

**Dichotomous Key Lab**

Names of Lab Partners: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Class Period\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

A **dichotomous key** is a method for determining the identity of something (like the name of a butterfly, a plant, a lichen, or a rock) by going through a series of choices that leads the user to the correct name of the item. Dichotomous means "divided in two parts".

At each step of the process of using the key, the user is given two choices; each alternative leads to another question until the item is identified. (It's like playing 20 questions.)

For example, a question in a dichotomous key for trees might be something like, "Are the leaves flat or needle-like?" If the answer was "needle-like," then the next question might be something like, "Are the needles in a bunch or are they spread along the branch?" Eventually, when enough questions have been answered, the identity of the tree is revealed.

**Materials Needed:** 1 bag containing 10 jelly beans

**Objective:** In this activity you will identify the flavor of Jelly Belly Jelly Beans based on their physical appearance (color) using a dichotomous key.

**Directions:**

1. Remove 1 jelly bean from your bag.
2. Read step 1 on the **Dichotomous** **Key To Jelly Belly® Jelly Beans.**
3. Decide which statement is true, and then follow the directions after that step.
4. Step 1 will lead you to a new set of steps.
5. Continue reading and following the steps until you discover the flavor of the jelly bean.
6. Starting with step 1, **record** all of the steps that you read to find the jelly bean flavor.
7. Record the flavor of the jelly bean.
8. Have your partner **taste** the jelly bean to verify if your identification was correct and initial in the table.
   1. If the flavor was incorrectly identified, retrace the path of steps and see where you think your team made a mistake. Discuss the error and record a possible reason below the table.
9. Repeat steps 1-8 for the remaining jelly beans. **Alternate** with your partner until all jelly beans have been identified.
10. Working with your partner, discus and summarize in 3-4 sentences how a dichotomous key could be useful in classifying living things.

1. Data Table:

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| --- | --- | --- |
| **Jelly Bean Flavor** | **Steps taken to identify the flavor** | **Flavor Test**  **(Write your initials if the flavor was correct.)** |
| **Example: tangerine** | **1, 2, 3, 8, 9, 10** | **CAB** |
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2. Uh-oh! If a jelly bean was incorrectly identified, describe why the error may have occurred below.

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3. Summarize in 3-4 sentences how a dichotomous key could be useful in classifying living things.

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**Dichotomous Key To Jelly Belly® Jelly Beans**

1. Yellow, orange, red or pink…………………..… go to 2

Purple, blue or green ……………………..……. go to 19

Black, white, brown or tan…………………..…. go to 25

2. Yellow or orange ……………................................go to 3

Red or Pink ……………………………..……… go to 10

3. Yellow ……………………………..…………….go to 4

Orange………………………….……………….go to 7

4. Solid Yellow…………………………………..…go to 5

Yellow with Brown Spots……………………..Top Banana

5. Bright yellow or yellow w/ white spots...Sunkissed® Lemon

Light or pale yellow …………………………..…….go to 6

6. Light Yellow – Creamy ………………………Pina Colada

Pale Yellow………………………………Crushed Pineapple

Pale Yellow – Marbled……………………Buttered Popcorn

7. Solid Shade of Orange ……………………………go to 8

Orange with spots…………………………………go to 10

8. Bright Orange……………………………Sunkissed® Orange

Light or dark orange………………………………go to 9

9. Light or cream orange…………………………….go to 10

Dark orange…………………………………..Orange Crush

10. Light Orange…………………………………….Tangerine

Dark Creamy Orange……………………... Orange Sherbet

Orange with red spots……………………….………..Peach

11. Red ………………………………………………..go to 12

Pink………………………………………………..go to 16

12. Solid Red………………………………………….go to 13

Dark Red with brown spots……………...….Pomegranate

13. Bright or cinnamon red………………………….go to 14

Dark Red………………………………………….go to 14

14. Bright Red…………………………..……….Very Cherry

Red…………………………………………….Red Apple

Dark Red………………………………………..Raspberry

Dark red with yellow spots……………sizzling cinnamon

15. Solid Pink………………………………..……….go to 16

Pink with Spots……………………………….….go to 17

Pink with marbling……………………………....go to 18

16. Cream Pink…………………………..…..…Bubble Gum

Light Pink…………………………………Cotton Candy

17. Dark Pink w/ red spots………………..Strawberry Daiquiri

Pink w/ red, blue & yellow spots…………….Tutti Fruity

18. Pink w/dark pink marbling……………...Strawberry Jam

Light Pink with red marbling.…...Strawberry Cheesecake

19. Blue ……………………………….…………….go to 20

Purple……………………….……………..…….go to 21

Green……………………………………………go to 22

20. Light Blue…………..…………………………Berry Blue

Dark Blue………………………………………Blueberry

21. Lavender……………………………………Island Punch

Purple……………………………………….Grape Crush

Lavender w/ dark spots…………Mixed Berry Smoothie

22. Solid Green…………………………………….go to 23

Green w/ marbling………………………….…go to 24

23. light yellow-green………………………..…….….7-up®

Light green…………………………………..lemon-lime

Medium green……………………………………….kiwi

Green…………………………………….…Green Apple

24. light green w/ green spots…………………….juicy pear

Deep green with marbling……………………..margarita

Dark green w/ red marbling………..……….watermelon

25. Brown or Tan……….…………………………..go to 26

Black or White………………………………….go to 31

26. Solid Brown or Tan…………………………..…go to 27

Light tan w/ brown spots…………Toasted Marshmallow

Yellowish tan w/ orange spots……………Caramel Corn

27. Brown……………………………………….…go to 28

Tan or marbled………………………………. go to 30

28. Light or regular brown……………………….go to 29

Dark Brown……………………………………go to 30

29. Brown………………………..…….Chocolate Pudding

Light brown………………………….A&W Root Beer

Reddish Brown……………..……………….Dr. Pepper®

30. Dark Brown w/ spots…………….….……Cappuccino

31. White (creamy)…………………………..…Coconut

White w/ black spots…………………..French Vanilla

Light white (almost see through)….A&W Cream Soda

Black…………………………………………..Licorice