

The Checks Lab



Introduction

This activity is designed to help you experience the true **nature of science**; *that it is built on evidence that can be observed or deduced from the natural world*. However, this evidence can sometimes be confusing, seemingly conflicting, and apparently random. Furthermore, each new bit of evidence often creates more questions than it answers. The activity illustrates that scientific explanations are only **tentative** explanations, because new discoveries may show that previous hypothesis were incorrect.

No scientist or scientific group works alone. This activity will demonstrate the value of **collaboration** and **communication** within each group and with other groups in order to arrive at a *reasonable* explanation of the problem. There is at least one other characteristic of science that is not usually appreciated or realized by people in general. See if you can recognize it.

Directions

1. Each group will be given an envelope containing a total of 16 checks written by fictional character(s). Do not look at the checks until instructed to do so. When directed, and without looking, remove four of the checks from the envelope and place them on the lab table. Do not allow other groups to examine your data at this time.
2. Observe the information on the checks. Try to formulate a tentative hypothesis that explains the storyline represented by the checks. This is your **original hypothesis**. Record this on your worksheet.
3. When directed, remove four more checks from the envelope. Use this new information to formulate a second **tentative hypothesis** that explains the storyline. Record this on your worksheet.
4. When directed, remove two final checks from the envelope. Use this new information to formulate a third **tentative hypothesis** that explains the storyline. Record this on your worksheet. Do **NOT** remove any more checks. *Scientists never have all the data they might need to reach the highest level of confidence in their explanations.*
5. To simulate the expanded collaborative nature of science, each group will be given a few minutes to meet with other groups to compare data. Remember, since each group drew at random, all groups may have some different data. (This simulates the sharing of data and ideas by scientists by way of personal communications, email, etc.)
6. When instructed, each group will come back together to formulate a **final hypothesis** based upon all of the available data. This hypothesis should attempt to explain the events in the life of the character(s) who wrote the checks. Record this on your worksheet.
7. Choose a spokesperson to present the group's final hypothesis to the class. This simulates the sharing process of scientists at symposia and by publishing.
8. Keep in mind that scientific explanations are tentative because we can never be absolutely sure that all of the information about a problem is known and that new information may be discovered later.

Name_____ Period____ Date_____

THE CHECKS LAB WORKSHEET

Original Hypothesis # 1:

Tentative Hypothesis # 2:

Tentative Hypothesis # 3:

Final Hypothesis:

Questions:

1. What bits of information on the checks were valuable to your group in formulating a hypothesis?
2. What information was useless?
3. List any misleading information that was presented.
4. Why do we say that a hypothesis in science is "tentative"?
5. Is your final hypothesis "correct"? Explain.

BIGHORN SHEEP

Mr & Mrs W.A. WHITNEY 4685
 86 Sec Vee Lane
 Bishop, CA 93515 16-66/1220

Aug 23, 1978

Pay to the order of Kid-R Us \$230.00
Two hundred and thirty Dollars

Bank of America
 Bishop Branch 0920
 P.O. Box 817
 Bishop, CA 93514

For Vicky Whitney

⑆ 1 2 200066 ⑆ ⑆ 4685 ⑆ ⑆ 09204 ⑆ ⑆ 04525 ⑆

SEA OTTER

Mr & Mrs W.A. WHITNEY 4681
 86 Sec Vee Lane
 Bishop, CA 93515 16-66/1220

March 1, 1973

Pay to the order of St. Joseph's Hospital \$3300.00
Three thousand three hundred Dollars

Bank of America
 Bishop Branch 0920
 P.O. Box 817
 Bishop, CA 93514

For W.A. Whitney

⑆ 1 2 200066 ⑆ ⑆ 4681 ⑆ ⑆ 09204 ⑆ ⑆ 04525 ⑆

BALD EAGLE

Mr & Mrs W.A. WHITNEY 4683
 86 Sec Vee Lane
 Bishop, CA 93515 16-66/1220

Oct 7, 1972

Pay to the order of Dr. Cheryl Garcia-OB/GYN \$122.00
One hundred twenty two Dollars

Bank of America
 Bishop Branch 0920
 P.O. Box 817
 Bishop, CA 93514

For Vicky Whitney

⑆ 1 2 200066 ⑆ ⑆ 4683 ⑆ ⑆ 09204 ⑆ ⑆ 04525 ⑆

SEA OTTER

W.A. WHITNEY 4676
 10809 MEADS
 ORANGE, CA 92669 16-66/1220

May 21, 1972

Pay to the order of Oshman's Sporting Goods \$98.71
Ninety eight and 7/100 Dollars

Bank of America
 Bishop Branch 0920
 P.O. Box 817
 Bishop, CA 93514

For W.A. Whitney

SANDHILL CRANE

Mr & Mrs W.A. WHITNEY
86 Sec Vee Lane
Bishop, CA 93515

4689
16-66/1220

April 3, 1988

Pay to the order of Crisis Marriage Counseling \$ 250.⁰⁰
Two hundred and fifty Dollars

Bank of America
Bishop Branch 0920
P.O. Box 817
Bishop, CA 93514

For _____ William Whitney, Sr.

