Critical Thinking

Hundreds

S	H	O	E	L	A	C	E	S
1	2	3	4	5	6	7	8	9

Tens

P	O	R	C	U	P	I	N	E
1	2	3	4	5	6	7	8	9

Ones

C	O	N	D	U	C	T	O	R
1	2	3	4	5	6	7	8	9

Each letter in the words above has been assigned a digit. "Shoelaces" represents the hundreds digits, "porcupine" represents the tens digits, and "conductor" represents the ones digits.

Use the code to write the word for each number.

Example

1 7 7

S I T

1. 5 2 7

_____

2. 2 5 7

_____

3. 9 7 9

_____

4. 7 2 4

_____

5. 1 5 3

_____

6. 7 2 7

_____

7. 5 7 4

_____

8. 2 2 7

_____

9. 7 5 7

_____

Name _____

Critical Thinking

Estimation How much is a million? Read each situation.
Circle your best guess. Explain what you could do to check
your estimate.

1. If one million kids climbed onto each other's shoulders
they would be:

    a. as tall as a 110-story building

    b. farther up than airplanes can fly

    c. past the moon

_____

_____

2. If you wanted to count from one to one million, it would
take you about:

    a. 12 days

    b. 2 years

    c. 95 years

_____

_____

3. The world's largest peanut measured 4 in. How far would
a million similar peanuts stretch if they were laid end to
end?

    a. 1 mile

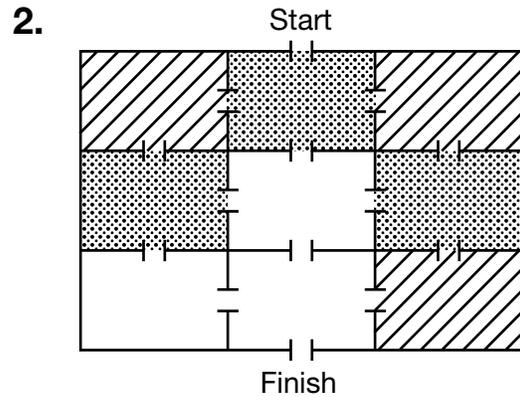   **b.** 63 miles

    c. 40 feet
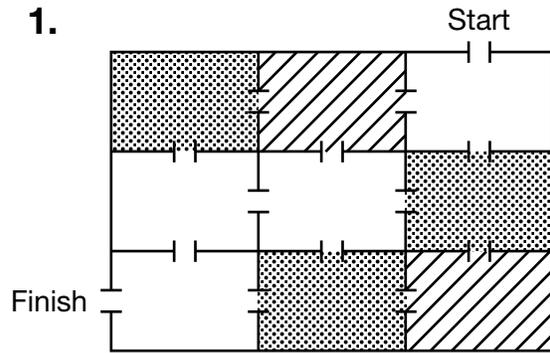
_____
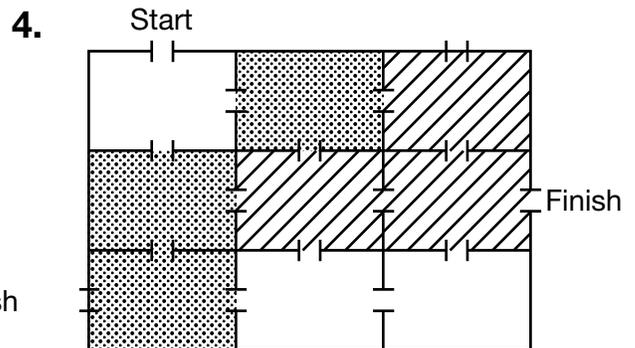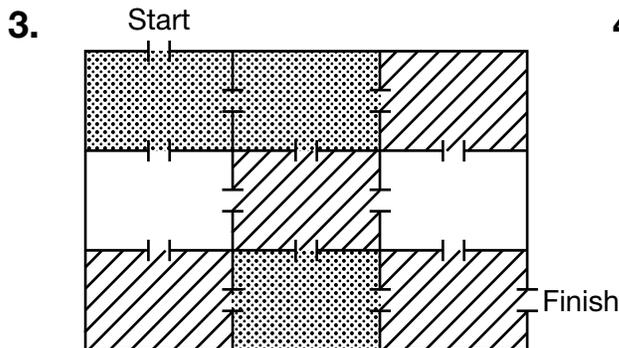
_____

Name _____

Critical Thinking

Find your way through the mazes following the rule above each.

▨ Striped   ▦ Shaded

Rule: If you are on a shaded square, you cannot enter a white square.

