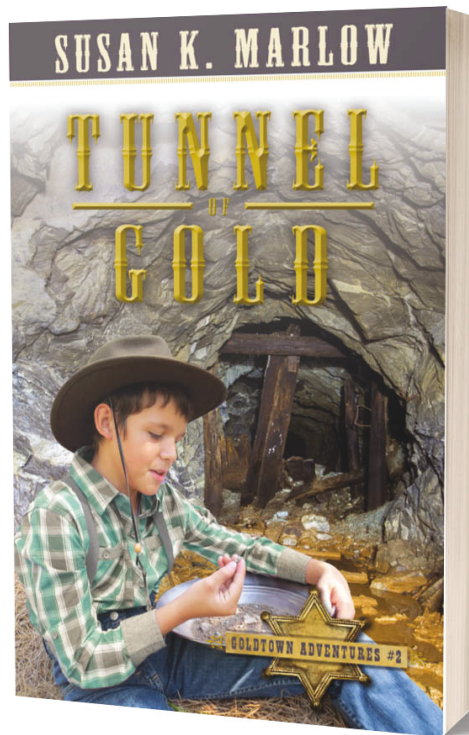


GOLDTOWN ADVENTURES BOOK 2

TUNNEL OF GOLD

ENRICHMENT GUIDE



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ENJOY THIS FREE *TUNNEL OF GOLD* STUDY GUIDE

If you enjoyed it, then explore the other books in the Goldtown Adventures series, along with a 172-page enrichment guide.

1. *Badge of Honor*. Twelve-year-old Jem Coulter and his sister Ellie's life are turned upside down when their father becomes sheriff of lawless Goldtown, California, in 1864.

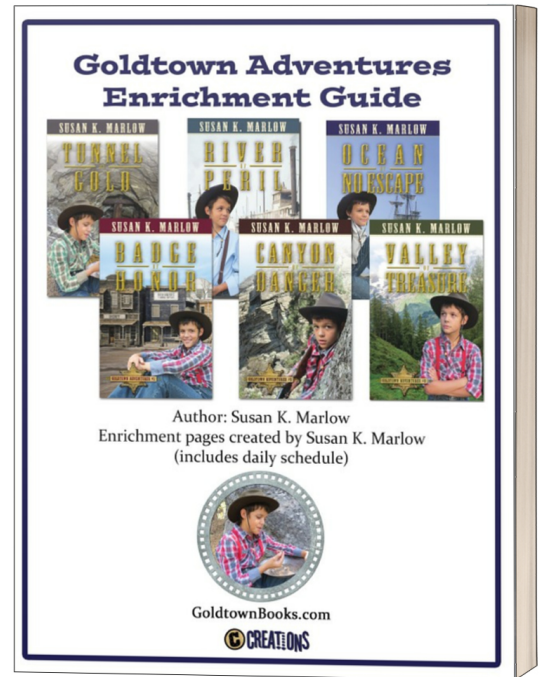
2. *Tunnel of Gold*. When the Midas mine plays out, Goldtown may become a ghost town. Jem will do anything to find a way to help save the mine. But is his friend Will's plan too risky?

3. *Canyon of Danger*. As "man of the family" for the week, Jem must figure out what happened to their family's stolen horse and rifle before his father returns home to Goldtown.

4. *River of Peril*. A trip to Sacramento turns dangerous when Jem tries to help his father keep gold bound for the Union from falling into the hands of Confederate sympathizers.

5. *Valley of Treasure*. To raise money for Cousin Nathan's operation, Jem, Ellie, and Strike-it-rich Sam head for the high Sierra to find and recover the gold they lost five years ago on a previous prospecting trip.

6. *Ocean of No Escape*. When Jem is shanghaied along the San Francisco waterfront, he must "learn the ropes" of a sailing vessel and endure seasickness, storms, and rough sailors while looking for a way to jump ship and return home.





Daily Schedule for Book 2: Tunnel of Gold

*Indicates an optional activity found in the Goldtown Adventures lapbook.
(Lapbook activities can be **skipped** or purchased at GoldtownBooks.com)

Week 1	Day 1	Day 2	Day 3	Day 4
<i>Tunnel of Gold</i>	Chapter 1	Chapter 2	Chapters 3-4	-----
Literature Guide	-----	Page 31 #1-5	Page 31 #6-11	* Lapbook activity chapters 1-3 (+ cover)
Week 2	Day 5	Day 6	Day 7	Day 8
<i>Tunnel of Gold</i>	-----	-----	Build a miner's stove Pages 37-38	Chapters 5-6
Literature Guide	Pages 32-33	Pages 34-35		Page 39 #1-6
Week 3	Day 9	Day 10	Day 11	Day 12
<i>Tunnel of Gold</i>	-----	Chapters 7-8	-----	-----
Literature Guide	* Lapbook activity chapters 4-6	Page 39 #7-15	Pages 40-41	Pages 42-44
Week 4	Day 13	Day 14	Day 15	Day 16
<i>Tunnel of Gold</i>	Make Doughnuts Page 45	-----	Chapters 9-10	Chapter 11
Literature Guide		* Lapbook activity chapters 7-9	Page 46 #1-5	Page 46 #6-8
Week 5	Day 17	Day 18	Day 19	Day 20
<i>Tunnel of Gold</i>	Chapters 12-13	-----	-----	-----
Literature Guide	Page 46 #9-11	* Lapbook activity chapters 10-12	Pages 47-48	Pages 49-51
Week 6	Day 21	Day 22	Day 23	Day 24
<i>Tunnel of Gold</i>	Chapters 14-15	-----	Chapter 16	Chapters 17-18
Literature Guide	Page 52 #1-6	* Lapbook activity chapters 13-15	Page 52 #7-10	Page 52 #11-14
Week 7	Day 25	Day 26	Day 27	Day 28
<i>Tunnel of Gold</i>	Historical Note	-----	-----	-----
Literature Guide	Pages 53-54	* Lapbook activity chapters 16-18	Pages 55-57	* Lapbook activity for the historical note

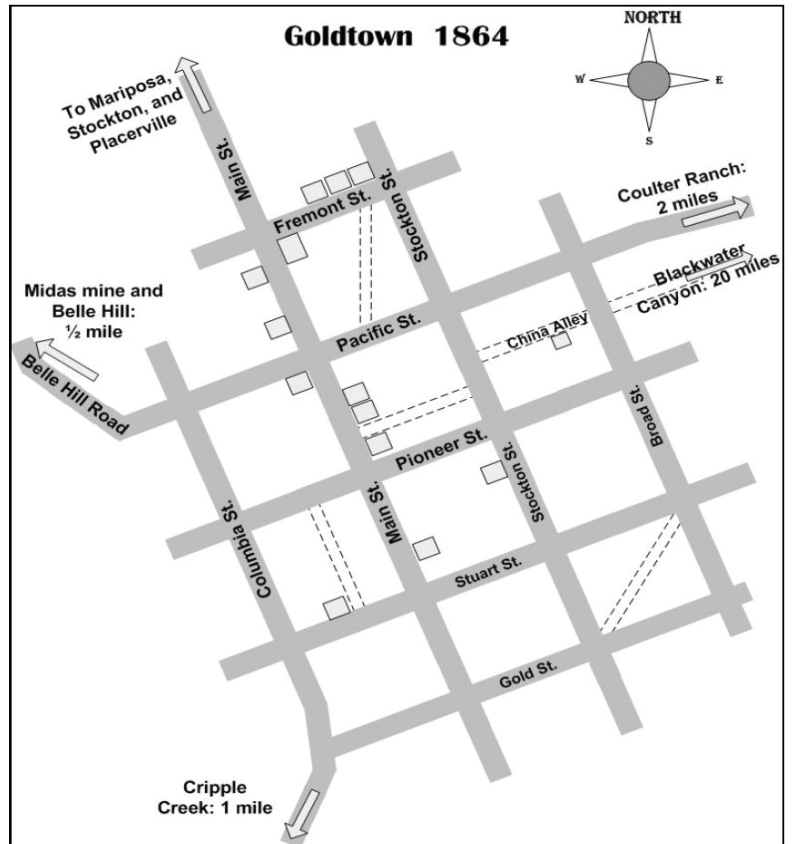
Tunnel of Gold Chapters 1–4

Chapters 1-2 Delivery Day & An Eerie Silence

To the right is a map of Goldtown. Follow the instructions and answer the questions.

