Now Hear This!

Each year, a few serious scientists are awarded Nobel Prizes. And each year, some other scientists get much sillier awards: the Ig Nobel Prizes. The Ig Nobels award scientists whose research first makes people laugh-and then makes them think. Back in 2006, Howard Stapleton won the Ig Nobel Peace Prize. What did he do to win? He invented a machine to repel kids!



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Adults use sound to repel kids, but some teens find a way to bite back

He calls his invention the Mosquito. It makes an irritating, high-pitched noise. Kids can hear the annoying sound, but adults cannot. Stapleton hoped store owners could use the device to keep unwelcome kids from hanging around their shops.

When something-such as a barking dog, a ringing phone, or the Mosquito-makes a noise, it creates tiny vibrations. Those vibrations make the air around the object move. The vibration travels through the air as a**sound wave.**

Low-pitched sounds like a foghorn's have a lowfrequency. That means the noise travels in few waves per second. High-frequency noises travel in many waves per second. Those noises sound high-pitched-like the shrill Mosquito.

The reason that older people can't hear the high-pitched Mosquito is because they have older ears. As a person ages, special cells inside the ear called hair cells start to die. As a person's hair cells die, it becomes harder to hear high-frequency sounds.

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Hz. Hardly anyone older than 30 is able to hear frequencies that high, but kids can!

Howard Stapleton's invention may have won him a prize, but some smart kids have found a way to turn the tables on adults. Many kids are now using a similar high-pitched buzz as a cell phone ring tone, known as the "Mosquito tone" or "Teen Buzz." If the phone rings when it shouldn't-like in the middle of science class-only kids can hear it. Teachers and parents are deaf to the Mosquito tone.

Now you know the secret of the Mosquito tone. But beware: that's the kind of fact you just might miss if you're talking on the phone during science class!

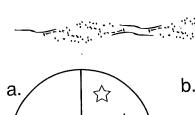
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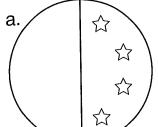
- 1. The Mosquito repels kids. What causes the Mosquito to repel kids?
 - A. It releases a sour smell that only kids can sense.
 - B. It makes a low-pitched sound that only kids can hear.
 - C. It makes a sound that only adults can hear.
 - D. It makes an annoying sound that only kids can hear.
- 2. How does noise travel?
 - A. through the ground
 - B. in sound waves
 - C. in light waves
 - D. in light years
- 3. Why does the Mosquito make a high-pitched sound?
 - A. The sound waves it creates move at a high frequency.
 - B. The sound waves it creates move at a moderate frequency.
 - C. The sound waves it creates move at a low frequency.
 - D. The sound waves it creates change frequencies.
- **4.** As a person ages, special cells inside the ear called hair cells start to die. What is an effect of this?
 - A. The person is able to hear low-pitched sounds better.
 - B. The person is unable to hear neither high-pitched sounds nor low-pitched sounds.
 - C. The person is unable to hear high-pitched sounds.
 - D. The person is unable to hear low-pitched sounds.
- **5.** What does the word "repel" mean as used in the text? Use evidence in the text to support your answer.

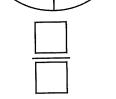
Having a Ball

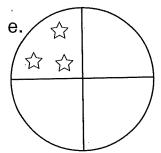
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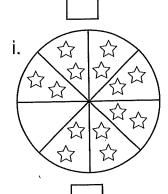
Write a fraction to show which part of each ball has stars.

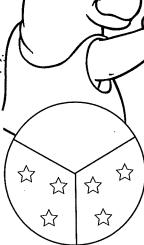


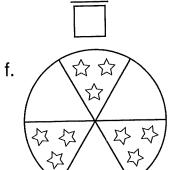


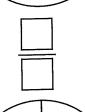


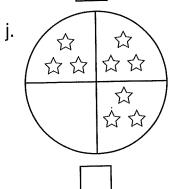


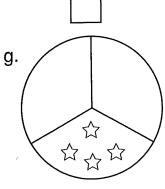


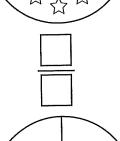


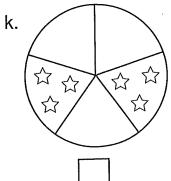


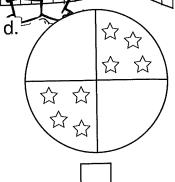


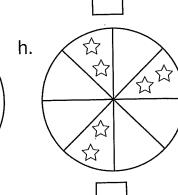


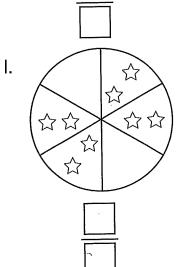






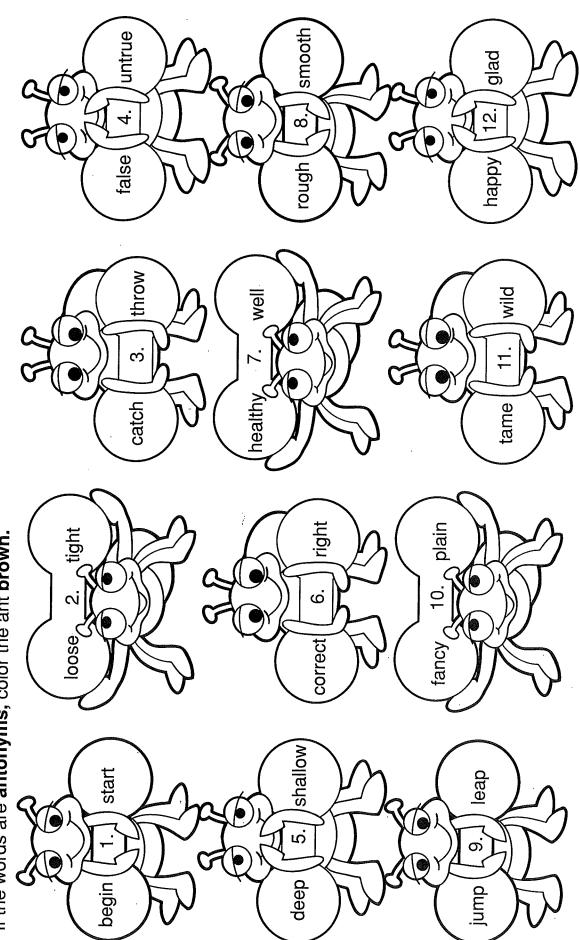






Ant Champs

If the words are **synonyms**, color the ant **red**. If the words are **antonyms**, color the ant **brown**.



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