We are thrilled that you are devoting some of your summertime to mathematics!

Here are the rules for Davis School District's summer math program:

1. Each task should take 4-5 days of 10-20 minutes each. Set a timer (or watch a clock) and work on the task for no longer than 20 mins per day.
2. You may pick a task to work on--there is no order, choose something that looks interesting or something that makes you think! There are enough tasks for 9 weeks of mathing!
3. I encourage you to work on the task with a sibling or a neighbor or a friend. If you prefer to work alone that is fine too!
4. I encourage you to draw pictures, to use tools (like a calculator), and to use models (like base-10 blocks, algebra tiles, or dual-sided counters) to help you make sense of the task.

Time to Pick Your Task:

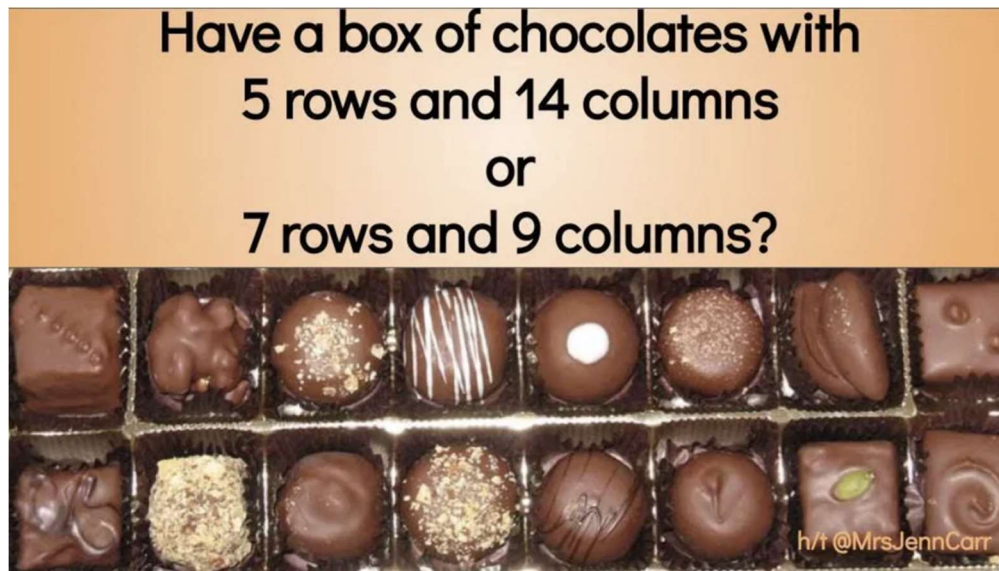Mathematician(s):_____

Pennies

Taken from YouCubed.org

1. Day 1 (20 mins): THINK (no paper or pencil allowed)

   Think about a collection of pennies.

   When they are put into groups of 2 there is one penny left over.

   When they are put into groups of 3, 5, and 6 there is also one penny left over.

   When they are put in groups of 7, there are no pennies left over.

   What do you notice or wonder?

2. Day 2 and 3 (20 mins): Using the information given in Day 1, can you figure out how many pennies there could be?

3. Day 4 (20 mins): How do you know you are right?

4. Day 5 (20 mins): Share your answer below in a video clip or write about your solution in your math journal.

Mathematician(s):_____

Would You Rather, Chocolates!

Have a box of chocolates with
5 rows and 14 columns
or
7 rows and 9 columns?

h/t @MrsJennCarr

Taken from: wouldyourather.com

1. Day 1 (20 mins): THINK (no paper or pencil allowed) about the question and picture above.

2. Day 2 (20 mins): Talk with someone (a friend, brother, sister, parent) about this problem. Ask them what they would pick and why?

3. Day 3 (20 mins): Come up with your answer to the question and start thinking about why.

4. Day 4 (20 mins): Justify (using math) your answer?

5. Day 5 (20 mins): Find someone to explain the answers to the questions above. Spend the most time talking about how you know and justifying your solutions. If you don't have anyone to speak with, record a video of yourself explaining your solutions or do a quiet journal reflection about the process and how you engaged with this math task.

Mathematician(s):_____

Stars

1. Day 1 (20 mins): THINK (no paper or pencil allowed): What do you notice about the pattern above? What do you wonder?

2. Day 2 (20 mins): Can you draw how you see the pattern changing? What would the next star pattern look like? How do you know?

