Name $\qquad$
SI Physics
Period $\qquad$
Partners:
Date $\qquad$
Lab \#26 (40 pts)
Mrs. Nadworny
Due Date: $\qquad$

## Jumping Toys

## Procedure:

## NOLabWrite-Up Required

- Measure the uncompressed length of a spring toy to the nearest tenth of a centimeter. Record.
- Push the spring toy down to the tabletop until it sticks. Measure the new compressed length of the toy to nearest tenth of a centimeter. Record.
- When the toy springs into the air, measure the height that the bottom of the toy reaches to the nearest tenth of a centimeter. Record.
- Repeat for two more trials.
- Measure and record the mass of the spring toy.


## Data Collection: <br> (12 pts)



Data Processing: Answer all questions below using the GUESS method and appropriate significant figures. Use complete sentences where appropriate.

1. Describe how energy is transformed as you compress the toy and it then leaps into the air.
2. Calculate the average gravitational potential energy the toy had at the top of its leap. (5 pts)
3. What is the average kinetic energy the toy had as it was leaving the tabletop?
4. Calculate the speed of the toy as it jumped up from the tabletop.
5. What is the average elastic potential energy the toy had while compressed?
6. Calculate the average spring constant of the spring.
7. Calculate the average amount of force necessary to compress the spring.
8. Where did the toy get its initial energy?