⑆ 1 2 200066 1 4689 ⑉ 09 204 ⑈ 04 5 25 ⑆

BALD EAGLE

Mr & Mrs W.A. WHITNEY
86 Sec Vee Lane
Bishop, CA 93515

4688
16-66/1220

Dec. 12, 1983

Pay to the order of K-Mart \$ 91.⁷³
Ninety one and 73/100 Dollars

Bank of America
Bishop Branch 0920
P.O. Box 817
Bishop, CA 93514

For _____ Bill Whitney

⑆ 1 2 200066 1 4688 ⑉ 09 204 ⑈ 04 5 25 ⑆

KIT FOX

Mr & Mrs W.A. WHITNEY
86 Sec Vee Lane
Bishop, CA 93515

4687
16-66/1220

June 30, 1980

Pay to the order of Arrowbear Summer Camp \$ 260.⁰⁰
Two hundred sixty and 00/100 Dollars

Bank of America
Bishop Branch 0920
P.O. Box 817
Bishop, CA 93514

For _____ William Whitney

⑆ 1 2 200066 1 4687 ⑉ 09 204 ⑈ 04 5 25 ⑆

KIT FOX

Mr & Mrs W.A. WHITNEY
86 Sec Vee Lane
Bishop, CA 93515

4682
16-66/1220

Sept. 12, 1978

Pay to the order of Circuit City \$ 1810.⁹³/₁₀₀
One thousand eight hundred ten and 93/100 Dollars

Bank of America
Bishop Branch 0920
P.O. Box 817
Bishop, CA 93514

For computer _____ William Whitney, Sr.

4693

Mr & Mrs W.A. WHITNEY
86 See Vee Lane
Bishop, CA 93515

July 10, 1991
16-66/1220

Pay to the order of UCI Medical Center \$379.00
Three hundred seventy nine Dollars

Bank of America
Bishop Branch 0920
P.O. Box 817
Bishop, CA 93514

For W.A. Whitney

⑆ 2200066 ⑆ ⑆ 4693 ⑆ ⑆ 09204 ⑆ ⑆ 04525 ⑆

KIT FOX

4692

Mr & Mrs W.A. WHITNEY
86 See Vee Lane
Bishop, CA 93515

May 15, 1991
16-66/1220

Pay to the order of Gingiss Formal Wear \$72.00
Seventy two and no/xx Dollars

Bank of America
Bishop Branch 0920
P.O. Box 817
Bishop, CA 93514

For Bill Whitney

⑆ 2200066 ⑆ ⑆ 4692 ⑆ ⑆ 09204 ⑆ ⑆ 04525 ⑆

SEA OTTER

4691

Mr & Mrs W.A. WHITNEY
86 See Vee Lane
Bishop, CA 93515

Feb. 27, 1989
16-66/1220

Pay to the order of Santa Ana Honda \$2615.00
Two thousand six hundred fifteen Dollars

Bank of America
Bishop Branch 0920
P.O. Box 817
Bishop, CA 93514

For Bill Whitney

⑆ 2200066 ⑆ ⑆ 4691 ⑆ ⑆ 09204 ⑆ ⑆ 04525 ⑆

BIGHORN SHEEP

4690

Mr & Mrs W.A. WHITNEY
86 See Vee Lane
Bishop, CA 93515

Jan 10, 1989
16-66/1220

Pay to the order of Charter Hospital \$32,000.00
Thirty two thousand and no/xx Dollars

Bank of America
Bishop Branch 0920
P.O. Box 817
Bishop, CA 93514

For Ther Rehab William Whitney Sr

KIT FOX

Mr & Mrs W.A. WHITNEY
86 See Vee Lane
Bishop, CA 93515

4697

Feb 12, 1993

16-66/1220

Pay to the order of Forest Lawn Mortuary \$ 8900.00
Eight thousand nine hundred Dollars

Bank of America

Bishop Branch 0920
P.O. Box 817
Bishop, CA 93514

For

William Whitney

⑆ 1 2 200066 ⑆ ⑆ 4697 ⑆ 09 204 ⑆ 04525 ⑆

BIGHORN SHEEP

Mr & Mrs W.A. WHITNEY
86 See Vee Lane
Bishop, CA 93515

4695

Dec 24, 1993

16-66/1220

Pay to the order of Childrens AIDS Foundation \$ 200.00
Two hundred and no/xx Dollars

Bank of America

Bishop Branch 0920
P.O. Box 817
Bishop, CA 93514

For

W.A. Whitney

⑆ 1 2 200066 ⑆ ⑆ 4695 ⑆ 09 204 ⑆ 04525 ⑆

SEA OTTER

Mr & Mrs W.A. WHITNEY
86 See Vee Lane
Bishop, CA 93515

4696

Jan 29, 1993

16-66/1220

Pay to the order of UCI Medical Center \$ 6100.00
Six thousand one hundred Dollars

Bank of America

Bishop Branch 0920
P.O. Box 817
Bishop, CA 93514

For

Vicky Whitney

⑆ 1 2 200066 ⑆ ⑆ 4696 ⑆ 09 204 ⑆ 04525 ⑆

SANDHILL CRANE

Mr & Mrs W.A. WHITNEY
86 See Vee Lane
Bishop, CA 93515

4694

Oct 18, 1992

16-66/1220

Pay to the order of UCI Medical Center \$ 5780.00
Five thousand seven hundred eighty Dollars

Bank of America

Bishop Branch 0920
P.O. Box 817
Bishop, CA 93514

For

W.A. Whitney

⑆ 1 2 200066 ⑆ ⑆ 4694 ⑆ 09 204 ⑆ 04525 ⑆