



candle

Spanish	vela	(vā´lä)
Vietnamese	nén	(nun)
Hmong	tswm ciab	(jü gē ä)
Cantonese	蠟燭	(läp`t`so`)
Korean	양초	(yāng´chō)
Haitian Creole	bouji	(bü zhē´)
Arabic	شمعة	(shem´rä)
Russian	свеча	(svē chä´)
Tagalog	kandila	(kān dē´lä)
Khmer	ភ្លើង	(dē´ən)

A candle is a body of wax with a wick in the center. A candle produces light and heat when it burns. Candles come in many shapes, sizes, and colors. As a candle burns, it uses its wax as fuel. Once the wax is gone, a candle will go out. You should be very careful around a burning candle. Burning candles can burn your skin, clothing, and other items. Never leave a burning candle unattended, because it could start a fire.

Card Connections Linking Ideas

Additional Energy Cards

light (Energy 20), thermal energy (Energy 42)

Other Cards

fire (Changing Earth 7)



shadow

Energy 37

Spanish	sombra (sôm´ brä)
Vietnamese	bóng (bôngˇ)
Hmong	tus duab ntxoo (dü dü äng zông)
Cantonese	陰影 (yäm yeng)
Korean	그림자 (gü rēm´ jä)
Haitian Creole	lonbray (lôn bri´)
Arabic	ظل (thi´ əl)
Russian	тень (tyen)
Tagalog	anino (ä nē´ nō)
Khmer	ស្រទាប់ (srrô´ mou)

A shadow is the image of an object that is made when light is reflected or absorbed by an opaque object. The shadow appears as a silhouette on a surface opposite the light source. Because light rays travel in straight lines, the edges of the shadow are clearly defined. A shadow is a two-dimensional image that can be produced in different shapes. The light from a projector can be used to create shadows that look like dogs or rabbits. Many children have been entertained by shadow puppet shows. Sundials use shadows from sunlight to record different times during the day.

