

Energy

3. Work

CONCEPT 2

TEST YOURSELF

SIMPLE MACHINES

KNOW

- Q1 Look at the picture of a door handle. If the handle was longer, would that make it easier or harder to turn?
- Q2 Look at the picture of a tap. There are four levers to help turn it. Why do you think there is more than one lever?
- Q3 Why is it easier to push heavy boxes if they are on a trolley with wheels?



APPLY

- Q4 Give an example of a machine that uses a lever. State what part of it is the **lever** is and what the **pivot** is.
- Q5 Joe is trying to undo a bolt that is rusted into place and can't turn it with a spanner. She then gets a piece of steel tubing that is much longer than the spanner, puts it over the spanner and pushes on the far end. Why is it now possible to undo the nut?



EXTEND

- Q6 Explain, using sketches to assist, how both the handlebars and the pedal cranks on bicycles are levers.

Remember a **lever** must have a **pivot** to rotate around.

- Q7 Why should we also consider gears as a simple machine?
- Q8 Some bicycles are more effective machines than others. What do you think makes them better?

