



Name: \_\_\_\_\_ #: \_\_\_\_\_

## Games, Nature, & Experiments

### What is Leave No Trace?

**Estimated Time:** 20 - 60 minutes (per principle)

**Age range:** All grades (with guidance)

**What you need:** paper, writing utensil, printer (optional), additional materials are specified for each principle

#### **Background Information:**

“The Seven Principles of Leave No Trace provide an easily understood framework of minimum impact practices for anyone visiting the outdoors. Although Leave No Trace has its roots in backcountry settings, the Principles have been adapted so that they can be applied anywhere – from remote wilderness areas, to local parks and even in your own backyard. They also apply to almost every recreational activity. Each Principle covers a specific topic and provides detailed information for minimizing impacts.

“The Seven Principles are well established and widely known, but they are not static. The Leave No Trace Center for Outdoor Ethics continually examines, evaluates and reshapes the Principles. The Center’s Education Department conducts research – including publishing scholarly articles in independent journals – to ensure that the Principles are up to date with the latest insights from biologists, land managers and other leaders in outdoor education.”

**The 7 Principles - Leave No Trace Center for Outdoor Ethics**

<https://lnt.org/why/7-principles/>

#### **Instructions:**

Please see each of the seven Leave No Trace principles for ways to learn more about how to minimize your impact on the environment. The seven principles include:

- 1) Plan Ahead & Prepare: Know before you go
- 2) Travel & Camp on Durable Surfaces: Choose the right path
- 3) Dispose of Waste Properly: Trash your trash
- 4) Leave What You Find: Take photos, leave footprints
- 5) Minimize Campfire Impacts: Be careful with fire
- 6) Respect Wildlife: Be kind to animals
- 7) Be Considerate to Others: You are not the only visitors

## Games, Nature, & Experiments

### 2) Travel & Camp on Durable Surfaces: Choose the Right Path

**Estimated Time:** 50 minutes

**Age range:** All grades (with guidance)

**What you need:** random objects, a room

#### Introduction:

The second principle of Leave No Trace describes the importance of being aware of the land and **waterways** around you while having fun in the outdoors. Travel can disrupt and ruin different surfaces housing **vegetation** and **organisms** if you aren't careful where you put your feet. Travel and camp may take place either on on-trail surfaces or on off-trail surfaces, depending on your location. It is important to have common sense strategies for protecting these surfaces while traveling and camping in different areas.

#### On-Trail Guidelines:

- Trails are constructed to minimize the impact of foot traffic from a high volume of visitors to popular areas.
- Stay on-trail when you can! Having distinguished (clear) trails helps to decrease the number of "scars" created by man-made paths.
- Avoid using shortcuts when traveling on trails and **switchbacks**.
- Camping on-trail can have a huge impact on the area around you so it is important to ask yourself the following key questions:

*How fragile is the vegetation and soil in this site?*

*Would I be disturbing the wildlife around this area?*

*How many people are in my group and will this cause a large impact on the campsite?*

#### New Words

**Waterways** are any bodies of water that can be used for travel.

**Switchbacks** are sections of trail form zig-zags through a piece of land. Switchbacks are often found when hiking steep surfaces.

**Vegetation** is used to refer to the plants living in an environment (or area).

**Organisms** are living things.

The **backcountry** refers to a wilderness area that is far away from most human activity.

**Foot traffic** refers to the number of individuals that utilize a path of travel.

**Lichen** is an organism composed of both fungi and algae. It is often mistaken for moss.

**Microspikes** are small metal or plastic spikes (similar to crampons) that are used to travel on slick ice or packed snow.

**Living soil** includes the many microorganisms within the soil.

**Microorganisms** are organisms that are too small to see with the human eye. Because of this, we often use microscopes to view them.



## Off-Trail Guidelines:

- When participating in off-trail traveling and camping, it is more important for you to watch your step because there are fewer man-made paths intruding upon the wildlife in that area. Therefore, your impact will be more obvious in these areas and locations.
- When you are choosing a spot to camp, make sure you are at least 200ft from any water sources.
- Spread out your tents if you are with a group.
- Off-trail areas are more common in **backcountry** excursions (adventures), where you will see different types of surfaces for your travels. These surfaces also respond to **foot traffic** in different ways. Different surfaces include rock, sand, gravel, ice, snow, vegetation, living soil, desert puddles, and mud holes.
- Rock, sand, and gravel are highly durable surfaces that can take a lot of scuffing and trampling repeatedly. Watch out for moss and **lichen** growing on these surfaces!
- Ice and snow travel tends to be temporary if the snowfall comes later in the year. Considering snowfall and resulting trail conditions is an essential part in being a responsible hiker!
- Trail damage can also be minimized if the snow layer is thick enough to pad submerged vegetation. This helps to avoid damaging delicate plant ecosystems. It also plays a huge role in avoiding injury when planning to hike through snow.
- Always consider using specialized gear to minimize injury and trail damage (e.g. snowshoes or **microspikes**).
- Although we should always do our best to find alternatives to travelling through vegetation, it is sometimes unavoidable. When these situations arise, have your group spread out to avoid trampling vegetation.
- Much of the ground in a wilderness environment is **living soil**. Living soil includes the many **microorganisms** within the soil.
- It is important to use one person's footsteps (one path) to preserve the majority of the surrounding area.
- Desert puddles and mud holes are used as water sources for living animals in the area. Avoid walking through them whenever possible. Remember that some organisms might also make their homes in those holes!





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Consider the following questions:

**Can you think of any other common sense strategies for on-trail hiking/camping?**

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**Can you think of any other common sense strategies for off-trail hiking/camping?**

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**How might different trail surfaces be impacted by your travels? Examples of different surfaces include rock, sand, gravel, ice, snow, vegetation, living soil, desert puddles, and mud holes.**

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Now that we've learned some new strategies to protect our beautiful wilderness areas, it's time to do a fun activity to reinforce that knowledge—and as always—to have fun!

## 'The Floor is Vegetation' Game

### Instructions:

- 1) Pick a room (or multiple rooms) to play this game.

*The ground of the room you choose represents a precious non-durable surface! This means you don't want to walk on it otherwise the surface will be disturbed and/or destroyed.*

- 2) Choose a starting and stopping position in the room(s). Try to get from the beginning to the end without touching the ground!



- 3) If you touch the ground, place something where you stepped and continue on to the ending position. This helps to track your impact on the non-durable surface.





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- 4) Add challenges: change start/stop positions, change room(s), make some furniture off-limits, etc.
- 5) At the end of this activity, note the amount of times you stepped on the ground (non-durable surfaces). Using what you've learned, take a moment to discuss some impacts caused from stepping on these surfaces. Were there other ways you could have avoided touching the ground?

**Sources:**

<https://Int.org/why/7-principles/>