Card Connections

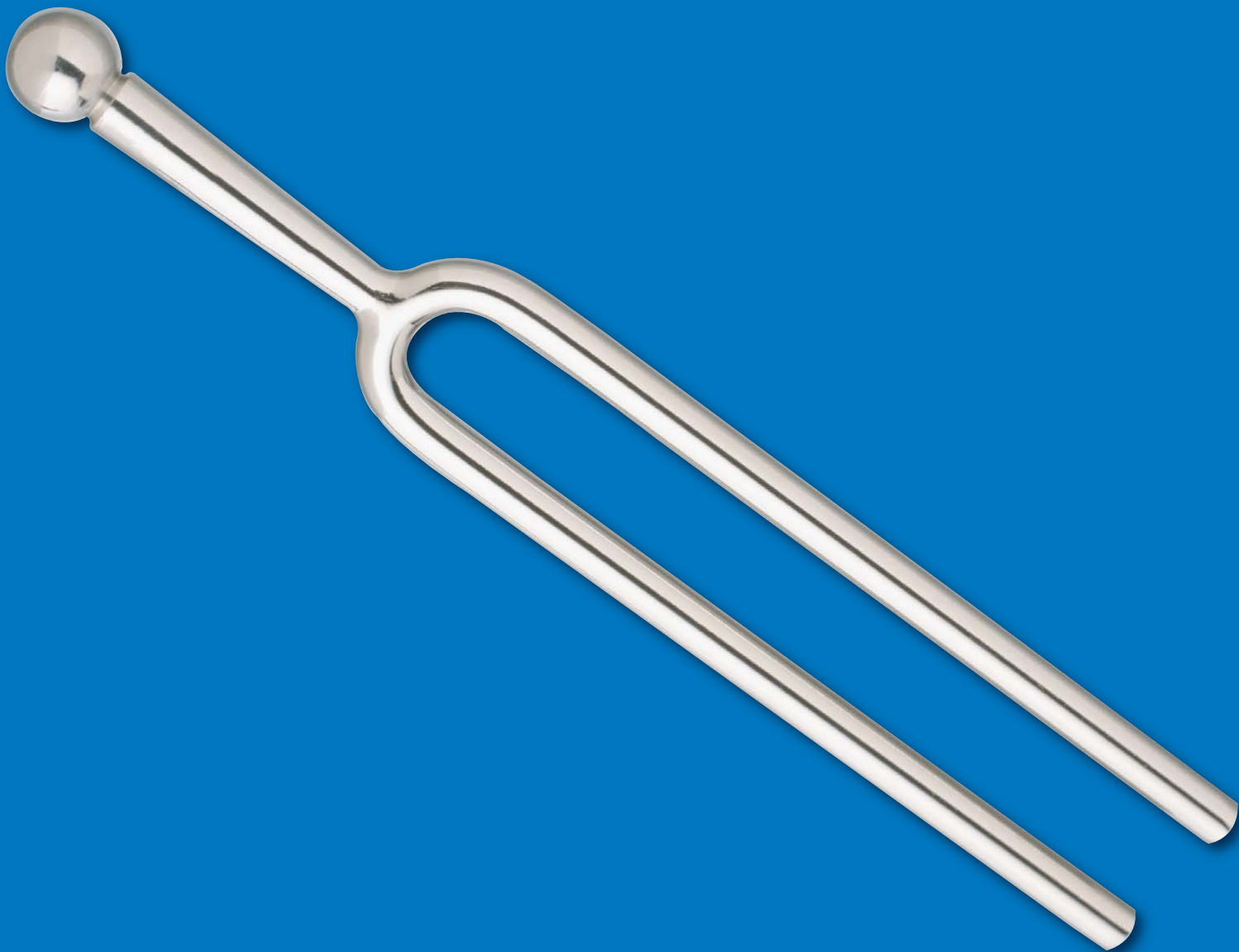
Linking Ideas

Additional Energy Cards

light (Energy 20), opaque (Energy 27), reflection (Energy 33)

Other Cards

lunar eclipse (Space 17), solar eclipse (Space 35), sundial (Space 44)



tuning fork

Energy 45

Spanish	diapasón (dē ä pä sōn´)
Vietnamese	âm thoa (äm tōä)
Hmong	rab rawg uas tso suab (dä dūr ü wä jô shü ä)
Cantonese	音叉 (yäm tsä)
Korean	소리굽쇠 (sō´ rē küp´ she)
Haitian Creole	dyapazon (dyä pä zôn´)
Arabic	ظل (shō´ ke rrä na´ na)
Russian	камертон (kä mârr tōn´)
Tagalog	pang-tuning na tinidor (päng tü´ nēng nă tē nē dôrr´)
Khmer	ឧបករណ៍ (prrot dat´ rrip)

A tuning fork is a metal, pronged instrument used to determine a specific pitch. When a tuning fork is tapped, the prongs vibrate at a constant frequency. Different tuning forks vibrate at different frequencies. Tuning forks are made of metal, and their frequencies are not altered by minor temperature variations.

Tuning forks are used to study sound and to tune musical instruments. Also, musical instruments can be made from a collection of tuning forks that vibrate at different frequencies. Frequency is measured in units called hertz. A hertz is the same as a wavelength per second. If a tuning fork is 262 Hz, then 262 wavelengths pass a reference point per second.

Card Connections

Linking Ideas

Additional Energy Cards

sound wave (Energy 39), vibration (Energy 47), wavelength (Energy 48)

Other Cards

guitar (Science in Society 17), metal (Matter and Change 19)



gear

Force and Motion 9

Spanish	engranaje (en gră nă´ hhā)
Vietnamese	bánh răng (bun răn)
Hmong	tus cias (tù tē ä)
Cantonese	齒輪 (chē lun)
Korean	기어 (tōm nē bǎ´ khē)
Haitian Creole	ekipman (ôn grā nǎzh´)
Arabic	دولاب مسنن (dü le´ ep mü se´ nen)
Russian	приспособление (prē spō su blē´ nēə)
Tagalog	(kambiyo) kām bē´ yō
Khmer	ឆ្នាំង (spīt krrô)

A gear is a special type of wheel and axle. A gear consists of two wheels of different sizes. The wheels have interlocking teeth. When one wheel is rotated, the interlocking teeth force the other wheel to rotate. When the large gear is rotated, the smaller gear will make more revolutions because the distance around the gear is smaller. A system of gears can reduce the amount of force required to do a task. Gears also change the direction of the force. Gears are used on multispeed bicycles, in watches, and in cars.