1. Circle the Coulter Ranch. How many miles from town is it? _____
2. How far from town are the Midas mine and Belle Hill? _____
3. Draw the route Jem took through town to reach Belle Hill.
4. Along which two streets does he travel? _____

5. How far from town is Cripple Creek? _____



Chapters 3-4 Riot! & The Sterlings

6. Why is there such an eerie silence in town? _____
7. How do folks sound the alarm when there's trouble at the mine?
A. They ring a bell. B. A whistle blows. C. They light a signal fire.
8. Who answers the alarm call and breaks up the riot? _____
9. Sheriff Coulter wants to visit the Sterling place for two reasons. What are they?
1) _____
2) _____
10. Why do you think Jem lets Will win the checkers game?
A. Jem wants to be kind to Will, since he thinks Will has such a hard life.
B. Jem wants information. Will might be more willing to talk if he's in a good mood.
C. Jem has beaten Will twice, so he thinks it's fair that Will should win a game.
11. Will's voice drops to a frightened whisper when he shares why the mill has shut down. What is this bad news? _____

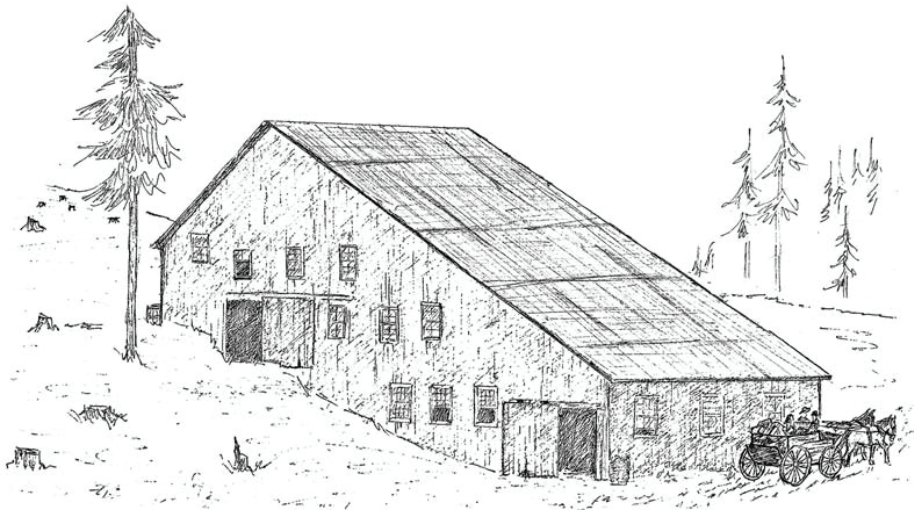
Tunnel of Gold: Dig Deeper

Chopping, splitting, hauling, and stacking stove wood is hard work for a boy, especially when it must be done by hand. List other chores in 1864 (inside and outside) that might have taken more time back then than chores do today.

Why do you think chores in 1864 took longer to accomplish than similar chores today?

Coloring Fun

The Midas Mine Stamp Mill



What happens to gold ore when it goes inside the stamp mill? (See p. 20 of this guide.)

Tunnel of Gold: Vocabulary Chapters 1-4

Circle the correct meaning for the underlined words.

1. "Are you coming?" Jem hollered toward the ramshackle ranch house he called home.

Ramshackle means . . . A. broken down B. large and roomy C. sturdy

2. "Nathan!" Jem asked. "Where are you going in that getup?"

Getup means . . . A. a wagon B. an outfit C. a pair of shoes

3. "I don't care a whit about your firewood business," Ellie told him.

Whit means . . . A. a spoonful B. a tiny bit C. a large amount

4. If Pa ever found out Jem had been woolgathering while driving the team, his days of using the wagon would be over.

Woolgathering means . . . A. going after sheep B. staying alert C. daydreaming

5. Pa dismounted and yanked his rifle from its scabbard.

A scabbard is . . . A. a leather covering B. a wooden box C. a storage bin

6. Jem smelled the sharp bite of iodine just before a gob of cotton touched his head.

Iodine is . . . A. warm medicated water B. an ice pack C. medicine to clean wounds.

Setting: Where & When

The setting of a book tells where and when the story takes place. In the first four chapters, Jem, Ellie, and Nathan find themselves in a few different places.

Answer these questions about the setting.

1. The book opens with Jem sitting in the wagon waiting for Nathan. Where is he?

A. near Cripple Creek C. in town
B. at the bottom of Belle Hill D. on the ranch

2. Jem drives the wagon down the streets of _____.

3. Where is Jem headed first with his firewood load?

A. to the Wilsons' house in town
B. to the Morrisons' house up on Belle Hill
C. to the Sterlings' home on Belle Hill

4. In what season (spring, summer, fall, winter) is this book set? (Circle your answer.)

5. What year is it? _____

6. If the Gold Rush began in 1849, how many years have passed? _____

the GOLD RUSH




1864

1861

1860



1852

Spring

1851

December

September



1850

December



April

January

1849

December

1848

January



Tunnel of Gold: Gold Rush Time Line

As much as Jem wished the town could return to the way it was during the “boom days” of the Gold Rush, the mining of easy placer gold from the creeks and hillsides was over. Pa often reminded Jem that the future of Goldtown lay in hard-rock, underground mining. That meant the Midas mine. ~ Chapter 2

A time line can help you “see” the setting and events surrounding certain happenings in a story. The historical events of the California Gold Rush are mixed up. Can you straighten them out? Cut out the events and paste them on the time line on page 34.

1848

Seven Chinese live in California.

Jan. 1849

“Gold fever” hits the eastern United States.

December 1848

President James Polk confirms the discovery of gold.

1860

Abraham Lincoln is elected president of the United States.

1861

The Civil War begins.

December 1849

There are 40,000 miners in California.

1852

Foreign Miner’s Tax passed, targeting 20,000 Chinese miners.

January 1848

James Marshall discovers gold at Sutter’s Mill on the American River.

Spring 1851

Placer gold begins to run out. New mining techniques are developed.

1864

The setting for *Tunnel of Gold*.

April 1849

30,000 “49ers” line the Missouri R., waiting to load up and go West.

September 1850

California is admitted into the Union as the 31st state.

December 1850

There are now 660 Chinese in California. There are 50,000 miners.

Tunnel of Gold: Hard-Rock Miners

The Midas mine is a hard-rock mine. The gold is embedded (stuck) in the quartz ore. Shafts are dug deep underground using blasting powder or (in later years) dynamite. It takes many men, mules, and equipment to bring the gold ore to the surface. Some men go to work before sunrise and work all day. Other miners start their shifts at sunset and work all night. Day and night does not matter underground. It is dark and damp. Ground water sometimes leaks in, and they have to pump it out. Some tunnels might be hot, especially if they uncover a hot spring while digging. Air shafts are drilled so there's plenty of fresh oxygen in the lower tunnels.

A miner carries his lunch in a tin pail. To heat it up or have coffee, he hammers a circle of nails into a board and sets his pail on top. He lights a candle under the pail. After lunch, the miner's lunch pail is taken to the surface. That way, the miner can't sneak gold ore out of the mine.

A miner wears a stiffened cloth hat (made from layers of cloth strips held together with glue) to protect his head from falling rubble. He fashions a candle holder around his hat, so both hands are free to drill and swing a pick. A miner might also carry a lantern or fasten candles to the rocky walls.

What does a miner do all day long in eerie underground tunnels? At the beginning of each shift, the miners ride together into the mine then split up into smaller groups. Each group is assigned a different area of the mine and a different task.



Drillers: these men swing heavy picks to loosen ore from the walls or break up large rocks. Some walls are too hard to break with a pick. The drillers hammer a long drill bit into the rock with a sledgehammer, creating deep holes for blasting powder.

Blasters: they make explosives by stuffing paper tubes with gunpowder and inserting a fuse. The blaster puts the tube in the holes the drillers make then yells, "Fire in the hole!" Everybody runs for cover. Each explosion extends the mine three feet. Later, dynamite replaced black powder explosives, and it could blast away much more rock.

Muckers: these miners shovel piles of broken rocks into ore carts. Mules pull the carts to the surface along iron tracks, or men can push them.

Tool nippers: young boys (at least ten years old) often work in the mines. The boys look for and pick up broken tools so the blacksmith can repair them. They also light candles under the tin pails so the miners' food will be warm by lunchtime.

Tunnel of Gold: Hard-Rock Miners

At the end of the shift, miners are transported out of the mine. They change out of their sweaty clothes. Why? First, to prevent illness when they hit the cool, outside air. Second, so the mine owner can make sure a miner is not smuggling out gold ore.

Sadly, there is always a chance a miner might not return home. Nearly every week, someone is injured or killed underground. Falling rocks, explosions, falling down a mine shaft, or a mine cave-in are some of the ways a miner can lose his life. If there is an accident, the mine's loud steam whistle blows. Everyone on the outside drops everything and pitches in to help with the rescue—no matter the danger.

Fire is also a danger. Candles and lanterns are the only sources of light, so miners keep their burning candles far away from the timber beams that hold up the tunnels. If a fire should block the main shaft, the miners will be trapped.

Miners also suffer from miner's consumption, brought on by breathing in all that fine rock dust. They often develop a lingering cough, which can lead to death. Miners work long, hard days in dangerous and unhealthy conditions. No wonder Jem's father says, "I'd rather starve on our ranch than work in a hard-rock mine."

