



4-H Consumer Judging Guide

Alarm Clocks

An alarm clock is a clock that is designed to make an alarm sound at a specific time. The primary use of these clocks is to awaken people from their sleep in order to start their days in the mornings, but they are sometimes used for other reminders as well. To stop the sound, a button or handle on the clock needs to be pressed, and some stop automatically after a few minutes if left unattended.

Traditional mechanical alarm clocks have a bell on top that rings, but digital alarm clocks can make other noises. Simple battery-powered alarm clocks usually make a beeping sound whereas novelty alarm clocks can speak, laugh or sing. Some alarm clocks have radios that start playing at specified times and are known as **clock radios**.



In a mechanical bell-style alarm clock, a spring drives a gear that propels a clacker back and forth between two bells or between the sides inside a single bell. In an electric bell-style alarm clock, the bell rings with an electromagnetic circuit and armature that turns the circuit on and off again repeatedly.

Modern digital alarm clocks typically feature a radio alarm function as well as a beeping or buzzing alarm, allowing a sleeper to awaken to music or news radio rather than harsh noise. Most also offer a “snooze button,” a large button on the top that stops the alarm and sets it to ring again at a short time later, typically anywhere between five and 10 minutes. Some alarm clocks also have a “sleep” button, which turns the radio on for a set amount of time (usually around one hour). This is useful for people who like to fall asleep with the radio on.



Newer digital clock radios often use a battery backup to maintain the time in the event of a power outage. Without this feature, digital clocks will reset themselves incorrectly when power is restored, causing them to fail to trigger the alarm.

Computer Alarms

Alarm clock software programs have been developed for personal computers. A PC acting as an alarm clock may allow an unlimited number of alarm times, personalized tones, online features (such as news and weather reports) and even features for insomniacs. These programs generally have more features than the standard bedside alarm clock.

While PCs allow features and flexibility ideal for office reminders, most people still prefer the simplicity and bedside convenience that an ordinary alarm clock offers for morning waking.

Other Alarm Options

There are several other alarm clock options to be found on other devices. Most digital watches have alarm options as well as cell phones, MP3 players, PDAs and other personal electronic devices. Many newer stereos and TVs have options where you can set them to turn on at certain times.

Travel Alarm Clocks

Whether vacationing, heading out on a business trip or traveling for other reasons, travel alarm clocks will ensure you have the means to effectively manage your time without relying on wakeup calls. Portable, easy to read and easy to set, travel alarm clocks can wake you with familiar sounds, which is a soothing and comforting

experience while traveling. Most travel alarm clocks differ from regular alarm clocks because they are battery operated and smaller in size than the traditional clocks (most plug into an outlet). They generally have all the features of a regular alarm clock including a snooze option. Some have other features like a dual time display, where you can set one display to show the time at home and one to show the time where you are or a thermometer display.

Some travel alarm clocks come in large pocket watch-like cases that flip open, while others resemble mini stereos with speakers that rotate outward. Small travel alarm clocks can look similar to cell phones while others are LED-type clocks. Styling is extremely varied but the common feature of all is that they fold into their own protective carrying cases.

History

An early prototype of the alarm clock was invented by the Greeks around 250 B.C. The Greeks built a water clock where the rising waters would both keep time and eventually hit a mechanical bird that triggered an alarming whistle.

The first mechanical alarm clock on record was invented by Levi Hutchins of Concord, New Hampshire, in 1787. However, the ringing bell alarm on his clock could ring only at 4 a.m. On October 24, 1876, a mechanical wind-up alarm clock that could be set for any time was patented (#183,725) by Seth E. Thomas.¹

Other sources point to there being earlier versions of mechanical alarm clocks in Germany and England before 1787, but the names of the inventors aren't on record.

Alarm Clock Terminology

Ascending Alarm: This type of alarm is a beeping sound. It starts off soft and gradually gets louder.

Atomic Clock: The time on these clocks are corrected on a regular basis by a signal from a regional station. In the United States, the signal is transmitted from Fort Collins, Colorado. Clocks with this feature contain a chip that is specific to the region. Clocks made for the U.S. market will not function correctly in Europe.

Battery Back-up: This is a feature found on many electric clocks. When a charged battery is installed, the time and alarm settings will be saved during a power outage. Because of the low battery voltage, not all clock functions will be maintained. You should read the clock description to see if this is clarified. Battery back-up is not intended for long-term use of an electric clock.

Battery-Operated Alarm Clock: This term is the same as "quartz clock." The clock has a battery-operated quartz movement. Battery clocks will make a ticking sound that will vary from clock to clock.