Card Connections

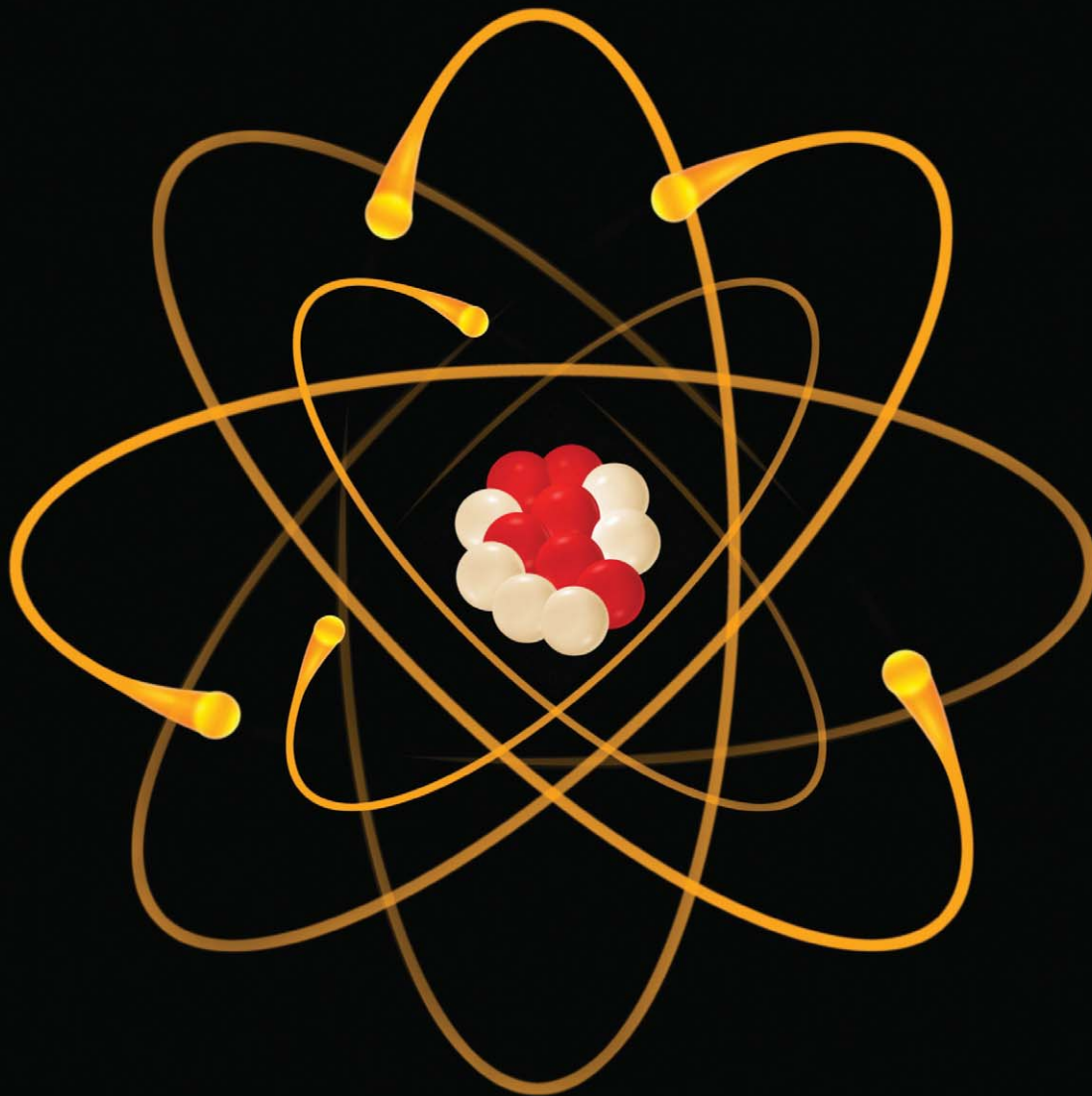
Linking Ideas

Additional Force and Motion Cards

force (Force and Motion 6), wheel and axle (Force and Motion 26)

Other Cards

bicycle (Science in Society 4), car (Science in Society 6), watch (Science in Society 47)



atom

Matter and Change 2

Spanish	átomo ä´ tō mō
Vietnamese	nguyên tử nwēng tăü~
Hmong	atom a dām
Cantonese	原子 ūn dzē
Korean	원자 wun´ jä
Haitian Creole	atòm ä tōm´
Arabic	ذرة thûrr´ rä
Russian	атом ä tum
Tagalog	atomo ä tō´ mō
Khmer	អាតូម a tōm´

An atom is the basic building block of matter. Atoms are made of protons, neutrons, and electrons. Protons and neutrons make up the nucleus, or the center, of an atom. Electrons travel in orbit around the nucleus of an atom. Protons have a positive charge, and electrons have a negative charge. Neutrons do not have a charge. In a neutral atom, the number of protons and the number of electrons are the same. Atoms have several characteristics that are useful for scientists, such as atomic weight, charge, and number of valence electrons. All of this information can be found on the periodic table of elements.

Card Connections

Linking Ideas

Additional Matter and Change Cards

*electron (Matter and Change 8), matter (Matter and Change 16),
periodic table (Matter and Change 24), proton (Matter and Change 29)*

Other Cards

orbit (Space 25)