3. Day 3 (20 mins): If you had 15 total stars, and you followed the rules of the pattern above, how would the 15 stars be arranged (draw a picture)? How you do you know?

4. Day 4 (20 mins): If you labeled the first 3-star shape #1, and you called the second 5-star shape #2, how many stars would be in #6? What would #6 look like? How do you know?

5. Day 5 (20 mins): Find someone to explain the answers to the questions above. Spend the most time talking about how you know and justifying your solutions. If you don't have anyone to speak with, record a video of yourself explaining your solutions or do a quiet journal reflection about the process and how you engaged with this math task.

Mathematician(s):_____

Ice Cream Scoops

Taken from: youcubed.org

1. Day 1 (20 mins): THINK (no paper or pencil allowed): How many kinds of 2-scoop ice cream cones can you make if you have 10 different flavors of ice cream?

2. Day 2 (20 mins): Solve the problem you thought about on day 1.

3. Day 3 (20 mins): How do you know you answer is right? Draw a picture or mathematically justify your answer.
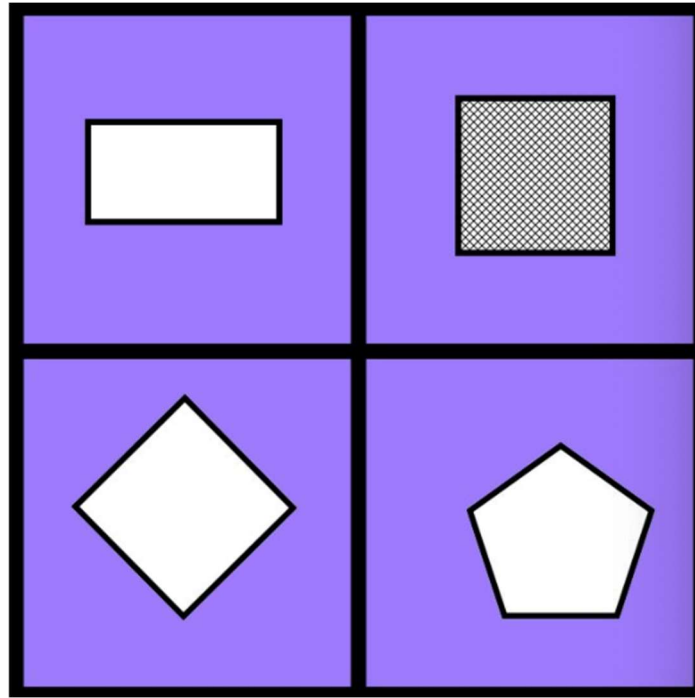
Day 4 (20 mins): What if you had 15 different flavors of ice cream? How many kinds of 2-scoop ice cream cones could you make? How do you know?

5. Day 5 (20 mins): Find someone to explain the answers to the questions above. Spend the most time talking about how you know and justifying your solutions. If you don't have anyone to speak with, record a video of yourself explaining your solutions or do a quiet journal reflection about the process and how you engaged with this math task.

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Which Shape Doesn't Belong?

Taken from: https://wodb.ca/

1. Day 1 (20 mins): THINK (no paper or pencil allowed): What do you notice about the shapes above? What do you wonder?

2. Day 2 (20 mins): Can you tell me which shape doesn't belong and why? Give a mathematical reason.

3. Day 3 (20 mins): Pick a different shape than you did on day 2, can you tell me why it doesn't belong? Give a mathematical justification.

4. Day 4 (20 mins): Pick a different shape than you did on days 2 and 3, can you tell me why it doesn't belong. Give a mathematical justification.

Mathematician(s):_____

5. Day 5 (20 mins): Find someone to explain the answers to the questions above. Spend the most time talking about how you know and justifying your solutions. If you don't have anyone to speak with, record a video of yourself explaining your solutions or do a quiet journal reflection about the process and how you engaged with this math task.

Which Number Doesn't Belong?

1. Day 1 (20 mins): THINK (no paper or pencil allowed): What do you notice about the numbers above? What do you wonder?

2. Day 2 (20 mins): Can you tell me which number doesn't belong and why? Give a mathematical reason.

3. Day 3 (20 mins): Pick a different number than you did on day 2, can you tell me why it doesn't belong? Give a mathematical justification.

