

Name: \_\_\_\_\_

Homeroom: \_\_\_\_\_

**Know Your Levers!**LO: Distinguish between 1<sup>st</sup>-class, 2<sup>nd</sup>-class, and 3<sup>rd</sup>-class levers. SLE: Meet NGSS.

(1) As we have learned, the **class** of a lever may be determined from the relative positions of the input force/effort, output force/load, and fulcrum.

- a. Which of these is in between the other two for a **1<sup>st</sup>-class lever**?
- b. Which of these is in between the other two for a **2<sup>nd</sup>-class lever**?
- c. Which of these is in between the other two for a **3<sup>rd</sup>-class lever**?

(2) Give the class of each of the following levers (1<sup>st</sup>, 2<sup>nd</sup>, or 3<sup>rd</sup>). Drawing pictures or pantomiming actions may help!

- \_\_\_\_\_ a. baseball bat
- \_\_\_\_\_ b. bottle opener
- \_\_\_\_\_ c. canoe paddle
- \_\_\_\_\_ d. fishing rod
- \_\_\_\_\_ e. hammer, when pounding a nail in
- \_\_\_\_\_ f. hammer, when removing a nail
- \_\_\_\_\_ g. nutcracker
- \_\_\_\_\_ h. oars (attached to side of boat; for moving or splashing water)
- \_\_\_\_\_ i. scissors
- \_\_\_\_\_ j. see-saw (teeter-totter)
- \_\_\_\_\_ k. stapler
- \_\_\_\_\_ l. triple-beam balance
- \_\_\_\_\_ m. wheelbarrow