

Objective: TSWBAT make a table or diagram to solve problems

- Stony Hollow School District has a softball playoff each spring for its
- 8 schools. Each school plays 1 game against every other school. The
- winner is the school with the greatest number of victories. How many
- playoff games are played in all?

A B C D E F G H
B C D E F G H
C D E F G H
D E F G H
E F G H
F G H
G H
H

Team A → 7 Games
Team B → 6 more games (already played Team A)
Team C → 5 games
Team D → 4 games
etc.

Total Games $7+6+5+4+3+2+1$

28 Games

If the Stony Hollow School District had 10 schools, how many playoff games would there be in all?

$$9 + 8 + 7 + 6 + 5 + 4 + 3 + 2 + 1$$

45 Games

Each umpire is paid \$25 per game. There are 2 umpires for each game. What is the total amount paid to umpires for an 8-team playoff?

8 Teams \rightarrow 28 games

$$2 \times 25 \times 28 = \$1400$$

Suppose you were offered these opportunities. Which choice would you make? Explain why you would make each choice. Show an equation, number pattern, or other mathematical explanation to support your decision.

Which would you rather receive? Why?

- a. One penny the first day, two pennies the second, four pennies the third, eight pennies the fourth, and so on for 30 days.
- b. One dollar each day for one month.

(a) $.01 + .02 + .04 + .08 + .16 + .32 + .64 + 1.28 + 2.56 + 5.12 + 10.24 + 20.48$ } after 12 days, well over \$30

Suppose you win a sweepstakes that pays money for thirty days. You have a choice of the two options below. The first day you are given \$1. Which options would you choose? Why?

- a. The amount you receive is doubled every two days.
- b. The amount you receive is tripled every four days.

①

Day	1	3	5	7	9	11	13	15	17	19	21
amount	1	2	4	8	16	32	64	128	256	512	1024

②

Day	1	4	8	12	16	20	24	28	32	
amount	1	3	9	27	81	243	729	2187		