4. Day 4 (20 mins): Pick a different number than you did on days 2 and 3, can you tell me why it doesn't belong. Give a mathematical justification.
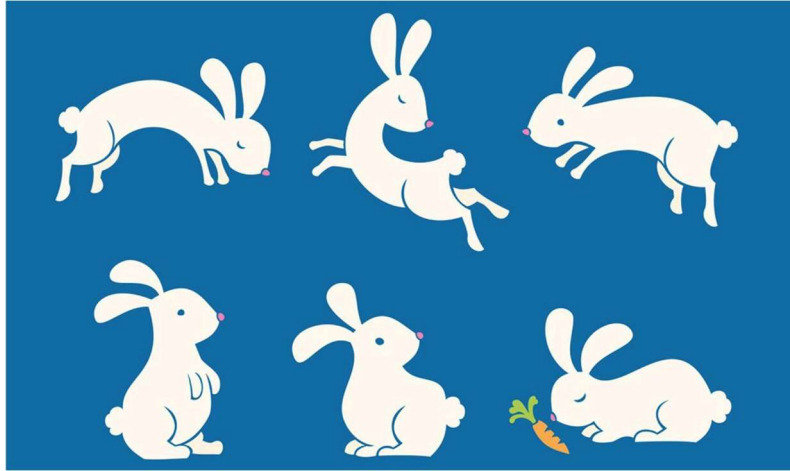

5. Day 5 (20 mins): Find someone to explain the answers to the questions above. Spend the most time talking about how you know and justifying your solutions. If you don't have anyone to speak with, record

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a video of yourself explaining your solutions or do a quiet journal reflection about the process and how you engaged with this math task.

Leah the Rabbit

1. Day 1 (20 mins): THINK (no paper or pencil allowed):

> Leah the rabbit is climbing up a staircase that has 10 stairs.
> Leah can only hop up 1 or 2 steps each time she hops.
> She never hops down the stairs, only up.

2. Day 2-3 (20 mins each day): Can you tell me how many different ways Leah can hop up the stairs?
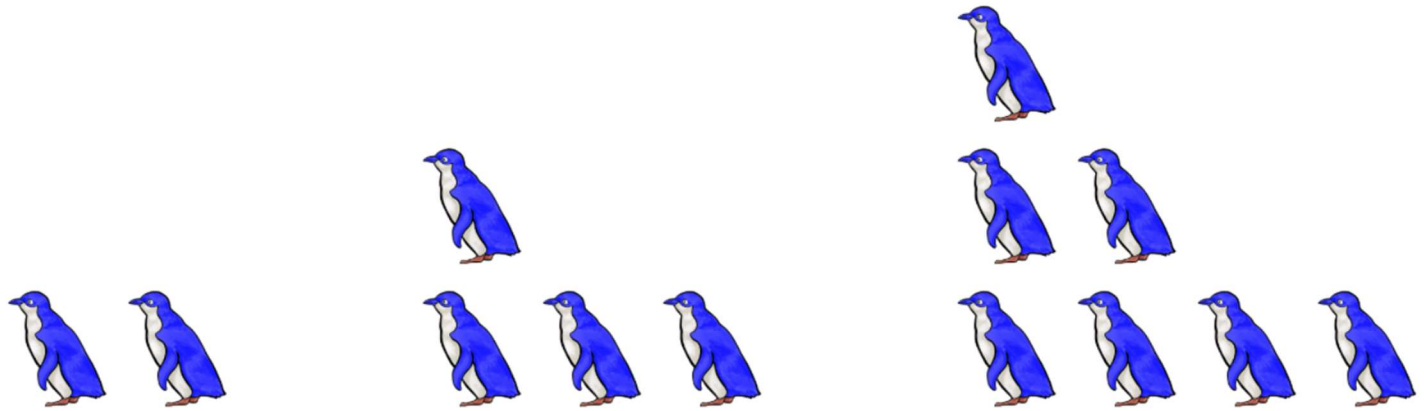
3. Day 4 (20 mins): How do you know that your answer is correct? Use mathematics to explain.

4. Day 5 (20 mins): Find someone to explain the answers to the questions above. Spend the most time talking about how you know and justifying your solutions. If you don't have anyone to speak with, record a video of yourself explaining your solutions or do a quiet journal reflection about the process and how you engaged with this math task.

