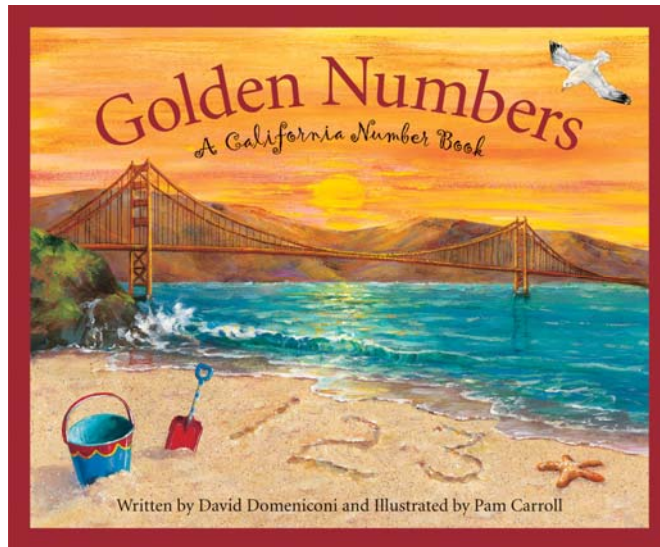


Teacher's Guide



Golden Numbers: A California Number Book

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Life of a Monarch Butterfly

Monarch butterflies migrate to California to spend their winters. Read about the places the monarchs stay in *Golden Numbers*.

The monarch butterflies' life cycle is a complete metamorphosis.

The stages are eggs, larvae, pupa, and adult.

Draw a diagram showing the monarch at each of these stages.



Alphabetical Order

California has many universities and colleges with thousands of students attending the various schools. Discover a few of California's colleges and universities in *Golden Numbers*.

Put the following institutions in alphabetical order.

University of Southern California
Pepperdine University
California State University
Stanford University
Humboldt State University
Claremont College
Woodbury University
Golden State University
Whittier College
University of the Pacific

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____



JUMPING FROGS MATH

Mark Twain wrote a story about the jumping frogs of Calaveras County in California. A frog jumping contest is held yearly in Calaveras County. Enjoy learning about this event in *Golden Numbers*.

Solve these frog problems.

1. Jin's frog jumped 18 ft. in the competition. Anna's frog jumped 22 feet and George's frog jumped 27 feet.

How much farther did George's frog jump than Jin's frog? _____

2. What was the total number of feet the 3 frogs jumped? _____

3. What was the average number of feet they jumped? _____

4. On its second jump Jin's frog increased its distance by $\frac{1}{3}$. How long was its second jump? _____

5. What was the least number of jumps each frog needs to make the 100 foot mark? Jin's _____ Anna's _____ George's _____

WE DID IT!

Enjoy learning about California in the book *Golden Numbers*. You will learn about many people, places, and things that make California special. Read about each person or persons below and find out what made them famous.

| | | |
|------------------------------------|-------------------------|------------------------|
| David Jung | Sarah Winchester | Steve Wozniak |
| Adolph Rickenbacker Company | | Andrew Hallidie |
| Steve Jobs | Pomo | |

1. Found Apple Computers (hint- 2 people) _____
2. Invented the San Francisco cable cars _____
3. Early weavers that make wonderful baskets _____
4. Owned a house with 160 rooms _____
5. Built electric guitars _____
6. Early maker of fortune cookies _____

Which of these people or groups do you like best? _____

Explain why they are your favorite _____



FRUIT, VEGETABLE, OR NUT? Classification

Fruits, vegetables, and nuts grow in abundance in California. You can find many of the healthy foods California has to offer in *Golden Numbers*.

Classify the following produce as fruits, nuts, or vegetables.

artichoke
plum
avocado
almond

grape
lettuce
lima bean
nectarine

strawberry
pistachio
walnut
peach

FRUIT

VEGETABLE

NUT

Create a salad using at least 2 items from each category above.
Name and describe your new salad.



In California!

If you want to experience many different types of weather in a short period of time, just visit California. You can visit mountains, deserts, forests, and the ocean all in one day. Learn about the many wonders of California in *Golden Numbers*.

Make a vacation cube showing 6 different climates that can be found in California. Draw a picture of each area and write 3 facts about the climate you would find in this place.

Would you rather live in a hot or a cold climate? _____

Explain _____

List 3 reasons weather can't be predicted with 100% accuracy.

