5e Calculus Concepts         **Learning Activity**         **Choosing a Model**
LaTorre, et al.         **1.11**         **Part 2**
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Name: _____

Grade: _____

Group Members Present:

_____ , _____ , &_____

1. The six model types presented in Sections 1.4 through 1.11 of CC5e are cubic, exponential, linear, logarithmic, logistic, and quadratic. For each of the descriptions, list the model type(s) that might be appropriate.

   a. a scatter plot appearing to have little or no curvature

   b. a scatter plot suggests a curve that is concave up with no change in curvature

   c. a scatter plot that is decreasing and suggests a curve that changes from concave down to concave up

   d. a scatter plot that is increasing and suggests a curve that is concave down

   e. a scatter plot that appears to be leveling off at both ends

   f. a scatter plot that appears to be leveling off at one end but shows no indication of leveling off at the other end

2.  The table shows the amounts spent on reducing the size of classes in first-grade through third-grade classrooms in Nevada.

| Year | 1990 | 1992 | 1994 | 1996 | 1998 |
|------|------|------|------|------|------|
| Spending (million $) | $3 | $31 | $37 | $42 | $66 |

a.   Describe the direction and concavity suggested by the scatter plot.

b.   What model type is suggested by the behavior of the scatter plot?

c.   Write a model for spending as a function $s$ of $x$, the number of years since 1990.

d.   Evaluate $s(3)$ and $s(10)$.

e.   Interpret the results from part $c$.