Beeping Alarm or Beep Alarm: This has an electronic beeping sound.

Countdown Timer: This feature is often utilized to keep people on schedule and on time. If you are limited to a certain amount of time, simply set your countdown timer, and it will notify you when it is time to move on to your next task.

Day Clock: At some point in the process of returning to consciousness, it is always pleasant to know what day it is. If you own an alarm clock, then you rely on some form of scheduling, so a day clock feature is an ideal way to get a quick bead on what's headed your way in the coming day.

Dual Alarms: This means that two alarms can be set for one day. For example, if one spouse must get up at 7 a.m. and the other at 7:30 a.m., each alarm time can be set.

Insta-Set: This technology was designed by Equity Time USA. Insta-Set clocks have a miniature battery installed in the circuitry of the clock. When the clock is plugged in, the clock refers to the time that was preset at the factory. It never has to be set by the consumer. The battery installed at the factory has an approximate life of three years. After that time, the battery must be replaced.

L.C.D.: Short for Liquid Crystal Display, a type of display used in digital watches, clocks and many portable computers. LCD displays utilize two sheets of polarizing material with a liquid crystal solution between them. An electric current passed through the liquid causes the crystals to align so that light cannot pass through them. Each crystal, therefore, is like a shutter, either allowing light to pass through or blocking the light. This type of a display usually requires a dial light to read in the dark.

¹"Clocks and Calendar History," by Mary Bellis, About.com <<http://inventors.about.com/od/cstartinventions/a/clock.htm>>

L.E.D.: Abbreviation of Light Emitting Diode, an electronic device that lights up when electricity is passed through it. LEDs are usually red. They are good for displaying numerical images because they can be relatively small, and they do not burn out. Used on digital display clocks.

Lighted Dial: This description means that the clock has a light bulb behind or to the side of the dial to light it up at night. The light can be “continuous” (on all the time) or “on demand” (push a button for the light).

Luminous or Luminous Material: The clock description may say it has “luminous” hands, numbers and/or hour dots. This means that a luminous material has been applied that will glow for a limited time in the dark. The amount of time it glows depends on the intensity of the light the material is exposed to during the day. Luminous material does not “produce” light and should not be confused with the term “lighted dial.” Regardless of illumination method, every alarm clock should have some way for it to be read in the wee hours of the morning.

Mechanical Clock or Movement: The clock winds up. The spring, when fully wound, will run for 24-36 hours. Wind up clocks will make a ticking sound. The loudness will vary from model to model.

Multiple Alarms: Alarm clocks that offer multiple alarms give you a variety of sounds to wake up to. With its own sound and time, each alarm helps to keep multiple parties on schedule without having to be reset.

Music Features: For those who like to be wakened by the chatter of morning radio or the tunes from their favorite CDs, music features add versatility to any alarm clock.

Nightvision: This is a patented technology developed by Equity Time USA. It is a low-light “glow” of the dial for night viewing. This technology does not use a light bulb.

Nite-Glo: This is a patented technology developed by Wehrle, which is similar to the Equity Nightvision. It is a low-light “glow” of the dial for night viewing. This technology does not use a light bulb.

Projection: A projection feature allows the user to display information on a wall or ceiling. This can be helpful when the face of the alarm clock is either too small or not well lit for checking time in the dark.

Repeating Alarm: This feature is found on some wind-up alarm clocks. It simply means that the alarm will sound for a time, then stop, then sound again, and repeat the process until the spring winds completely down.

Quartz Clock or Quartz Movement: This term is the same as “battery clock.” The clock has a battery-operated quartz movement. Battery clocks will make a ticking sound that will vary from clock to clock.

Snooze Alarm or Snooze Function: The snooze button may be pushed to silence an alarm for a predetermined length of time, usually between 5 to 10 minutes. The time varies from clock to clock and may be customized on some models. Once the time passes, the alarm will sound again. Some clocks will limit the number of times the snooze may be activated on one setting. This helps prevent you from oversleeping.

Strobe Light: High-intensity flashing light.

Thermometer: Many alarm clocks have weather features incorporated into their display functions. Remote sensors are used to relay the information and can be placed anywhere within range of the alarm clock. This gives the user accurate temperature readings right at their fingertips.

Basically, it’s up to you to decide what you want in an alarm clock. Clocks range from expensive models with loads of features to models with just the basics. Select an alarm clock that meets your needs and budget and, most importantly, will wake you up!

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