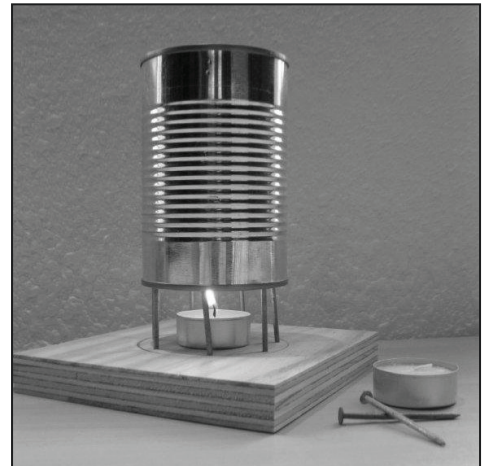


Build a Miner's Stove (Adult supervision recommended)

Materials:

- ❖ a sturdy block of wood at least an inch thick
- ❖ six to eight 2" nails with heads
- ❖ a hammer
- ❖ a pencil
- ❖ a small, flat tea candle
- ❖ a small tin can half full of cool water

(You can also try heating hot chocolate or tea.)



What to Do:

1. Stand the tin can on the block of wood and draw around it to mark the size of the circle.
2. Pound the nails into the block of wood just inside the circle outline of the can.
3. Place the tea candle in the middle of the circle of nails. Light the candle.
4. Heat the can of water over the candle flame until warm to the touch. How long did it take? _____ Think how long it must have taken a miner to heat his coffee.

Tunnel of Gold Chapters 5-8

Chapters 5-6 Mine Trouble & Cripple Creek

1. Name three “ghost” town gold camps that were once home to thousands of miners.

2. “*What’s eating Pa?*” Jem wonders at the top of page 38. What clues show you that Jem’s father is angry and upset? (This is “showing” the character’s feelings.)

3. Aunt Rose gave Jem the whole week off to recover from his head injury. Why isn’t Jem enjoying the opportunity to pan gold every day?

A. He can’t stop thinking about the Midas mine shutting down, and is worried about what might happen to Goldtown.

B. His head hurts so much he can’t hang onto his gold pan.

C. Strike keeps interrupting Jem’s panning to ask for coffee.

4. In what has Strike been keeping his coffee grounds? _____

5. What is the name of the new boy Jem meets at the creek? _____

6. True or false? When Jem learns the new boy’s father is the co-owner of the Midas mine, he doesn’t want anything to do with him and tells him to “get lost.”

Chapters 7-8 Gold Fever & Branding Irons

7. Chad refuses to give up until he finds some _____.

8. True or false? A Foreign Miner’s Tax was a fee Chinese miners had to pay in order to work a mine in California.

9. Do you think this was a fair law (circle one)? YES NO Why or why not?

10. What is the name of the horse Chad rode out to the creek? _____

11. To whom does this horse belong? _____

12. What does Jem teach Chad to do? _____

13. What does Chad say he will teach Jem? _____

14. In the box to the right, draw the Coulter family’s brand mark.

15. What does this brand stand for? _____



Tunnel of Gold: Dig Deeper

Jem Coulter and Chad Carter become friends right away. Chad wants to learn how to pan for gold, and Jem is glad to teach him. Read Jem's instructions for panning gold on page 51 of *Tunnel of Gold*. Now, think of something *you* know how to do. Write a "how to" paragraph for teaching someone how to do it. Examples: make a sandwich, make your bed, clean the bathroom (or another chore), build a snow igloo, etc. Don't forget words like "first, then, and finally." These transition words help your paragraph flow.

Coloring Fun

Strike-it-rich Sam and His Gold Rocker



Strike is trying to work his gold rocker with only one good arm. That's hard, since it takes two good arms. Do you remember why Strike has a broken arm? (See pp. 42-43 in the book.)

Tunnel of Gold: Vocabulary Chapters 5-8

Match the underlined words with their meanings. Page numbers are given where the word is first used.

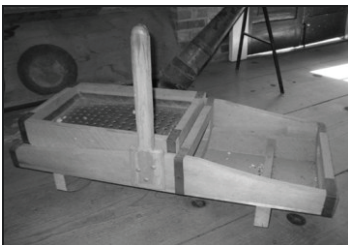
- | | |
|--|---|
| ___ 1. an <u>eavesdropper</u> (p.36) | A. a signal or prompt |
| ___ 2. to <u>telegraph</u> (p.37) | B. to look beyond the ordinary for new ideas |
| ___ 3. <u>cussedness</u> (p.47) | C. someone who spies on others to learn something |
| ___ 4. “ <u>widen my horizons</u> ” (p.52) | D. people who scrounge the leftovers from others |
| ___ 5. <u>scavengers</u> (p.55) | E. tied or secured a rope around a saddle horn |
| ___ 6. <u>dallied</u> (p.64) | F. to send messages by means of wires |
| ___ 7. a <u>frenzy</u> (p.65) | G. a way of rushing around in a wild manner |
| ___ 8. a <u>cue</u> (p.65) | |

Character Clues

Can you guess the *Tunnel of Gold* character from the clues below?

1. My father is part owner of the Belle mine, but I don't live anywhere near it. I live a long way south of Goldtown on a cattle ranch. I have two brothers and two sisters.

2. I would rather pan for gold than do anything else. I taught my new friend how to pan for gold, but he found nothing but fool's gold. _____
3. I live in a big house up on Belle Hill. When the Coulter family stopped by, I had to take some of the children up to the playroom and show them my toys. I like to sing, but people tell me my singing sounds like screeching. _____
4. I have a reputation of being a sneak and an eavesdropper. I like to be the first to know all the news. Jem Coulter and I do not get along. _____



Web Fun

Watch how to use a rocker (cradle) (30 seconds):

GoldtownBooks.com/adventures/#tunnel

Tunnel of Gold: Branding Calves

An important ranch job is branding calves. First of all, the ranch owner creates a symbol or “brand” for his ranch. Each brand is unique (one of a kind), and each owner registers his brand. Then no one else may use it. The brand is molded out of iron and placed on the end of a long iron rod. The Coulters use this brand:

E

The brand is heated in a fire out on the range until the iron turns red-hot. Now it is ready to use.

It’s not easy to separate the babies from their mothers. The calves don’t like it at all (and neither do the mama cows). There is so much noise you can’t think straight—cows mooing and calves bellowing. Once the calves have been sorted out (“cut”), the ranch hands lasso them and drag them to the fire. The calf is held down good and tight. Then one cowhand takes the branding iron out of the fire and pushes it into the calf’s backside. It smells terrible, but it doesn’t hurt the calf as much as people think. Cattle have thick hides. The



calf is let up, and he races back to his mama. He doesn’t act like he’s just been branded.

Why do ranchers go to all this trouble a couple times a year? A burned mark in the animal’s hide is the only way to tell which rancher the cattle (or horses) belong to. Both back then and in some areas today, there are no fences on the thousands of acres of rangeland. Sometimes all the ranchers’ cattle get mixed in together. But that’s okay. At roundup, the ranchers sort everybody’s cattle out and give them back.

Branding also keeps rustlers (thieves) from getting too bold. Just like a license plate on a car shows ownership, so does a brand on livestock. If somebody is caught with a steer, the sheriff can look at the brand and identify its owner. This also works well with horses. And since horse-stealing was a hanging offense in the 1800s, it kept many

potential thieves honest or very careful about which horses they tried to steal.

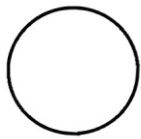
An unbranded steer or horse is “fair game” and may be rounded up by anyone. Cattle rustlers devised ingenious ways to change brands in order to steal livestock. They often burned their new brand over the top of the rancher’s original brand, changing one small detail to make it look like a new brand.



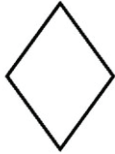
A cowboy brands a calf.

Tunnel of Gold: Create Your Own Brand

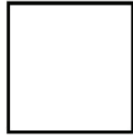
Ranchers come up with interesting symbols to use as brands. Here are a few standard brand symbols, to which other markings can be added to create a unique brand:



circle



diamond



box



slash



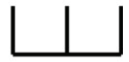
bar



rail

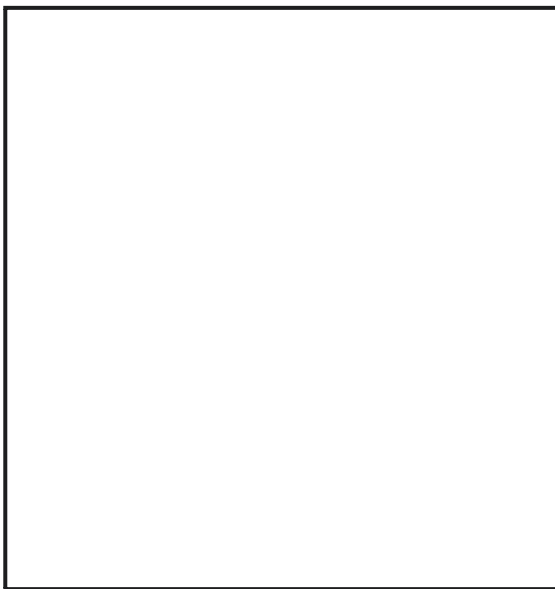


cross



"lazy"

If you put a curve on a rail, you have a rocking brand. Add wings to a letter and you have flying. Add short legs and you have walking. Put a bar with the letter S and you have the Bar S. Take any letter and draw it diagonally, and you have tumbling. Lay a letter on its back and it's lazy. You can have half diamonds and half circles and half boxes, or any combination of any letters and symbols. Give it a try. Use your imagination and come up with your very own brand mark for your ranch.



