first show interest in an activity, as well as after they complete the activity. The first time you use the Exploring Leaves activity, we recommend trying out some of the suggested language (in italics, below) and then customizing it.

At the beginning:
• Point to a leaf sample on the table and offer:
  • Check out the markings on this leaf. What do you notice? Do you have any ideas of what might cause those markings?
  • Check out the leaf through a magnifier. What do you notice?
  • If learners have cell phones with high magnification, they might also want to take extreme close-up photos to notice details such as tiny hairs, veins, etc.
  • Offer:
    • There are tons of leaves in the outdoor nature area to explore! If you want to explore them, just take this flip card deck with you. The cards will show you ideas for how to explore leaves.
    • (if applicable) Feel free to take a magnifier with you, if you want.

At the end:
• What did you discover?
• Do you have a photo of a favorite leaf to share? What do you find interesting about that leaf?
  What do you find interesting about any other leaves you found?
• Where else do you think you could find interesting leaves to observe?
• Ask some reflective questions, such as:
  • What is something interesting about leaves that you learned?
  • What was the most fun part of exploring leaves?
# EXPLORING LEAVES

**Photograph and Illustration Credits**

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<th>Card</th>
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<td>All illustrations by Kate Rutter.</td>
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<td>1</td>
<td>“Green leaf” photo by <a href="https://unsplash.com">Yoksel Zok</a> on Unsplash; “Orange leaf” photo by <a href="https://unsplash.com">Sandy Wolkenberg</a> under Attribution Non-Commercial Creative Commons License; “Brown leaf” photo by <a href="https://unsplash.com">Erik Danielsen</a> under Attribution Non-Commercial Creative Commons License.</td>
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<td>2</td>
<td>“Long thin orange leaf” photo and “Spotted oval leaf” photo by Kevin Beals courtesy of the University of California at Berkeley and The Lawrence Hall of Science; “Multi-pointed leaf #1 and #2” photos by <a href="https://unsplash.com">Tom Norton</a> under Attribution Non-Commercial Creative Commons License.</td>
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<td>Photos by Kevin Beals courtesy of the University of California at Berkeley and The Lawrence Hall of Science.</td>
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<td>6</td>
<td>“Spiny” photo, “Like a saw” photo, and “Curvy” photo by Emilie Lygren courtesy of the University of California at Berkeley and The Lawrence Hall of Science; “Smooth” photo by <a href="https://unsplash.com">Douglas Goldman</a> under Attribution Non-Commercial Creative Commons License.</td>
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<td>7</td>
<td>“Feather-shaped leaf” photo and “Hand-shaped leaf” photo by Kevin Beals; “Heart-shaped leaf” photo by Emilie Lygren. All photos courtesy of the University of California at Berkeley and The Lawrence Hall of Science.</td>
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<td>8</td>
<td>“Leaf with hole” photo by Kevin Beals courtesy of the University of California at Berkeley and The Lawrence Hall of Science; “Green leaf with spots” photo by Elyse Dyck under Attribution Non-Commercial Creative Commons License; “Brown leaf with spots” photo by <a href="https://unsplash.com">Joseph McPhail</a> under Attribution Non-Commercial Creative Commons License.</td>
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<td>Photos by Emilie Lygren courtesy of the University of California at Berkeley and The Lawrence Hall of Science.</td>
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<td><a href="https://unsplash.com">Monarch caterpillar eating swan plant leaf</a> by Pseudopanax under public domain.</td>
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<td>Photos by Emilie Lygren courtesy of the University of California at Berkeley and The Lawrence Hall of Science.</td>
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<td>12</td>
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<td>13</td>
<td>“Whole leaf with lines” photo by <a href="https://unsplash.com">Douglas Tate</a> under Attribution Non-Commercial Creative Commons License; “Leaf with tunneling” photo by Nils Helstrom under Attribution Non-Commercial Creative Commons License.</td>
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