3rd Grade Sound & Light

Read and answer each question carefully.

1) What do all sounds have in common?
   
   A) They have shorter vibrations.
   B) They have longer vibrations.
   C) The pitch is always the same.
   D) They are made when things vibrate.

2) To change the pitch of a sound, you would
   
   A) change the rate.
   B) change the object.
   C) change the vibration.
   D) change the length of the vibrating item.

3) Which size nail will make the highest pitch sound when you strike it?
   
   A) the shortest length nail
   B) the medium length nail
   C) the longest length nail
   D) all lengths will make the same pitch
4) The rate of vibration means

   A) how loud an object vibrates.
   B) how low an object sounds.
   C) how fast an object moves back and forth.
   D) how high an object sounds.

5) Pitch means

   A) how high or low a sound is.
   B) how soft or loud a sound is.
   C) how loud you scream.
   D) how soft you whisper.

6) If an object vibrates more quickly than another object, it will

   A) have a louder sound.
   B) have a higher pitch.
   C) have a lower pitch.
   D) sound more quiet.

7) Water splatters when a vibrating object touches its surface because

   A) the object weighs more than the water.
   B) the object vibrates in a different direction.
   C) the object is moving and makes the water move.
   D) the object and water are not magnetic.
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8) Besides length, what else can change the pitch of a vibrating rubber band?
   A) who plucks the rubber band
   B) the color of the rubber band
   C) the material the rubber band is stretched on
   D) the thickness of the rubber band

9) A child's voice is higher pitched than an adult's voice because
   A) the child's vocal cords are thinner and shorter than an adult's vocal cords.
   B) the adult uses a lower voice on purpose.
   C) the child doesn't have as many vocal cords as an adult.
   D) the adult's vocal cords are thinner and shorter than a child's vocal cords.

10) Rapid back and forth movement of an object is called
    A) vibration.
    B) reflection.
    C) refraction.
    D) evaluation.

11) When you try to see through an object and you cannot see any light, the object is
    A) translucent.
    B) opaque.
    C) thick.
    D) transparent.
12) Which of these drawings shows the correct angle of reflection when a flashlight is aimed at a mirror?

A) drawing 1  
B) drawing 2  
C) drawing 3  
D) drawing 4
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13) Which statement is true about transparent objects?
   A) They cast dark shadows.
   B) They cast long shadows.
   C) They cast faint shadows.
   D) They cast little or no shadow.

14) Reflected light always travels in
   A) a straight path.
   B) a blurry path.
   C) an upward path.
   D) a bent path.

15) Darker objects absorb more light which makes them
   A) harder to see.
   B) more translucent.
   C) less translucent.
   D) easier to see.

16) You are able to see an object because
   A) it is transparent.
   B) it is refracted.
   C) light reflects off of it.
   D) it is opaque.
17) Which color would be best to wear when you are riding a bike or walking at night?

A) white  
B) red  
C) black  
D) brown

18) When you look through an object and see some light and objects look blurry, the object you are looking through is called

A) dark.  
B) translucent.  
C) opaque.  
D) transparent.

19) More light is absorbed by a material that is

A) lighter.  
B) thinner.  
C) thicker.  
D) darker.
20) Sam put his pencil in a glass of water. When he looked at it from the side, it looked like the pencil was bent. This experiment demonstrates that light refracts when it passes through other materials.

A) casts a shadow
B) refracts
C) reflects
D) absorbs