



**JUMANJI**  
by  
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A very important aspect of becoming a good science student is learning to read and follow directions. Students find that they save time and energy and don't waste valuable resources and supplies.

The consequences for Judy and Peter are not disastrous because Judy insists that they read the instructions. At the end of the game, she remembers what number she needs to roll to get out of the jungle. And, after all, it is only a story! However, when Mrs. Budwing announces that her sons "never read instructions either", Judy and Peter hope that they learn to take this important first step of science.

**MATERIALS:** See attached activities

**ACTIVITY:** Choose either or both of the attached activities.

**SOURCE:** Variation of activity presented at Southeastern Massachusetts University Summer Workshop for middle school teachers/1989.

**STANDARDS:**

**BSL:** 1.1, 1.3, 1.5, 3.2, 6.2, 9.7

**NCTM:** 4d, 13a

**SCS:** H1, H2, H5

Van Allsburg, Chris. Jumanji. Houghton Mifflin Company, 1961, ISBN#0-395-304482.

## AN INVESTIGATION INTO THE PROPERTIES OF SOME CHEMICAL SYSTEMS

*BEFORE DOING ANY EXPERIMENT, YOU MUST READ THROUGH ALL THE STEPS IN THE PROCEDURE FIRST -- FOR TWO REASONS:*

- A. FOR SAFETY: Many of the reagents you will use can harm you or your clothes. Warnings are given in the procedure.
- B. TO SAVE TIME: By knowing in advance what you should have ready for later steps, you will not waste time waiting for water to heat, glassware to dry, etc.

For this experiment you will work in pairs. Rows 1 and 2 will pair up with the person sitting next to you. Rows 3 and 4 will pair up in the same way. TIME LIMIT IS 15 MINUTES. GO!

### PROCEDURE:

1. Get 2 pieces of composition paper from the front basket.
2. Obtain three (3) small beakers and a small graduated cylinder from the cabinet at the back near the windows.
3. Be sure beakers are clean. Rinse out the cylinder but do not dry. Both beakers must be wet.
4. At the head of one piece of paper, copy the title of the experiment from the lab sheet. Underneath the title write the heading, OBSERVATIONS, starting at the left margin.
5. Place the beakers on the second sheet of paper. Write under the first, BEAKER A, the second, BEAKER B and the third, BEAKER C. Add 5 ml tap water to each beaker.
6. To beaker A add 5 ml 1 M  $\text{CuSO}_4$  solution from the bottle at your bench.
7. Swirl the beaker CAREFULLY to mix the two liquids together. Record what you observe on your data sheet.
8. To beaker B add 10 ml 1 M  $\text{KHSO}_4$  solution. Swirl the two liquids gently to mix. Record your observations.
9. To beaker C add 1/2 capful of solid  $\text{Na}_2\text{CO}_3$ . Get a stirring rod from the drawer on the rear bench and stir until the solid disappears. Record your observations.
10. Add 5 drops of phenolphthalein solution to each beaker. Record your observations.
11. Add one half of contents of beaker B to beaker C. Swirl to mix

and record observations.

12. Add 5 ml 1 M NaOH solution (CAUTION: CORROSIVE!) to remaining liquid in beaker B and swirl to mix. Record observations.
13. Add 5 ml 1 M NaOH solution to beaker A and swirl to mix. Record observations, then show beaker A and record sheet to teacher.
14. Return to bench, wash all glassware and return to shelves.
15. So far so good. If you have followed the FIRST instruction given you, you are to skip steps 1 – 14, and do the following.
16. Obtain a piece of composition paper from the front of the room, print your name and date in the upper right hand corner. Go to the rear cabinet near the windows and get a small conical flask.
17. Come to the front and get a sample of yellow liquid from the teacher. At your desk, add a few drops of 1 M NaOH solution and mix. Show paper and flask to teacher, then clean glassware and return.
18. If you have followed all appropriate directions to this point, you have done very well. You should be very successful at lab work.
19. If you ended up with incorrect results, remember next time the importance of doing exactly what the directions tell you to do.

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

Date: \_\_\_\_\_

1. Read **ALL** the directions *before you begin*.
2. Put your name and the date on the lines above.
3. Draw a flower in the top right hand corner of the paper.
4. Put your magic number in the top left hand corner.
5. Add 45, 62, and 33. Put the answer here \_\_\_\_\_.
6. Write an adjective that describes you \_\_\_\_\_.
7. Multiply 16 times 3. Put the answer here \_\_\_\_\_.
8. Write your birthday on the bottom left corner.
9. Open your desk quietly and take out your crayons.
10. Draw a butterfly on the bottom, right corner.
11. Color the butterfly purple. Put red and orange dots on it.
12. Color the flower you drew any color you want.
13. Subtract 87 from 183. Put your answer here \_\_\_\_\_.
14. Write the name of your favorite book. \_\_\_\_\_
15. Write the name of your first grade teacher. \_\_\_\_\_
16. Count to 100 by 5's in a whisper.
17. Count backwards out loud starting from 20.
18. Stand up and walk around your chair 3 times.
19. Sit down and cross your legs.
20. Write the name of a dinosaur. \_\_\_\_\_
21. Write the number of syllables you hear in "daffodil". \_\_\_\_\_
22. Go back and only do the first two directions on this sheet.
23. Put your pencil down and look around to see who got caught doing this little April Fool's trick quiz. If you read all the directions first, you didn't get caught. Be sure to be quiet until everyone realizes what has happened.