

Pollen: How it Moves & Affects Our Health

Lesson Overview

This lesson introduces students in Grades K-6 (ages 5-12) to pollen, its movement in the environment, and its health impacts through interactive activities, data exploration, and group discussion.

Note: this lesson plan was developed when working with an Atlanta community-based youth club where students aged 5-12 participated in an environment club lesson for 1 hour after school. Please adapt this lesson plan for your context (e.g., the ages and duration).

Full Materials List

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| <input type="checkbox"/> Pollen images | <input type="checkbox"/> Tape | <input type="checkbox"/> Small pom poms or balls |
| <input type="checkbox"/> Pollen handout(s) | <input type="checkbox"/> Black or dark paper | <input type="checkbox"/> Spoons |
| <input type="checkbox"/> Paper cups | <input type="checkbox"/> Pollen device (Pollen Sense LLC, APS-300) | |

Handout & Picture Links

Pollen handout:  [Pollen Activity Handout](#)

[Pollen images](#)

Optional PollenWise handout for parents:  [Measuring Pollen Handout.pdf](#)

Introduction to Pollen	Time	Materials Needed
<ol style="list-style-type: none"> <i>Show students images of pollen under a microscope.</i> <i>Call on students to guess what the images are.</i> <ul style="list-style-type: none"> Potential examples: hickory, oak, walnut, maple, and ash Discussion Questions - Why should we care about pollen?: <ul style="list-style-type: none"> What do you know about pollen? What is pollen? What does pollen do? How does pollen impact our environment? How does pollen impact our health? How does pollen move? 	5 mins	<input type="checkbox"/> Pollen images
Activity #1- Collect Pollen	Time	Materials Needed

1. Give each student a piece of tape & black or dark sheet of paper to collect their pollen samples (8 mins).



2. Discuss how they would count this pollen (2 mins).

3 How scientists monitor pollen levels (10 mins).

- If available, show a pollen monitoring device (like Pollen Sense). If the pollen device is not available, discuss how scientists monitor pollen levels and show students how to find pollen count data



4. Talk about **types of pollen** and their **allergenic potential** (10 mins).

30 mins

- Tape
- Black or dark paper
- [Pollen monitoring device](#)
- [Information on pollen allergies](#)

Graphing Pollen Trends

Time

Materials Needed

<p>1. <i>Distribute the Pollen handout and show them the graph with temperatures and pollen density.</i></p> <p>2. Discussion Question:</p> <ul style="list-style-type: none"> ● What happens when the temperature increases? ● How does this impact our health? 	10 mins	<input type="checkbox"/> Pollen handout
Activity #2 Pollen Relay Race	Time	Materials Needed
<p>1. <i>Spread out the paper cups (representing “flowers”) around the room or outside.</i></p> <p>2. Assign Roles:</p> <ul style="list-style-type: none"> ● <i>Divide students into teams and assign each team a pollinator type (bees, butterflies, birds, etc.) and a “home” flower</i> <ul style="list-style-type: none"> ○ <i>The “home” flower will be an empty cup where each team member starts from and returns to</i> <p>3. Directions:</p> <ul style="list-style-type: none"> ● One student at a time must gather small pom poms or balls (representing “pollen”) from one flower and bring them to their “home” flower using the spoon. ● Students must not communicate with each other. 	10 mins	<input type="checkbox"/> Paper cups <input type="checkbox"/> Small pom poms or balls <input type="checkbox"/> Spoons
Closing Discussion	Time	Materials Needed
<p>1. <i>Discuss how to protect oneself from pollen during the pollen season, including health habits.</i></p> <ul style="list-style-type: none"> ● <i>Watch pollen counts and forecasts</i> ● <i>Limit time outdoors when pollen counts are high</i> ● <i>Keep windows closed, when pollen counts are high</i> ● <i>Cover your hair, eyes, nose, and mouth while outdoors when pollen counts are high</i> ● <i>Remove shoes before entering the home</i> 	5 mins	N/A
Resources		
<p>Morteza. (n.d.). <i>Editable Daily Lesson Plan Template Google Docs, Word & PDF</i>. TPT. https://www.teacherspayteachers.com/Product/Editable-Daily-Lesson-Plan-Template-Google-Docs-Word-PDF-14246850</p> <p>Information on pollen allergies: https://aafa.org/allergies/types-of-allergies/pollen-allergy/</p>		

Pollen Device (Pollen Sense LLC, APS-300): <https://pollensense.com/>

Pollen images:

https://www.stem.org.uk/system/files/elibrary-resources/legacy_files_migrated/8571-catalyst_18_2_339.pdf