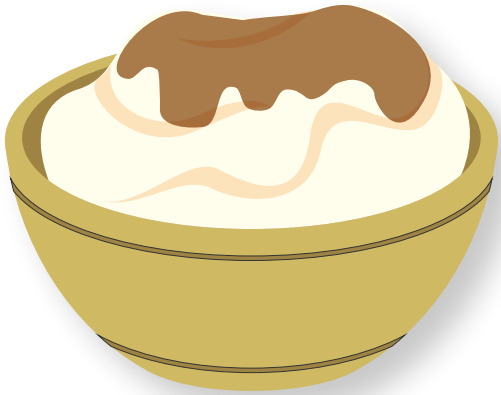
Good Gravy!

Many people use starch from grains, such as flour or cornstarch, to thicken Thanksgiving gravy. Experiment with potato goop to see how root starch compares to grain starch.

Collect

- 6 large potatoes
- Hand grater or food processor
- 1 large bowl
- 1 quart-sized glass container, such as a canning jar
- Strainer or cheesecloth
- 2 small bowls
- Cornstarch
- Water



Extract the potato starch

1. Use a hand grater or a food processor to shred the potatoes.
2. Put the shredded potato in a large bowl and add warm water until all the potato is covered. Stir for two minutes.
3. Place the strainer over the glass container. Carefully pour the mixture through the strainer to remove the potato pieces. Set the brownish liquid to the side.
4. Discard the shredded potato, or better yet, use it to make hash browns or potato pancakes!
5. Let the container of liquid rest for 20 minutes. You should start to see the white layer of potato starch settling to the bottom of the container.
6. Gently pour off the top layer of water without disturbing the starch at the bottom.
7. Add fresh water to the starch and stir well. Let it sit for another 10 minutes. Pour off the top layer of liquid again.
8. Scoop the starch from the bottom of the glass container into a small bowl. Now you have potato goop!
   Hint: If you're a real gravy lover, reserve half of this spud mixture for the follow-up experiment at the bottom of the page!

Mix up the cornstarch

9. Measure out a half cup of cornstarch in another small bowl.
10. Stir in a little bit of water at a time, until it reaches a consistency similar to the potato starch. Now you have corn goop!

Compare the starches

11. Experiment with the potato goop and corn goop to see how they are similar.
12. Try to scoop it up with your hand. Can you mold it? Does it run through your fingers? Try to pour the goop out of the container. Is it runny? Try to slowly sink your fingers into it. What happens if you poke or squeeze them?

Non-Newtonian Spuds

Both potato goop and corn goop (also known as oobleck) are examples of a non-Newtonian fluid. A non-Newtonian fluid can exhibit properties of both a solid and a liquid. Under most conditions, the goops behave like a liquid since they take the shape of the container they are in and they flow through your fingers when you try to hold them in your hand. However, when you poke or squeeze them they feel firm because they behave more like a solid when under pressure.

Bring on the gravy!

If you're planning on serving gravy, use the potato goop you set aside to try a gravy comparison. Make a small batch of gravy and use the potato starch as a thickener instead of what you normally use. Do a taste test and see how the "potato gravy" compares to the regular gravy. Can you taste a difference?