Design of Music Instruments for a Rock Band **Name:_____**

3rd Grade- Design Task Assessment **Date:_____**

Directions: For each of the questions below, choose the BEST answer.

1) **Sound** is a form of:

   A. weight
   B. mass
   C. energy
   D. length

2) Megan is talking to her friends. How does the sound of her voice travel through the air?

   A. bubbles
   B. drops
   C. lines
   D. waves

3) In order to make sound, an object must:

   A. spin
   B. absorb
   C. shrink
   D. vibrate

4) **Volume** is the word used to describe how _____ a sound is.

A. slow or fast
B. light or heavy
C. quiet or loud
D. long or short

5) If a drum vibrates with more energy, the volume of sound will:

A. stay the same
B. increase
C. decrease
D. cannot tell

6) When describing a sound, the word pitch means how _____ a sound is.

A. heavy or light
B. soft or loud
C. high or low
D. long or short

7) Shana made a musical instrument using a string attached to a cardboard box. If she wants a sound with a higher pitch she could use:

A. a longer string.
B. a shorter string.
C. a thicker string.
D. more force.

8) Below are four strings that are made of the same material and have the same length. If Roberto taps each string with the same force, which string will vibrate most quickly?

A.

B.

C.

D. 

9) If an object vibrates faster, how will this affect the sound it makes?

A. The pitch will become lower.
B. The pitch will become higher.
C. The volume will become louder
D. The volume will become quieter.

10) Each time Martin hears the sound of thunder, he notices the window in his room shakes. Which best explains why the window shakes?

A. An earthquake must have happened at the same time.
B. The energy of the thunder's sound waves makes the window shake.
C. A strong wind shakes the window each time.
D. The sound of thunder had a low pitch that made the window shake.

11) Ling has designed and built a musical instrument using tape and straws having three different lengths, but she has not yet decided what to call it.

Which *best* describes the engineering design problem?

A. Decide what kind of tape to use.
B. Determine a name for the instrument.
C. Use three different length straws.
D. Create a musical instrument.

Use the following information to answer questions 12 – 13.

Roberto is an engineer at a company called Sound Engineering. Another company, Best Bicycles, wants Sound Engineering to design a bell for riders to put on their bicycles.

12) Who is the client?

A. Best Bicycles
B. Sound Engineering
C. Roberto the engineering
D. Bicycle riders

13) Who is the user?

A. Sound Engineering
B. Best Bicycles
C. Roberto the engineer
D. Bicycle rider