Name of Brand:



Name of Brand:

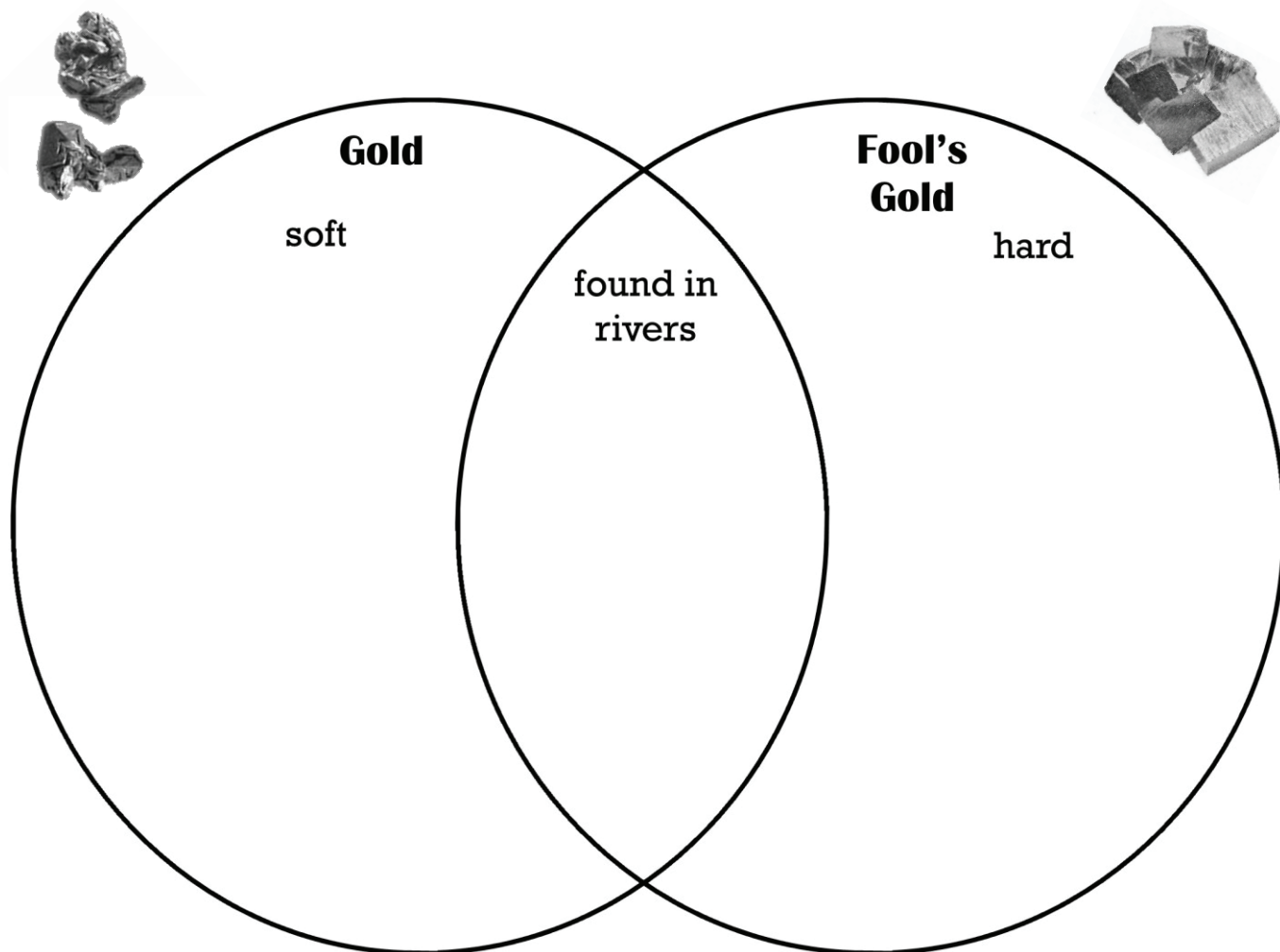
Web Fun: Watch cowboys brand calves just like Jem and Chad tried to do at:

GoldtownBooks.com/adventures/#tunnel

Tunnel of Gold: Fool's Gold or Real Gold?

Chad knows a lot about cattle, but he doesn't know much about gold. He thinks he has a gold nugget, when Jem knows it's only a chunk of fool's gold—iron pyrite. Can you tell the difference? The words below are listed in pairs and describe either real gold or fool's gold. Can you figure out which is which? (Use the Internet to learn the difference if you need help.) Write the words in the correct places on the Venn diagram below. There are two ways fool's gold and real gold are alike. Write those two words where the circles intersect. Three have been done for you as examples.

heavy	iron pyrite	golden luster	found in rivers
lightweight	pure element	brassy yellow	get folks excited
shatters	sharp edges	soft	crystals
flattens	rounded edges	hard	nuggets



Make Cook's Doughnuts (Adult supervision needed.)

Doughnuts are an all-American dessert food. Some people say doughnuts were invented by Dutch settlers after they arrived in North America. They must have liked desserts, for they also made popular other tasty treats like cookies, apple pie, and cobblers. A recipe for doughnuts showed up as early as 1803 in an English recipe book, under the index for "American food."



The word "doughnut" was first used in 1809. In his *History of New York*, Washington Irving wrote ". . . balls of sweetened dough, fried in hog's fat, and called doughnuts."

The greasy treat could be twisted into shapes and fried in lard (fat). One fellow, Hanson Gregory, says he invented the "ring" doughnut aboard a ship in 1847. He didn't like the uncooked middle of doughnuts, so he punched a hole in the center of the dough with the ship's pepper tin. He then passed his idea on to his mother. By the middle of the 1800s doughnuts looked and tasted like today's doughnuts.



Ingredients

- ✓ 1 cup sugar
- ✓ 4 tsps. baking powder
- ✓ 1 tsp. salt
- ✓ 2 eggs
- ✓ 1/4 cup melted butter
- ✓ 1 cup milk
- ✓ 4 cups flour (more if dough is sticky)
- ✓ 1/2 tsp. nutmeg

Other materials

- ✓ large, heavy skillet
- ✓ oil for frying (Cook used lard in 1864)
- ✓ tongs to remove doughnuts from oil
- ✓ candy/fat frying thermometer
- ✓ a rack or paper towels
- ✓ cinnamon/sugar mixture for tops
- ✓ doughnut cutter (or biscuit cutter)

1. Mix the sugar, baking powder, salt, and nutmeg.
2. Add eggs, milk, and melted butter. Beat well.
3. Add 3 cups of the flour, beating until blended. Add 1 more cup of the flour. The dough should be soft and sticky, but firm enough to handle.
4. Cover dough with plastic wrap and chill for **at least** 1 hour.
5. Remove dough from the refrigerator (an ice box in 1864).
6. Heat about 1" of oil to 360° in a large skillet or pot.
7. Working half the dough at a time, roll out on a floured surface to about 1/2" thickness. Cut out using doughnut cutter.
8. Gently drop the doughnuts into the hot oil. Using the tongs, flip them over as they puff. Keep turning as they cook (2-3 minutes). They should be golden brown.
9. Using tongs, remove doughnuts from the hot oil and set them on a rack or paper towels to cool.
10. Sprinkle with a cinnamon/sugar mixture or with powdered sugar.
11. You can make a glaze frosting by mixing 1 cup powdered sugar, 2 Tbs. melted butter, and a little bit of milk until smooth. You can melt chocolate chips and mix them in for a chocolate glaze.

