

Learn about Badlands National Park!

Make an Armored Mud Ball

Armored mud balls are the Badlands' version of natural snowballs. They form when water washes down a streambed and starts to roll sticky clay into a round shape. As the ball continues to tumble, it picks up more and more little pebbles, making layers of "armor."

Although you certainly wouldn't want to eat a real lump of mud and rock, you can use the same principles to make your own tasty version.

Basic Ingredients:

Wet Mud

- 1/4 cup butter or margarine
- 3/4 cup chocolate chips

Dry Soil

- 2 cups powdered sugar

Armor (varies by environment)

- 1/2 cup coconut
- 1/4 cup mini chocolate chips
- 1/4 cup peanuts or other nuts, crushed



- Have your Armor waiting in a flatter dish downstream (a large brownie pan works well).
- Melt the chocolate chips and butter together in the hot sun. Or, to speed things up, use a double boiler or the microwave. (Be sure to ask for an adult's help when using the stove!)
- Pour the wetter Mud down into the Dry Soil to make a thick clay-like substance. Let the mix begin to harden, stirring until cool enough to touch.
- Now comes the fun (and messy) part! Try rolling the mud into sticky balls, then through your pebbly Armor until it has about a 2-3" diameter. Add more Dry Soil (powdered sugar) and/or Wet Mud (butter) as necessary.
- Keep refrigerated to simulate a dry environment.



Experiment with your mud ball!

- If you'd like your mud balls to be extra-sticky, add 1/4 cup peanut butter to the softened butter before making your mud.
- Refrigerate your muddy mix before you try to roll it into balls. How do different temperatures affect it?
- What happens when you try to add larger "rocks," such as whole nuts and chocolate chips? Or crushed. Depending on how wet it is, your mud ball should be able to pick up larger material, but not if it gets too big, soggy, and/or dry.

A real mud ball will pick up rocks when it has more mass and momentum, but not when it slows down in flat parts of the streambed, has too much water, or is quickly baked by the sun.