

Name:

Teacher Ideas and Questions: **The Screw**

When students complete the activities on the screw they should be able to explain how screws help to do work (holding objects together). Students should be able to understand how screw threads help to increase force. Some screws help to lift things. (car jack) They should observe a variety of screws to see the difference in threads, shapes and sizes.

*If you are able to find similar plastic bottles, one with a screw top and one with a snap top. Fill both with water and take the bottles outside—the bottles should be dropped hard, typically the screw top will hold but the snap on top won't which demonstrates the strength of the screw.

Examples of Screws: *Jar lids, lightbulbs, turning stools like a piano stool, most wrenches, cork screw, drill, vice*

1. Have students describe screws.
2. Brainstorm all the things that screws are used for.
3. Brainstorm why screws have threads.
4. Discuss the difference between a screw and a nail.
5. Have a variety of screws, screw drivers and some wood blocks. Experiment with the number of turns it takes when the threads are closer together and farther apart. Which types are easier to turn?
6. Invite the custodian/janitor in to discuss how screws are used day to day and what tools are used to use the screws appropriately.
7. Predict if you think it's easier to put a screw into wood? Metal? Soap? Why do you think this?
8. Ask why is a screw like an inclined plane? (*a screw is an inclined plane wrapped into a spiral*)
9. Simple machines are actually divided into 2 groups: Inclined Planes (Wedge, screw and ramps) Levers (Lever, wheel/axle and pulleys). Ask students how wedges, ramps and screws are like inclined planes and how wheels and axles and pulleys are like levers.