1.   Start

2.   Start

Finish

Finish

Rule: You can only enter a striped square from a white square.

3.   Start

Finish

4.   Start

Finish

5. If start and finish were reversed, would the path through each maze
stay the same for each exercise? Explain.

_____

_____

_____

6. Draw your own maze and write a rule for it. Give it to a
classmate to solve.

Name _____

Critical Thinking

Solve the riddles by using the clues given.

1. I am a 3-digit number.

My ones digit is a 7.

I am 570 when rounded to the nearest ten.

I am _____.

2. I am a 2-digit number.

My ones digit is a 6.

I am 90 when rounded to the nearest ten.

I am _____.

3. I am a 4-digit number.

I am greater than 7,500.

My ones digit is a 4.

I am 7,600 when rounded to the nearest hundred.

I am 7,550 when rounded to the nearest ten.

I am _____.

4. I am a 3-digit number.

My ones digit is a 2.

I am 1,000 when rounded to the nearest hundred.

I am less than 960.

I am _____.

5. I am a 3-digit number.

My ones digit is a 6.

I am 560 when rounded to the nearest ten.

I am _____.

Name _____

Critical Thinking

A Chinese one-year calendar has 12 months. It is based on cycles of the moon. It is similar to the calendar you use every day, but only has 29 or 30 days in each month.

Each year is named after one of 12 animals.

Rooster	Dog	Pig	Rat	Ox	Tiger
1981	1982	1983	1984	1985	1986
1993	1994	1995	1996	1997	1998

Rabbit	Dragon	Snake	Horse	Sheep	Monkey
1987	1988	1989	1990	1991	1992
1999	2000	2001	2002	2003	2004

1. Look at the years in the calendar. Find a pattern. Then fill in the next year for each animal.

2. Describe the pattern you found.

_____

3. What animal is this year named after? _____

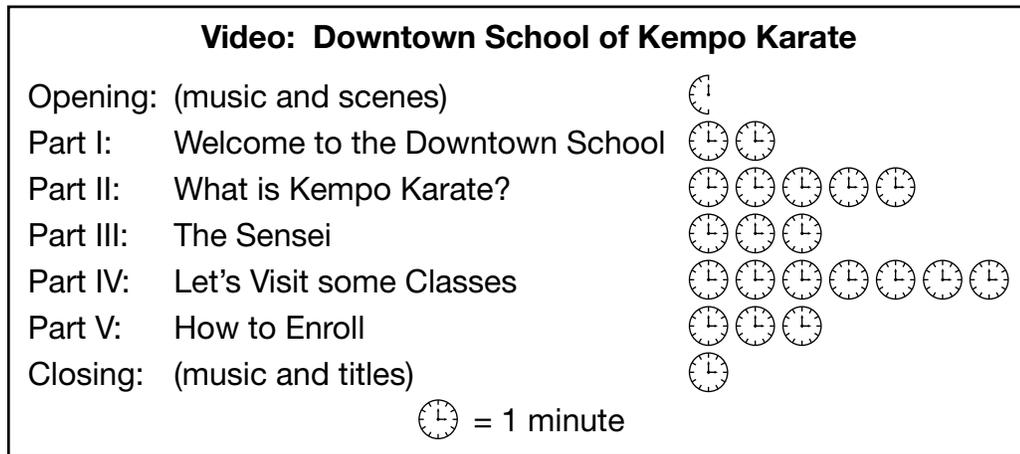**4.** Name the animal for which the year you were born is named.   _____

5. What animal will 2018 be named for? Explain how you found your answer. _____

_____

6. What animal was 1978 named for? _____

_____

_____

Name _____

Critical Thinking

Here's a pictograph of a videotape schedule.

Video: Downtown School of Kempo Karate

Opening:	(music and scenes)
Part I:	Welcome to the Downtown School
Part II:	What is Kempo Karate?
Part III:	The Sensei
Part IV:	Let's Visit some Classes
Part V:	How to Enroll
Closing:	(music and titles)

🕐 = 1 minute

1. Which part of the videotape do you think will have the
most information? Why?

_____

2. How long will it take to explain Kempo Karate? How do
you know?

_____

3. How long will the whole videotape last? _____

4. Francine is videotaping Parts I and IV. She has 20
minutes of tape. Can she use all of it? Explain.

_____

5. a. If you started to watch this tape at 3:00 P.M.,
when would the part about The Sensei start? _____

b. When would you finish watching the tape? _____

6. Frank started viewing the tape at 10:45. Will he be able to watch the
entire tape before 11:00? Explain.

_____

Name _____

Critical Thinking

Hundreds

S H O E L A C E S
1 2 3 4 5 6 7 8 9

Tens

P O R C U P I N E
1 2 3 4 5 6 7 8 9

Ones

C O N D U C T O R
1 2 3 4 5 6 7 8 9

Each letter in the words above has been assigned a digit. "Shoelaces" represents the hundreds digits, "porcupine" represents the tens digits, and "conductor" represents the ones digits.