Tunnel of Gold Chapters 9–13

Chapters 9-10 Aftermath & Scavengers and Miners

1. What lesson did Jem learn about branding calves?
 - A. to hang on to the calf tighter next time
 - B. to let his father (or another adult) help him
 - C. to hold the hot branding iron himself instead of letting Ellie hold it
2. Which of Jem's words below helped Will lose his anger over his missing horse?
 - A. "You have a good horse, Will."
 - B. "I didn't take Will's horse. I just hitched a ride."
 - C. "You could have taken a good guess."
3. Aunt Rose says to the kids, "You're as jumpy as frogs on a hot griddle." This is a figure of speech. What does she mean?
 - A. "You kids have too much energy."
 - B. "You kids are nervous about something."
 - C. "You kids are up to no good."
4. Who is the most important grown-up in Goldtown? _____
5. Why does Mr. Sterling want the Belle diggings back? _____

Chapter 11 Scavenger Diggings

6. Who are two early-morning callers at the Coulter ranch?

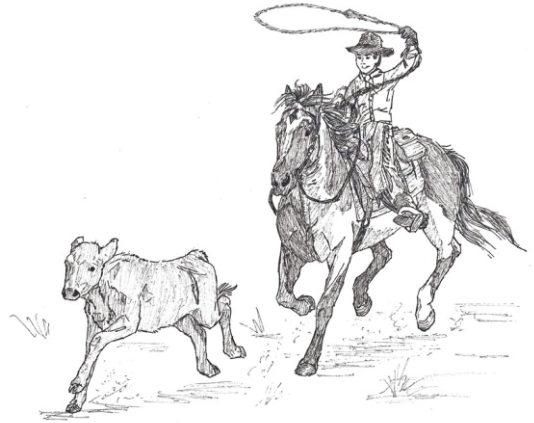
7. What does Mr. Carter want the sheriff to do?
 - A. arrest the Chinese for trespassing in Mr. Sterling's mine
 - B. talk to Mr. Sterling about his rioting miners, who are tearing up the town
 - C. go with him to talk to the Chinese miners about selling their claim
8. What is Chad's punishment for taking Will's horse without asking?

Chapters 12-13 Taking Sides & From Bad to Worse

9. Circle the reasons the Chinese miners refuse to sell their scavenger mine.
They have no place else to go. • They are finding a lot of gold. • They pay their tax.
Mr. Carter didn't offer them enough money. • They need the mine to live.
10. Whose side does Chad's father take? Sheriff Coulter's • Earnest Sterling's
11. Who follows Jem into town? _____

Tunnel of Gold: Dig Deeper

At first, Pa doesn't realize the boys have tried to brand the calves. Jem is relieved, since the branding did not turn out like he hoped. Later, Pa sees Jem's burned sleeve, and they have a talk. If Pa had never seen the sleeve and had not caught Jem, would Jem have confessed, or would he have stayed quiet? What do you think would have happened if he confessed? What if he'd kept quiet? (Hint: There are no right or wrong answers).



What might have happened if Jem had not been caught, and he kept quiet about it?

What might have happened if Jem confessed right away, instead of hoping his father didn't notice? _____

Finally, what would *you* do in a similar situation? Would you confess? Would you keep quiet? Explain your answer. _____

Tunnel of Gold: Vocabulary Chapters 9-13

Circle the correct meaning for the underlined words.

1. Jem felt sudden compassion for the calf.

Compassion means . . . A. fear B. coldness C. sympathy

2. It was the mildest rebuke Jem had ever received from Pa.

Rebuke means . . . A. praise B. scolding C. compliment

3. "Ellie and I've crawled around inside dozens of coyote holes," Jem told Chad.

A coyote hole is . . . A. a coyote's den B. a mining hole C. an underground spring

4. Respect for Chad's father rose in Chad. Buy the mine? What a jim-dandy idea!

Jim-dandy means . . . A. a great idea B. a cautious idea C. a terrible idea

5. Pa never paid any mind to his older sister's attempts to enforce table etiquette.

Etiquette is . . . A. impoliteness B. fancy acting C. manners, customs

6. "Mr. Sterling has worked himself into quite a tizzy," Mr. Carter explained.

A tizzy is . . . A. a furious panic B. a sleepless state C. a fearful uncertainty

Story Problems

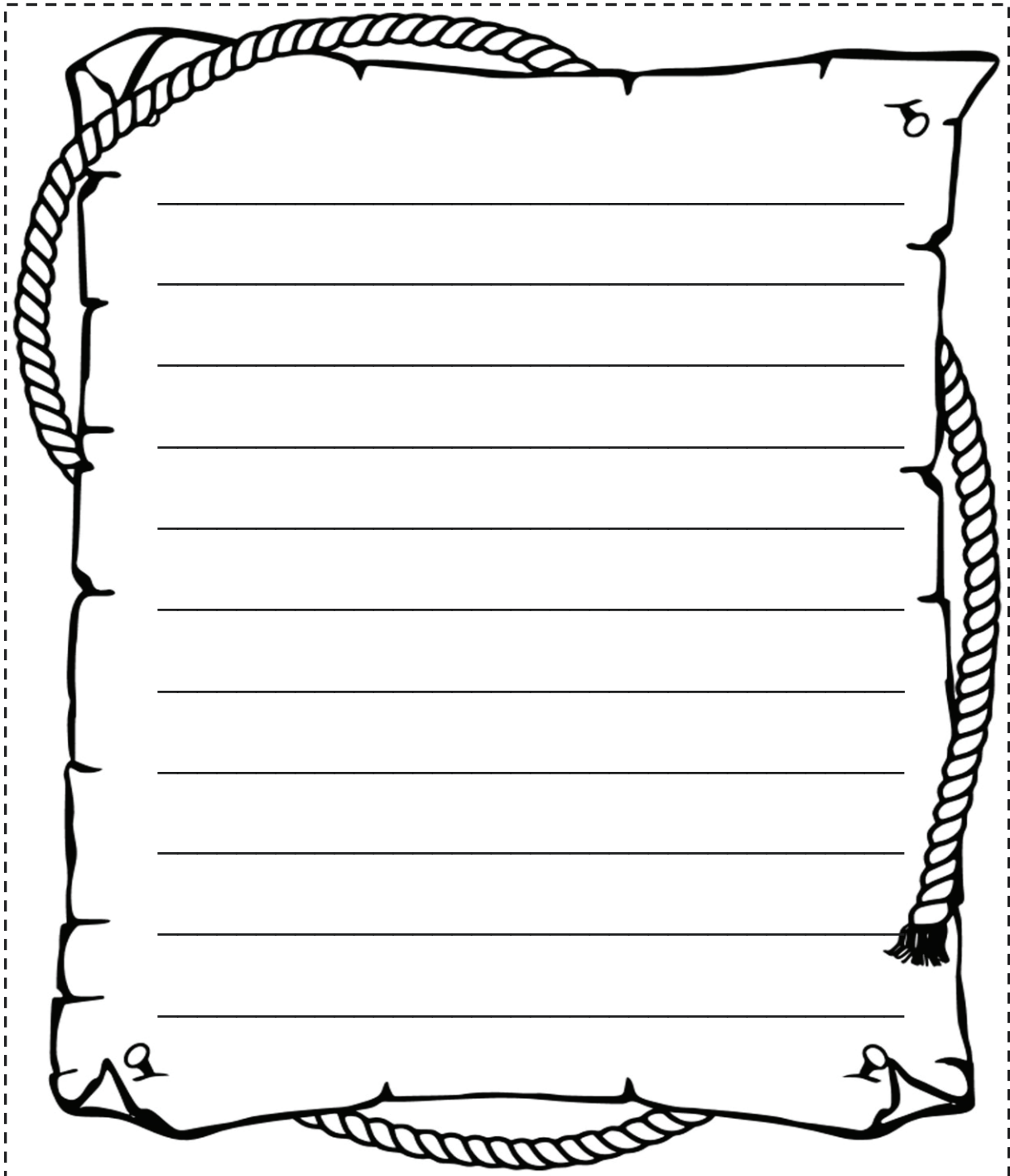
We're not talking about math story problems, but about one of the elements of a fiction story: **THE PROBLEM**. Characters need to face problems . . . and solve them when they can. Listed below are some of the story problems in *Tunnel of Gold*. If it is a problem that the main character, Jem, might be able to eventually solve, write "yes." If you think it is a problem too big for Jem to solve, write "no."

1. Jem's customers need their stove wood. _____
2. Will is a snoop and a sneak and hard to get along with. _____
3. The Midas mine has run out of gold. _____
4. The Coulter calves need to be branded. _____
5. The Chinese miners need to give up their claim to the Belle mine. _____
6. Chad wants to pan some real gold. _____
7. Jem wants to learn what is going on with the Midas mine and the air vent. _____
8. Jem sees his friend Wu Shen being beat up by the town's bullies. _____



Tunnel of Gold: Bible Verse Mini Poster

Jem has memorized a number of Bible verses from the book of Jeremiah. He needs to practice his penmanship before school starts in the fall. Look up Jeremiah 29:11 and Jeremiah 33:3. (Jem remembers these verses later in the story.) Choose one of these verses and neatly practice *your* penmanship. Color the mini poster, cut it out, and keep it handy. Memorize the verse you copied.