1. _____
2. _____
3. _____

Draw a picture of you doing something you love outside.



FORTUNE COOKIES

Isn't it fun to open a fortune cookie and read the message inside? How did the idea behind fortune cookies get started? Read all about it in *Golden Numbers*.

Write a fortune for each of the following people. Remember, fortunes should make people feel good.

Mom _____

Dad _____

Your best friend _____

A California condor _____

Spiderman _____



National Parks

Survey and Graph

California has national parks that range from mountains to deserts and many other terrains. *Golden Numbers* will give you a peek into each of California's national parks.

Survey 30 students to find the type of terrain they like best.

Desert

Ocean

Mountains

Waterfalls

Use the data collected to make a pictograph showing the results. Choose a picture symbol to represent each type of terrain. Use color on your graph.

How Are Cable Cars Simple Machines?

How are the cable cars in San Francisco related to simple machines? Learn about the system that powers these cars in *Golden Numbers*.

Cable cars run on a pulley system.

A pulley is a simple machine made with a rope, belt, or a chain wrapped around a grooved wheel.

Try this activity to experience how a pulley works.

Can you use a pulley to help you send knock-knock jokes across the room?

Materials

2 empty thread spools
40 feet of string
2 unsharpened round pencils
paper clips
knock-knock jokes on pieces of paper

Directions

1. Put the pencils through the centers of the thread spools.
2. Tie the strings together to make a loop.
3. Have one student hold the ends of one pencil. The spool must be able to turn freely. Another student holds the other spool.
4. Wrap the string around the spools to create a pulley system.
5. Attach a joke to the pulley with a paper clip.
6. A third student pulls the string to get the message.



CREATE A MAZE

Can you imagine having a house with 40 bedrooms? Would it be hard to find your way around in a house that big? Read about a woman who built such a house in the book *Golden Numbers*.

Create a maze that includes 20 rooms that must be visited in order to get out. Make a rough draft of your maze on this paper and a large completed maze on a large sheet of paper.

Exchange mazes with a classmate and try to solve each other's maze.

The California Condor

Poetry

The California condor has a history as old as the mastodon. Modern times and human encroachment almost made the condor obsolete. Luckily they were saved and can be found in the wild again. Discover more about these amazing birds in *Golden Numbers*.

Write two poems about the California condor.

Poem one should be about the condor during prehistoric times. Use any style of poetry you wish.

Poem two should be about the condor during modern times.



Volcano Cookie Recipe

It's interesting to learn about the volcanoes found in California in the wonderful book *Golden Numbers*.

It's even more fun to be eating a volcano cookie while reading the book.

Enjoy this easy recipe for volcano cookies.

Ingredients

Sugar cookie dough- use any basic recipe or buy pre-made dough.

Strawberry jam

Directions

1. Make basic sugar cookie recipe or use the pre-made dough.
2. Take a walnut-size piece of dough and shape it into a volcano.
3. Spoon a small amount of jam into the depression of the volcano.
Make sure your cookie looks like a volcano.
4. Bake according to the dough recipe or package recipe.
5. Let cool and enjoy the tasty volcano.



One Spot in Four Seasons

California is a state with many different geographical areas ranging from mountains to deserts to ocean. The book *Golden Numbers* will give you a wonderful picture of California throughout the seasons.

Pretend you are a tree in your own backyard. Where are you? _____

Write four journal entries describing what you look like and what the yard you are in looks like on each of these dates.

January 21 _____

April 18 _____

July 4 _____

October 30 _____

Golden Numbers
Answer Sheet

Monarch butterfly- eggs- larvae-pupa- butterfly

University Alphabetical Order- 1) California State Univ. 2) Claremont
3) Golden State 4) Humboldt State 5) Pepperdine 6) Stanford
7) University of the Pacific 8) University of Southern California
9) Whittier 10) Woodbury

Jumping Frogs- 1) 9 2) 67 3) $22 \frac{1}{3}$ 4) 24 5) J-6 A- 5 G-4

We Did It- 1) Jobs, Wozniak 2) Hallidie 3) Pomo 4) Winchester
5) Adolph Rickenbacker Company 6) Jung

Fruit, Vegetable or Nut- fruit- plum, grape, nectarine, strawberry
Nut- almond, pistachio, walnut vegetable- artichoke, avocado, lettuce,
lima bean

Truths of the Desert Tortoise- 2, 3, 6