Use the code to write the word for each number.

Example

1 7 7
S I T

1. 5 2 7
   L O T

2. 2 5 7
   H U T

3. 9 7 9
   S I R

4. 7 2 4
   C O D

5. 1 5 3
   S U N

6. 7 2 7
   C O T

7. 5 7 4
   L I D

8. 2 2 7
   H O T

9. 7 5 7
   C U T

Name _____

Critical Thinking

Estimation How much is a million? Read each situation.
Circle your best guess. Explain what you could do to check
your estimate.

1. If one million kids climbed onto each other's shoulders
they would be:

   a. as tall as a 110-story building

   b. farther up than airplanes can fly

   c. past the moon

   Possible answer: Find out about how tall 100 kids would be,

   then multiply by 10,000.

2. If you wanted to count from one to one million, it would
take you about:

   a. 12 days

   b. 2 years

   c. 95 years

   Possible answer: Find out how long it takes you to count to

   100 or 1,000, then multiply by 10,000 or 1,000.

3. The world's largest peanut measured 4 in. How far would
a million similar peanuts stretch if they were laid end to
end?

   a. 1 mile

   b. 63 miles

   c. 40 feet

   Possible answer: Find the number of feet, then miles equal
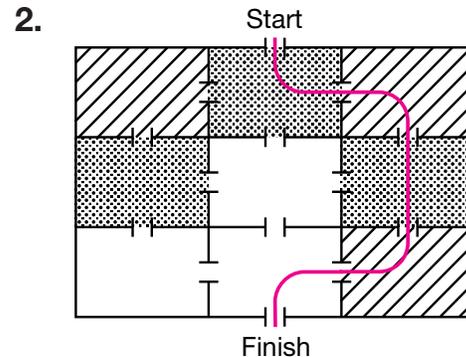
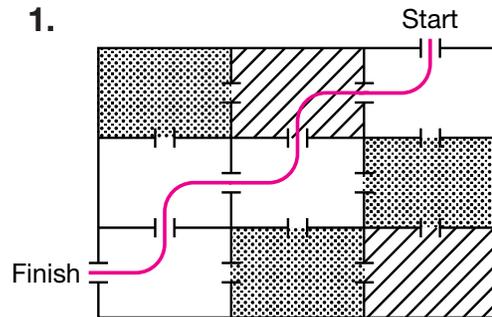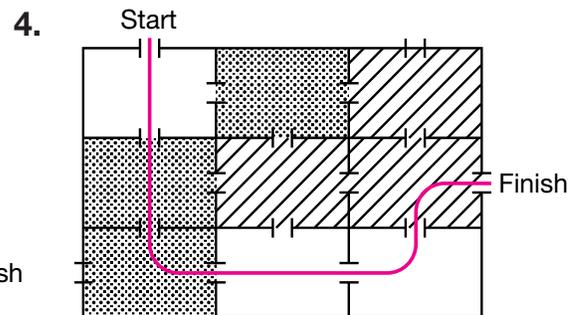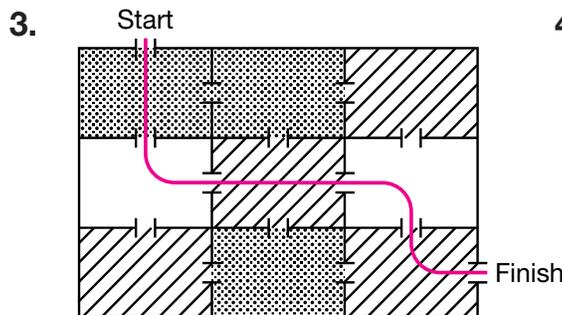   **to 4 million inches.**

Name _____

Critical Thinking

Find your way through the mazes following the rule above each.

 Striped   Shaded

Rule: If you are on a shaded square, you cannot enter a white square.

1. Start

Finish

2. Start

Finish

Rule: You can only enter a striped square from a white square.

3. Start

Finish

4. Start

Finish

5. If start and finish were reversed, would the path through each maze stay the same for each exercise? Explain.

For Exercises 1 and 2, the path would stay the same, but other paths are possible. For Exercises 3 and 4, you could not start on a striped square.