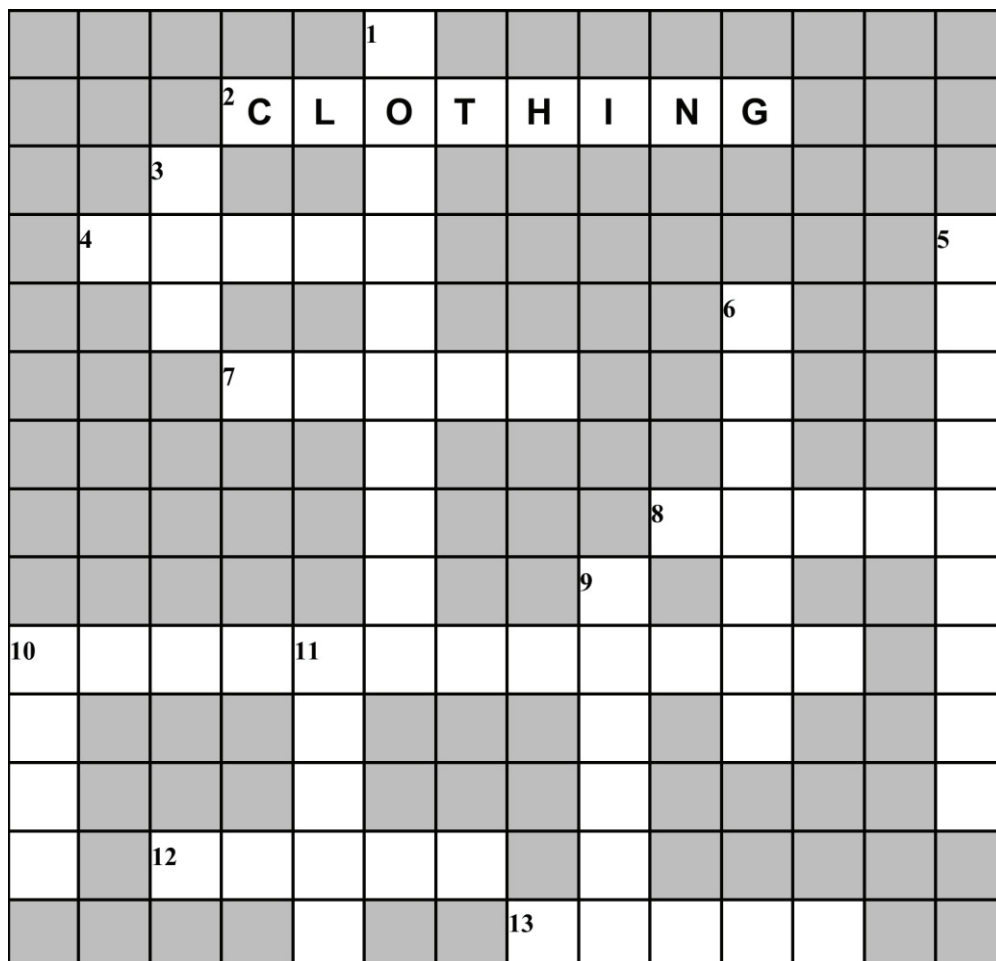


Tunnel of Gold: Gold in the Bible



Gold is mentioned in the Bible 417 times. Here is a crossword puzzle to help you become familiar with places where gold is mentioned in the Bible. Look up the verses and fill in the blanks.

(King James Version is recommended.)
The first one has been done for you.



ACROSS

2. Psalm 45:13 - Her _____ is wrought (interwoven) with gold.
4. Esther 8:15 - Mordecai wore a great, golden _____
7. Rev. 21:21 - The streets are pure gold, transparent as _____
8. Prov. 17:3 - A furnace is for gold, but God tests the _____
10. Psalm 119:127 - I love your _____ more than gold.
12. Daniel 3:1 - Nebuchadnezzar built an _____ of gold.
13. Acts 3:6 - _____ had no silver or gold.



DOWN

1. I Cor. 3:12-14 - If anyone builds a _____ with gold . . .
3. Exodus 37:1-2 - The _____ was overlaid with gold.
5. Exodus 3:22 - The Israelites took gold and jewelry from the _____
6. Rev. 21:21 - The _____ of heaven are pure gold.
9. Daniel 5:3 - They brought in the golden vessels from the _____
10. Exodus 32:3-4 - Aaron fashioned a _____ from gold.
11. Joshua 7:20-21 - _____ took gold from the battle spoils.

Tunnel of Gold Chapters 14–18

Chapters 14-15 Fight! & The Belle Mine

1. Why are the boys beating up on Wu Shen?
 - A. They hate all Chinese.
 - B. They want to give Shen a warning to give up the claim.
 - C. Wu Shen attacked them first.
2. Who surprises Jem by coming to his aid during the fight? _____
3. Jem, Ellie, and Nathan pick up a couple of passengers on their firewood route.
Who are they? _____
4. How many horses are pulling Jem's firewood wagon today? _____
5. Jem will drop Shen off at: China Alley • the Midas mine • the Belle mine
6. Who shows up and scares Jem half to death? _____

Chapter 16 Will's Big Plan

7. Will joins the rest of the kids in the mine because . . .
 - A. he doesn't want to miss out on the excitement.
 - B. he wants to tell Jem his plan to get the Chinese out yet save the sheriff's job.
 - C. he wants to tell Jem that the Chinese miners have accepted Mr. Carter's offer.
 - D. he feels badly about Wu Shen being bullied and wants to help him.
8. True or false (circle one)? Gunpowder, black powder, and blasting powder are all names for the same explosive.
9. Circle the people caught in the mine explosion: the sheriff • Will Sterling
Wu Shen • Jem • Ellie • Strike • Chad Carter • Canary
10. Which child is badly injured? _____

Chapters 17-18 No Way Out & The Price of a Mine

11. What does Jem ask Ellie to do to keep her mind off how scared she is?
 - A. pray
 - B. recite Scripture
 - C. sing
 - D. care for Chad
12. Who is Jem named for? _____
13. Jem wakes up cold and shivering. Something is very wrong. What is wrong?
 - A. A new rock slide is falling.
 - B. The water is rising.
 - C. The air is getting stale.
14. What new work does Wu Shen's father find that takes him away from Goldtown?

Tunnel of Gold: Dig Deeper

To fight . . . or not to fight? Jem chooses to jump into the scuffle and rescue Wu Shen. If Will had not stepped in, what do you think would have happened to . . .

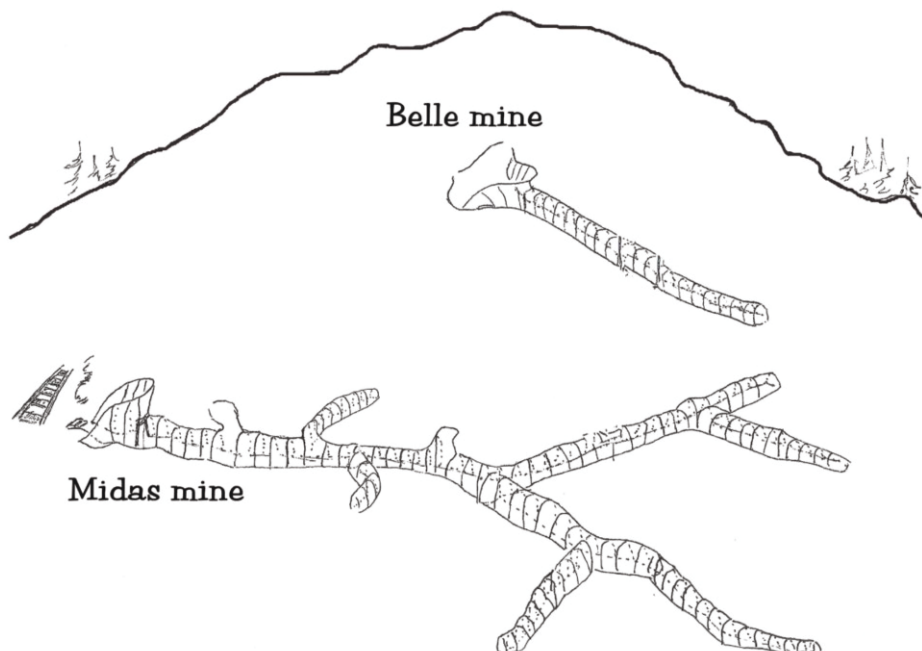
Jem _____

Shen _____

Do you think there was any way Jem could have avoided this fight and still saved Shen from being bullied? _____ If you answered yes, how could Jem have done it?

If you answered no, explain why not. _____

Coloring Fun: The Belle and Midas Mines



This is what the mine looks like during *Tunnel of Gold*.

Compare this map with the one on page 56 in the book. What is missing?

Circle where you think the explosion took place and trapped the kids. Draw trees on the hill. Draw the hole where you think the mine roof caved in.

Tunnel of Gold: Vocabulary Chapters 14-18

Look at the clues and see if you can find nine new words in this word search puzzle. Words can be vertical (up and down), horizontal (side to side), or diagonal. Words might also be spelled backwards. Use the word box if you get stuck.

