States of Matter Lab Name:

Period:

Scientists understand the differences between the physical properties of different states of matter. By exploring how some things do or don't react to being put in containers, you will observe some of these physical characteristics yourself.

Exploring Solids

You have been given a plastic zombie. Stand it up on the table. Without getting bitten, cautiously observe it for a minute or two.

1. Does the zombie ever… change its shape? _____ … change its volume by growing? _____ … change its volume by shrinking? _____

2. Because the zombie (does / does not) change its shape, and (does / does not) change its volume, I know the zombie must be a (solid / liquid / gas).

3. While the zombie stands on the table, thinking about brains, observe the table. Does the zombie ever sink into the table? _____ Does the matter in the table move around the zombie, letting the zombie fall to the floor? _____

4. Because the table (does / does not) change its shape, and (does / does not) change its volume, I know the table must be a (solid / liquid / gas).

Exploring Liquids

5. Ask your teacher to add some water to the square-shaped container.

6. Draw an arrow on the post-it note pointing to the left or right side of the post-it.

7. Put the post-it note on the side of the container so the arrow is pointing to the water surface.

8. Carefully pour all of the water into the round-shaped container. Did the water change its shape when it went into the new container? _____

9. Now pour the water back into the square-shaped container. Tap the round-shaped container against your hand to make all of the water drops go back into the square-shaped container. Did the water change its shape when it went into the original container? _____

10. Now look at the arrow on the post-it, marking the original water surface. Did the water surface return (or almost return) to that arrow? _____

11. Because the water (does / does not) change its shape, and (does / does not) change its volume, I know the water must be a (solid / liquid / gas).

turn this page over for the rest of the lab

Lab: 17 points

States of Matter Lab

Name:

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Exploring Gases

12. Blow into your balloon a couple of times, but DO NOT TIE IT OFF. Keep the end pinched between your fingers so the air does not escape.

13. Gently squeeze the balloon into different shapes. Does the air inside move around and keep the balloon inflated? _____

14. Now try stretching the inflated balloon a bit. Does the air inside move around to fill up the increased space? _____

15. Because the air (does / does not) change its shape, and (does / does not) change its volume, I know the air must be a (solid / liquid / gas).

16. Now release the air out of the balloon. Fold it long-ways (like a hot-dog fold) a couple of times. Put the balloon through the back end of the toy car. Push it up the car until you can pull it out of the central hole in the car, leaving just a little bit sticking out of the back end.

17. Blow up the balloon, then pinch it shut with your fingers.

18. Put the car on the table and point it in a direction where it will (hopefully) not fly off the table. Release the balloon and the car.

19. What happens to the balloon and the car?

    The balloon _____ .

    causing the car to _____ .

20. Even though we saw nothing touch the car to make it move forward, it still moved. Inflate the balloon again. This time when you let the balloon and car go, try to feel if anything comes out of the balloon.

21. What did you feel on your hand?

    Coming out of the balloon, I felt _____ .

22. So, even if you can't see it, things can still be made of matter.

23. Below, list at least 8 things you used in the lab today that were made of matter.

    #1—

    #2—

    #3—

    #4—

    #5—

    #6—

    #7—

    #8—

Lab: 17 points