6. Draw your own maze and write a rule for it. Give it to a classmate to solve.

Check students' mazes and paths.

Name _____

Critical Thinking

Solve the riddles by using the clues given.

1. I am a 3-digit number.

My ones digit is a 7.

I am 570 when rounded to the nearest ten.

I am ____**567**____.

2. I am a 2-digit number.

My ones digit is a 6.

I am 90 when rounded to the nearest ten.

I am ____**86**____.

3. I am a 4-digit number.

I am greater than 7,500.

My ones digit is a 4.

I am 7,600 when rounded to the nearest hundred.

I am 7,550 when rounded to the nearest ten.

I am ____**7,554**____.

4. I am a 3-digit number.

My ones digit is a 2.

I am 1,000 when rounded to the nearest hundred.

I am less than 960.

I am ____**952**____.

5. I am a 3-digit number.

My ones digit is a 6.

I am 560 when rounded to the nearest ten.

I am ____**556**____.

Name _____

Critical Thinking

A Chinese one-year calendar has 12 months. It is based on cycles of the moon. It is similar to the calendar you use every day, but only has 29 or 30 days in each month.

Each year is named after one of 12 animals.

Rooster	Dog	Pig	Rat	Ox	Tiger
1981	1982	1983	1984	1985	1986
1993	1994	1995	1996	1997	1998
2005	**2006**	**2007**	**2008**	**2009**	**2010**

Rabbit	Dragon	Snake	Horse	Sheep	Monkey
1987	1988	1989	1990	1991	1992
1999	2000	2001	2002	2003	2004
2011	**2012**	**2013**	**2014**	**2015**	**2016**

1. Look at the years in the calendar. Find a pattern. Then fill in the next year for each animal.

2. Describe the pattern you found.
Possible answer: The cycle repeats itself every 12 years.

3. What animal is this year named after? **Check students' work.**

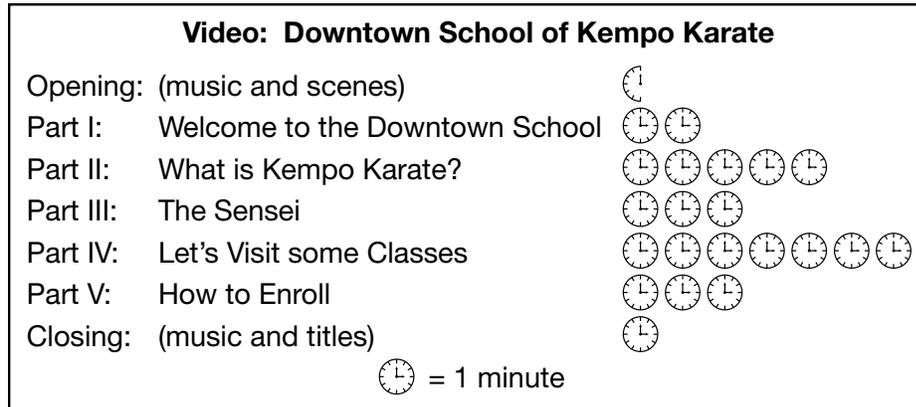**4.** Name the animal for which the year you were born is named. **Check students' work.**

5. What animal will 2018 be named for? Explain how you found your answer. **Dog; Possible answer: The monkey was the animal for 2016 so I counted over two more.**

6. What animal was 1978 named for? **Horse; Possible answer: 1978 + 12 = 1990; The animal named for 1990 was the animal for 1978.**

Name _____

Critical Thinking

Here's a pictograph of a videotape schedule.

Video: Downtown School of Kempo Karate

Opening: (music and scenes)

Part I: Welcome to the Downtown School

Part II: What is Kempo Karate?

Part III: The Sensei

Part IV: Let's Visit some Classes

Part V: How to Enroll

Closing: (music and titles)

= 1 minute

1. Which part of the videotape do you think will have the most information? Why?

Part IV; Because it has the most clocks

2. How long will it take to explain Kempo Karate? How do you know?

5 minutes; Each clock symbol represents 1 minute.

3. How long will the whole videotape last? _____ $21\frac{1}{2}$ **minutes**

4. Francine is videotaping Parts I and IV. She has 20 minutes of tape. Can she use all of it? Explain.

No; She only needs 9 minutes of tape.

5. a. If you started to watch this tape at 3:00 P.M., when would the part about The Sensei start? **About 3:07**

b. When would you finish watching the tape? **About 3:21 P.M.**

6. Frank started viewing the tape at 10:45. Will he be able to watch the entire tape before 11:00? Explain.

No; The tape will not finish until 11:06.