- ❖ to trade or exchange
- ❖ a ghost or phantom
- ❖ a Chinese pigtail (or ponytail)
- ❖ to keep or protect; to save
- ❖ the edge or outskirts
- ❖ to expel; to force someone to leave
- ❖ a fight or quarrel
- ❖ old-fashioned underwear for girls
- ❖ to swerve or turn

V	H	V	G	S	G	J	O	M	M	L	C	O	I	W
F	E	I	T	O	P	D	B	W	Z	K	P	T	O	Y
J	R	E	N	D	W	A	F	W	E	G	N	I	R	F
O	Q	Z	R	O	N	S	O	J	G	J	O	R	W	K
L	K	P	O	S	F	R	A	Y	E	E	X	I	V	P
B	C	T	H	D	B	C	W	R	R	U	Q	O	A	K
L	G	E	C	W	E	W	O	E	R	E	M	W	D	D
O	E	R	C	I	N	J	Z	N	K	U	S	I	Z	C
O	H	C	N	H	V	O	X	S	S	Q	D	D	C	Q
M	D	Z	C	B	W	E	B	P	Z	E	E	G	Y	K
E	S	E	S	P	T	Q	U	D	C	T	R	F	U	M
R	Z	W	D	X	S	X	R	P	W	T	G	V	X	B
S	E	N	Q	K	T	X	L	M	L	M	T	N	E	O

WORD BOX

evict • swap • fray • queue • fringe • veer • conserve • bloomers • banshee

Plot Events

Every story needs events that take the characters on a journey to solve the story's problem (or come to terms with it). These events from *Tunnel of Gold* are mixed up. Can you put them in order from first to last? Number them from 1 to 8. (The first one and the last one have been done for you.)

_____ The mine collapses on the kids after Will sets off the black powder.

___1___ Jem delivers firewood to the Morrisons but doesn't get paid.

_____ Pa, Mr. Carter, Chad, and Jem make a visit to the Belle diggings.

_____ Jem gets caught in a miners' riot and becomes injured.

_____ Jem and Nathan light candles so the kids don't have to sit around in the dark.

_____ Jem sneaks a real gold nugget into Chad's pan.

___8___ Jem finds a hole in the ceiling of the collapsed mine, and Ellie goes for help.

_____ Jem comes to Wu Shen's rescue and ends up fighting the bullies.

The Transcontinental Railroad

Shen cocked his head, looking puzzled. "I do not believe a track can stretch from east to west. But Father say pay is good to cut through mountains. Many Chinese go. It is honorable work." He shrugged. "Maybe they make this trans-con-ti-nen-tal railroad happen." ~ Ch. 18



A railroad from East to West, connecting the entire United States! This was the dream of two mighty railroad companies: the Union Pacific and the Central Pacific. It was a race to see who could lay the most track. The California-based RR, the Central Pacific, began work first. Governor Stanford broke ground in Sacramento in January 1863. They had a head start out West. The Union Pacific RR had to compete with the War Between the States for workers, rails, railroad engines, and other supplies. They waited until the conflict was over in 1865 to begin their race in Omaha, Nebraska.

The Central Pacific had its own set of problems. Even with a head start through the flat and easy Central Valley, construction slowed down in the foothills and nearly came to a standstill in the Sierra Nevada. Tunnels were constructed through the Sierras by blasting the granite slopes using black powder. Workers drilled holes with sledgehammers, stuffed the black powder in, and blew it up—about a foot a day. It was similar to blasting mines in gold country. A lot of deaths came from avalanches and blasting.

The Central Pacific hired thousands of Chinese, whom they at first thought were too weak and fragile for this type of work. But the Chinese proved them wrong. They were steady, untiring workers—the best they'd ever seen. They worked for between one and three dollars a day, doing *very* dangerous work. The Chinese blasted fifteen tunnels for the Central Pacific. The longest was the Summit Tunnel, about 1,600 feet.

Most of the work consisted of laying track and driving the spikes. Others strung telegraph lines. Cooks prepared meals and clerks kept the accounts. Engineers, carpenters, blacksmiths, and surveyors were busy day and night. All work was done by hand: shovels, picks, black powder, wheelbarrows, ropes, mules, and horses.

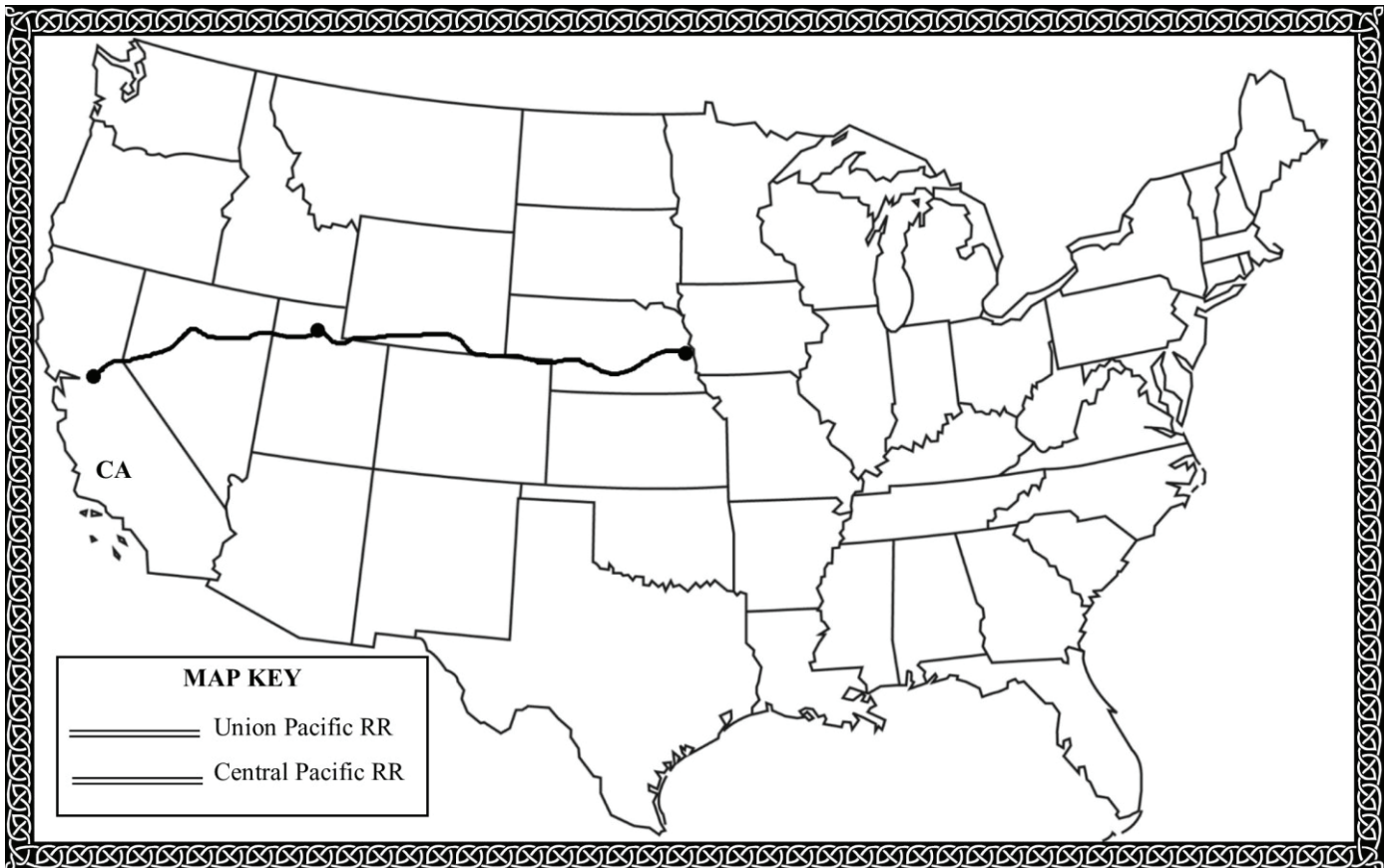
On May 10, 1869, Leland Stanford drove the "golden spike" that connected the Union and Central RR tracks in Utah. The train from the West met the train from the East, and the transcontinental railroad was born. After completing their railroad work, many Chinese worked for other railroads, some took their money and returned to China, and others sent for their families and settled in California. Most settled in the San Francisco Bay Area.



The Great Railroad Race: The Route

On the map below, the route of the transcontinental railroad is laid out. Using an atlas or an Internet resource, do these things.

1. Label Sacramento, California.
2. Label Omaha, Nebraska.
3. Label Promontory, Utah.
4. Draw a golden spike where the train routes met.
5. Label the states the railroad passes through. (Use postal abbreviations. See example for CA.)
6. Using a brown colored pencil, shade in the location of the Sierra Nevada range.
7. Color the route of the Central Pacific RED and the route of the Union Pacific BLUE.



The Great Railroad Race: Calculator Math

The race to lay track was a serious one for the Union Pacific and Central Pacific railroads. The U.S. government gave the companies land and money based on how much track they laid over the land. Each railroad company rushed to lay track and claim their miles.

