STEM: MATHEMATICS and more

Activities reinforce Colorado Academic Standards using e-editions of the Denver Post.

ACTIVITY ONE (SHOW YOUR WORK; SELECTIONS MAY HAVE MORE THAN ONE CORRECT ANSWER)

Article: Forecast for May: Warmer with – wait for it – still a chance of snow, *Wed., May 1, Main, page 5A*

Denver weather calendar for May

			Normal		Record		Record	
Date	Sunrise	Sunset	High	Low	High	Year	Low	Year
1	6:00	7:54	66	39	87	1992	23	1909
2	5:59	7:55	66	39	90	1879	22	1954
3	5:58	7:56	66	40	86	1949	19	1907
4	5:57	7:57	67	40	88	2012	27	1964
5	5:55	7:58	67	40	89	2000	27	1917
6	5:54	7:59	67	41	86	1963	23	1917
7	5:53	8:00	68	41	87	1989	23	1978
8	5:52	8:01	68	41	91	1895	27	1885
9	5:51	8:02	68	42	89	1916	22	2002
10	5:50	8:03	69	42	86	1991	27	1946
11	5:49	8:04	69	42	90	1961	28	1946
12	5:48	8:05	69	43	90	1962	23	1953
13	5:47	8:06	70	43	90	1915	23	2000
14	5:46	8:07	70	43	87	1996	27	1912
15	5:45	8:08	70	44	89	1996	29	1923
16	5:44	8:09	71	44	91	1996	30	1910
17	5:43	8:10	71	44	91	1964	29	1957
18	5:43	8:11	71	45	93	1996	25	1915
19	5:42	8:12	72	45	91	2005	25	1915
20	5:41	8:13	72	45	91	2005	31	2001
21	5:40	8:13	72	45	91	2006	31	2001
22	5:39	8:14	72	46	93	2012	32	1930
23	5:39	8:15	73	46	93	1989	31	2002
24	5:38	8:16	73	46	87	2005	32	2002
25	5:37	8:17	73	47	91	1964	31	1950
26	5:37	8:18	74	47	95	1942	32	1950
27	5:36	8:18	74	47	93	2006	34	1950
28	5:36	8:19	74	47	93	1974	32	1947
29	5:35	8:20	75	48	94	2003	32	1883
30	5:35	8:21	75	48	91	2002	32	1883
31	5:34	8:21	75	48	93	2002	33	1892

- How many days in May will the sun rise before 6:00 am and set after 8:00 pm?
  - ○ 30 days
  - ○ 28 days
  - ○ 24 days
  - ○ 23 days
- Is it normal to have temperatures less than freezing during May?
  - ○ no ○ yes
- What is the record high temperature recorded for May and in what year did it occur?

  _____

  _____
- What word is best to describe lowest temperature, highest temperature, wettest month, driest month, snowiest month, etc?
  - ○ averages
  - ○ extremes
  - ○ norms
  - ○ excesses

- Draw a bar chart that shows normal high temperatures for the month of May. Place temperatures on the vertical axis and days of the month on the horizontal axis.

ACTIVITY TWO

Article: Landmark Lincoln display ad, *Sun., May 5, Main, page 8A*

- The car advertised will get 45 miles per gallon. The business says you will save $1,500 per year on gas. That assumes average fuel consumption is 20 mpg and will cost $2,831 if gas averages $3.75 per gallon. How would you determine the average fuel cost of the advertised hybrid?
  - ○ $1,500 divided by $3.75 = 400 gallons of gas divided by 4/9 = cost of gas for hybrid
  - ○ 20 mpg times $2,831 divided by 45 mpg = cost of gas for hybrid.
  - ○ $1,500 divided by $3.75 = 400 gallons of gas times 45 miles per gallon = cost of gas for hybrid

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ANSWERS

ACTIVITY ONE

24

no

May 26, 1942 recorded a high temperature of 95 degrees.

Extremes

Answers will vary, slightly.

ACTIVITY TWO

20 mpg times $2,831 divided by 45 mpg = cost of gas for hybrid.

Colorado Academic Standards

Mathematics 1. Number Sense, Properties, and Operations
Understand the structure and properties of our number system. At their most basic level numbers are abstract symbols that represent real-world quantities
1. The decimal number system to the hundredths place describes place value patterns and relationships that are repeated in large and small numbers and forms the foundation for efficient algorithms.
Understand that equivalence is a foundation of mathematics represented in numbers, shapes, measures, expressions, and equations
2. Different models and representations can be used to compare fractional parts.
Are fluent with basic numerical, symbolic facts and algorithms, and are able to select and use appropriate (mental math, paper and pencil, and technology) methods based on an understanding of their efficiency, precision, and transparency
3. Formulate, represent, and use algorithms to compute with flexibility, accuracy, and efficiency
Mathematics 2. Patterns, Functions, and Algebraic Structures
Make sound predictions and generalizations based on patterns and relationships that arise from numbers, shapes, symbols, and data
Make claims about relationships among numbers, shapes, symbols, and data and defend those claims by relying on the properties that are the structure of mathematics
1. Number patterns and relationships can be represented by symbols
Mathematics 3. Data Analysis, Statistics, and Probability
Solve problems and make decisions that depend on understanding, explaining, and quantifying the variability in data
1. Visual displays are used to represent data
Mathematics 4. Shape, Dimension, and Geometric Relationships
Understand quantity through estimation, precision, order of magnitude, and comparison. The reasonableness of answers relies on the ability to judge appropriateness, compare, estimate, and analyze error
1. Appropriate measurement tools, units, and systems are used to measure different attributes of objects and time
Make claims about relationships among numbers, shapes, symbols, and data and defend those claims by relying on the properties that are the structure of mathematics
2. Geometric figures in the plane and in space are described and analyzed by their attributes