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Penguins

Taken from: visualpatterns.org

1. Day 1 (20 mins): THINK (no paper or pencil allowed): What do you notice about the pattern above? What do you wonder?

2. Day 2 (20 mins): Can you draw how you see the pattern changing? What would the next penguin pattern look like? How do you know?

3. Day 3 (20 mins): If you had 29 total penguins, and you followed the rules of the pattern above, how would the 29 penguins be arranged (draw a picture)? How you do you know?

4. Day 4 (20 mins): If you labeled the first 2-penguin shape #1, and you called the second 4-penguin shape #2, how many penguins would be in #6? What would #6 look like? How do you know?
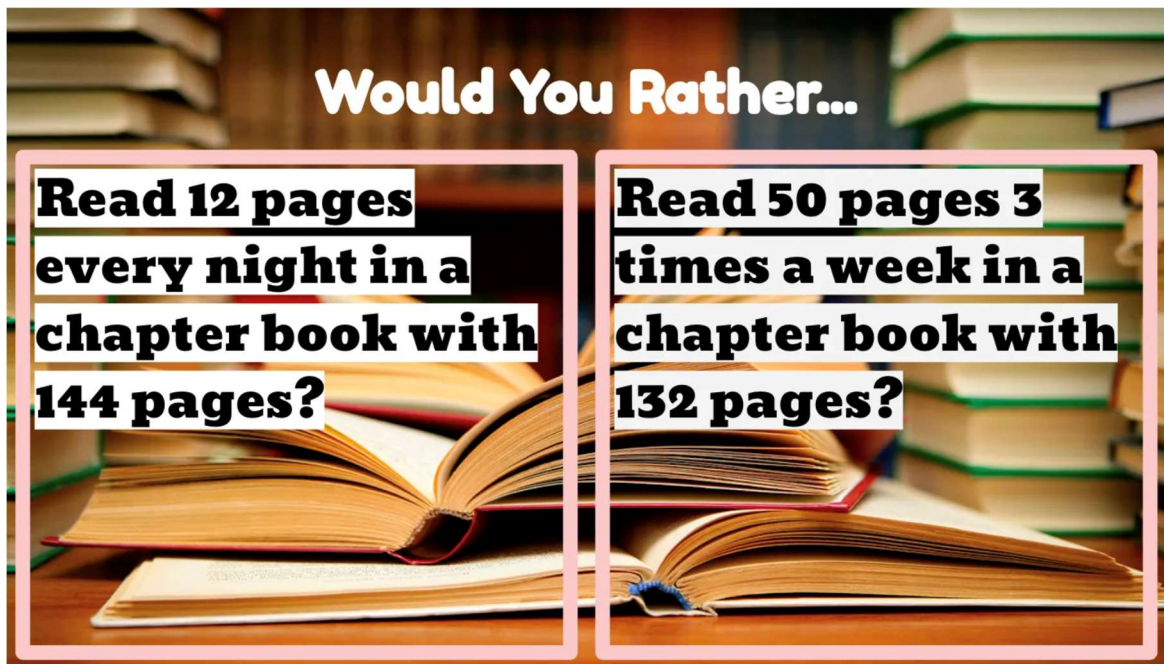
5. Day 5 (20 mins): Find someone to explain the answers to the questions above. Spend the most time talking about how you know and justifying your solutions. If you don't have anyone to speak with, record

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a video of yourself explaining your solutions or do a quiet journal reflection about the process and how you engaged with this math task.

Would You Rather, Books!

Would You Rather...

Read 12 pages every night in a chapter book with 144 pages?

Read 50 pages 3 times a week in a chapter book with 132 pages?

Taken from: wouldyourathermath.com

1. Day 1 (20 mins): THINK (no paper or pencil allowed) about the questions and picture above.

2. Day 2 (20 mins): Talk with someone (a friend, brother, sister, parent) about this problem. Ask them what they would pick and why?

3. Day 3 (20 mins): Come up with your answer to the question and start thinking about why.

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4. Day 4 (20 mins): Justify (using math) your answer?

5. Day 5 (20 mins): Find someone to explain the answers to the questions above. Spend the most time talking about how you know and justifying your solutions. If you don't have anyone to speak with, record a video of yourself explaining your solutions or do a quiet journal reflection about the process and how you engaged with this math task.