1. The Union Pacific laid 1,087 miles of track. The Central Pacific laid 690 miles of track.

Who won the great railroad race? _____

By how many miles did they win? _____

2. The new transcontinental railroad stretched from Omaha, Nebraska, to Sacramento, California. Using the miles from #1 above, how many total miles did the new route stretch? _____

3. The plan originally stated that fifty miles of track must be laid the first year. If they continued with this plan, about how many years would it have taken the Union and Central railroads to build its section of the track? _____

(Divide the total number of miles of track from problem #2 by 50)

4. It actually took only six years to finish the unbroken line of track from East to West. They could lay a mile or more of track a day on an “easy” day. The Central Pacific railroad went a little crazy toward the end. They laid ten miles of track in one day! If they could have kept this up, how many miles of track could they have laid in seven days? _____



Online Fun

Follow the transcontinental railroad construction by going to the Goldtown Activities page and then clicking over to the Great Railroad Race website.

GoldtownBooks.com/adventures/#tunnel



ANSWER KEY: TUNNEL OF GOLD – 1

Page 31: Chapters 1-4

Chapters 1-2

1. 2 miles
2. 1/2 mile
3. route should follow Pacific St.
4. Pacific St. and Belle Hill Rd.
5. 1 mile

Chapters 3-4

6. The stamp mill has shut down.
7. B
8. the sheriff and his men
9. 1– He wants to tend Jem.
2– He has mine business with Ernest Sterling.
10. B
11. There is no more gold in the mine.

Page 32: Coloring

Gold ore gets crushed.

Page 33:

Chapters 1-4

Vocabulary

- | | |
|------|----------------|
| 1. A | <u>Setting</u> |
| 2. B | 1. D |
| 3. B | 2. Goldtown |
| 4. C | 3. B |
| 5. A | 4. Summer |
| 6. C | 5. 1864 |
| | 6. 15 years |

Page 34: Gold Rush Timeline

From the bottom and working up:

- Jan. 1848: James Marshall discovers gold at Sutter's Mill on the American River.
- Dec. 1848: Seven Chinese reside in California; President James Polk confirms the discovery of gold.
- Jan. 1849: "Gold fever" hits the eastern U.S.
- April 1849: 30,000 "49ers" line the Missouri River, waiting to load up and go West.
- Dec. 1849: There are 40,000 miners in California.
- Sept. 1850: California is admitted into the Union as the 31st state.
- Dec. 1850: There are now 660 Chinese in California. There are 50,000 miners.
- Spring 1851: Placer gold begins to run out. New mining techniques are developed.
- 1852: Foreign Miner's Tax passed, targeting the 20,000 Chinese miners.
- 1860: Abraham Lincoln is elected president of the United States.
- 1861: Civil War begins
- 1864: The setting for *Tunnel of Gold*.

Page 39: Chapters 5-8

Chapters 5-6

1. Mud Spring, Cold Water, Savage Camp
2. stalks over to the boys; slaps hat against his leg; his eyes flash; muscle twitches in his jaw
3. A
4. a sock
5. Chad Carter
6. false

Chapters 7-8

7. gold
8. true
9. Answers will vary.
10. Prince Charming
11. Will Sterling
12. pan for gold
13. brand a calf
14. JE
15. Jem and Ellie

Page 40: Coloring

Strike had been left to die, and he broke his arm.

Page 41: Chapters 5-8

Vocabulary

Character Clues

- | | |
|------|----------------------|
| 1. C | 1. Chad Carter |
| 2. F | 2. Jem Coulter |
| 3. H | 3. Maybelle Sterling |
| 4. B | 4. Will Sterling |
| 5. D | |
| 6. E | |
| 7. G | |
| 8. A | |

Page 44: Fool's Gold and Real Gold

GOLD

heavy
flattens
pure element
rounded edges
golden luster
soft
nuggets

FOOL'S GOLD

lightweight
shatters
iron pyrite
sharp edges
brassy yellow
hard

crystals
BOTH: gets folks excited;
found in rivers

Page 46: Chapters 9-13

Chapters 9-10

1. B
2. A
3. B
4. Mr. Sterling (Will's father)
5. He needs an air vent.

Chapters 11-13

6. Chad and Mr. Carter (Chad's father)
7. C
8. He has to ride a scruffy horse.
9. They have no place to go; they pay their tax; they need the mine to live.
10. Sheriff Coulter's
11. Will Sterling

ANSWER KEY: TUNNEL OF GOLD – 2

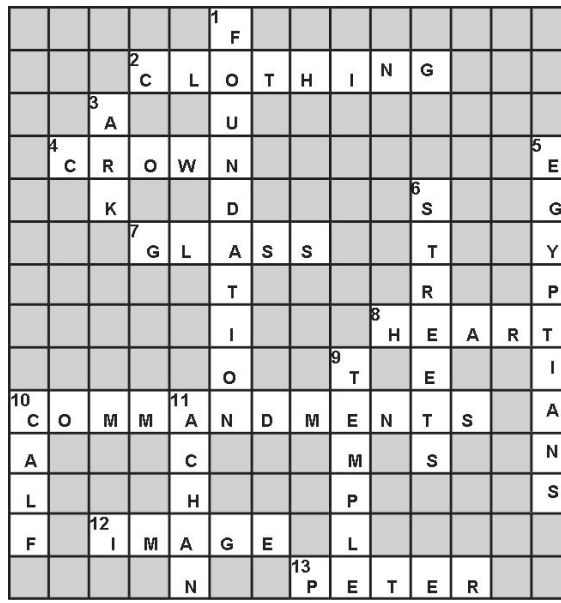
Page 48: Chapters 9-13 Vocabulary

1. C
2. B
3. B
4. A
5. C
6. A

Story Problems

1. yes
2. yes
3. no
4. yes
5. no
6. yes
7. yes
8. yes

Page. 51: Gold in the Bible



Page 52: Chapters 14-18

Chapters 14-18

1. B
2. Will Sterling
3. Chad, Wu Shen
4. two
5. the Belle Mine
6. Will Sterling

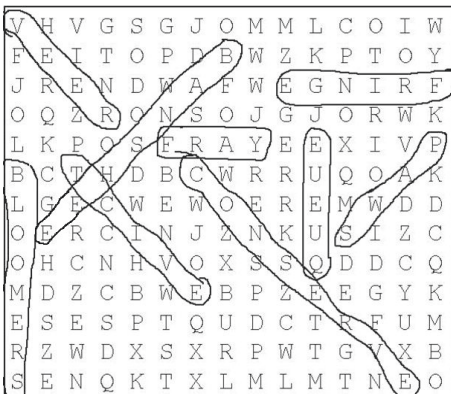
Chapters 16-18

7. B
8. true
9. Will Sterling, Jem, Ellie, Chad Carter
10. Chad
11. D
12. the Old Testament prophet Jeremiah
13. B
14. work on the transcontinental railroad

Page 53: The Belle and Midas Mines

The proposed air shaft is missing.

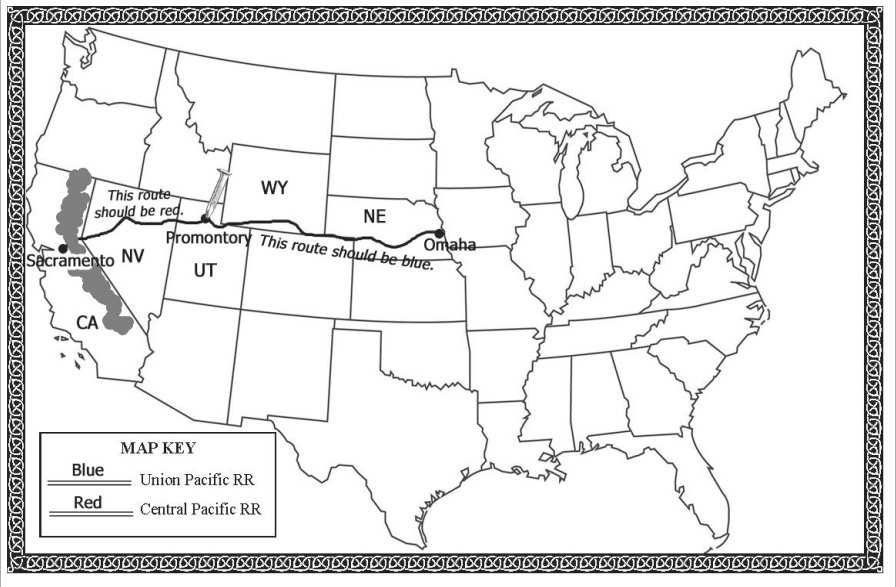
Page 54: Vocabulary Word Search



Chapters 14-18: Plot Events

- 6
- 1
- 4
- 2
- 7
- 3
- 8
- 5

Page 56: The Great Railroad Race: The Route



Page 57: The Great Railroad Race: Do the Math

1. Union Pacific RR won the race. They won by 397 miles.
(1,087 - 690 = 397)
2. Total length of track laid: 1,777 (1,087 + 690 = 1,777)
3. It would take about 35 ½ years.
(1,777 divided by 50 miles a year = 35.54)
4. They could lay 70 miles in 7 days. (10 miles a day x 7 days = 70 miles of track)