Unit D: Mechanical Systems

Lesson 1: Early Ideas

Outcomes

- investigate and provide examples of mechanical devices used in the past to meet particular needs

- illustrate how a common need has been met in different ways over time

- illustrate how trial and error and scientific knowledge both play a role in technological development

Where did it start?

- Technology helps make life easer.

- Stone tools were the first technology, they were first found in Africa, the birthplace of technology.

- Early agriculture started in Mesopotamia. This area is the countries of Lebanon, Palestine, Jordan, etc. This led to the development of the plow in 4000 BC.

- The plow created wealth...and wealth was in the form of grains at that time.
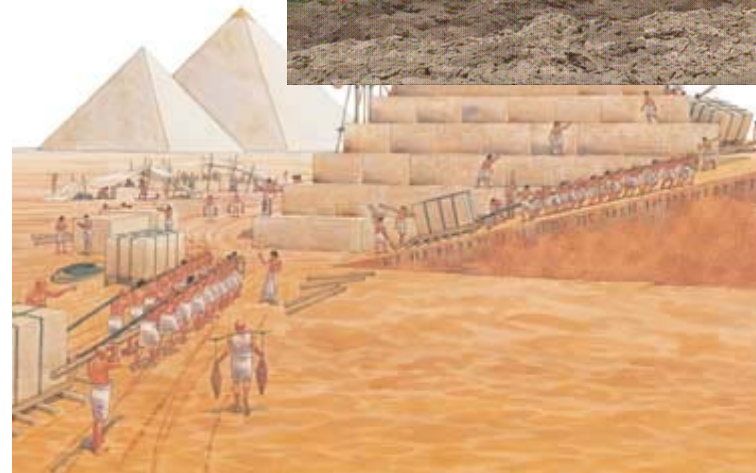
Meeting Human Needs

- The plow was created to help farmers out.

To finish building the pyramids, Egyptians used a ramp to raise the stones to the upper parts of the pyramid.

Obtaining Water

Nowadays, when you need some water, all it takes is the turn of a tap.

Was it always this easy?

No

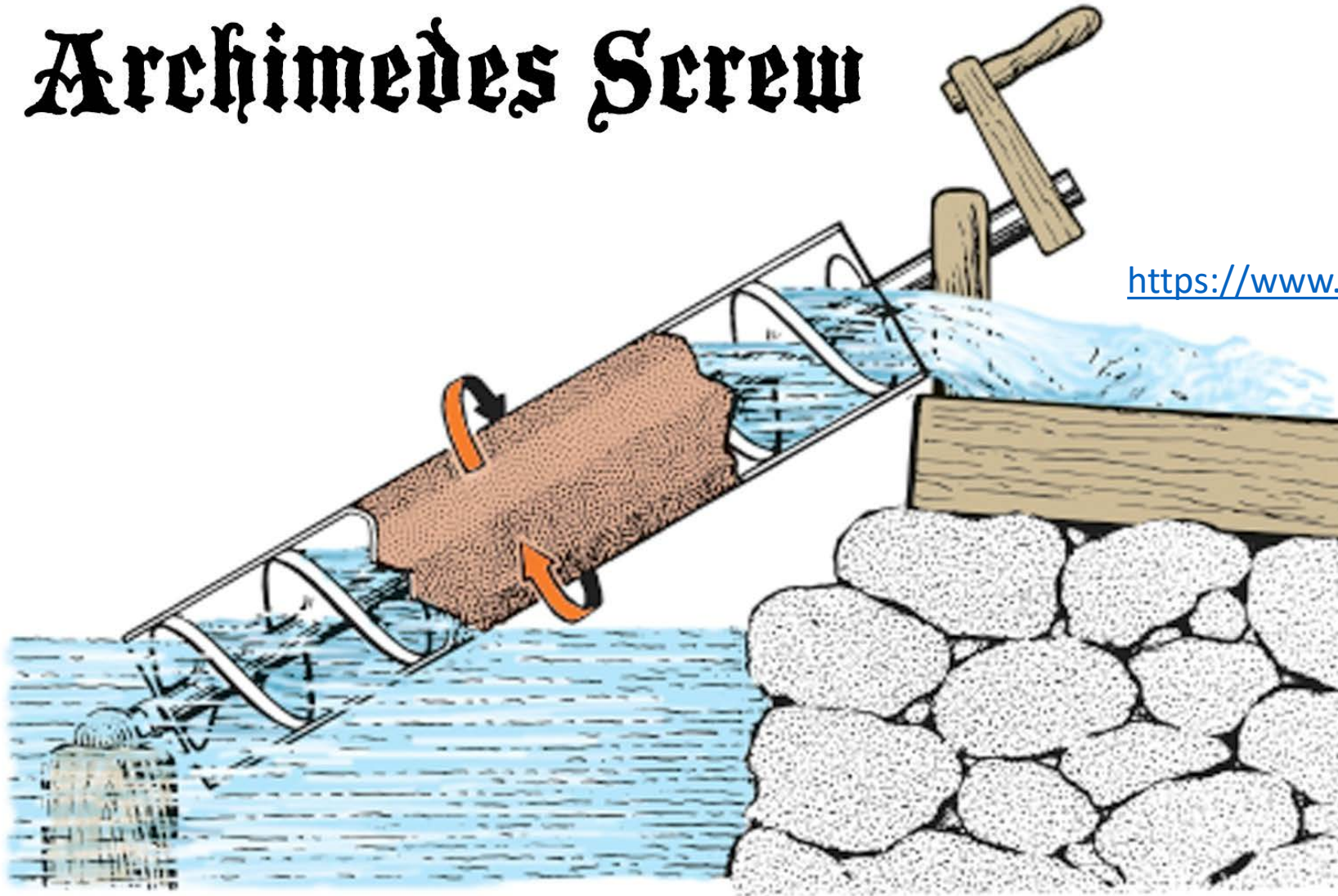Humans have developed many different technologies (pulleys, levers) over time to help them get water.

Persian Wheel & Mill Wheel

https://www.youtube.com/watch?v=z6JT1JJcSIw&t=16s

A machine built to help lift water from a stream, using the force of moving water and sometimes manual labor. The water is collected in a pipe that leads to farmland for irrigation.

Archimedes Screw

https://www.youtube.com/watch?v=A-xPRbj88V4

https://www.youtube.com/watch?v=0IsqAejuaBw

It's essentially a very long, spiral, screwy ramp!

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Elon Musk

In the science world, trial and error is important.

Elon Musk is the CEO of Tesla. He also owns SpaceX, a company planning to man Mars in 10 years. He's a pretty smart dude.

He recently launched a car into space. After many, many, many attempts, he was also able to return his rocket boosters back onto Earth safely in the exact position they were launched from.

People see the success, but don't always see the failures.