Name _____

Webquest – Light and Sound

1st Website – An Introduction to Waves

http://www.bbc.co.uk/schools/gcsebitesize/science/aqa_pre_2011/radiation/anintroductiontowavesrev1.shtml

True or False – Sound waves are transverse waves whereas water and light waves are longitudinal or compression.

2nd Website – Make a Note

http://www.scienceworld.ca/sites/default/files/flash/games/engagingscience/index.html

The more water added to the cup, the _____ the pitch becomes.

3rd Website – How sound travels

http://www.knowitall.org/nasa/simulations/sound/howsound.html

Why can't you hear a frog's echo in space?_____

_____

_____

4th Website – Changing Sounds

http://www.bbc.co.uk/schools/scienceclips/ages/9_10/changing_sounds.shtml

Why does a guitar make a higher pitched sound when less of the string is used? _____

_____

_____

5th Website – A Self-Guided Tour of the Electromagnetic Spectrum

1. Using google.com, search for Nova Electromagnetic Spectrum Tour.
2. Click on link from pbs.org
3. *Click on 'Launch Interactive'.*

True or False – Visible Light makes up a large portion of the electromagnetic spectrum.

True or False – Radio waves have a higher frequency than X-rays.

6th Website – Our Infrared World Gallery

http://coolcosmos.ipac.caltech.edu/image_galleries/our_ir_world_gallery.html

- Browse through some of the images. Think about the color of the object.

If an object had mostly an infrared image consisting of blues, what temperature would you conclude the object is? Circle One → Hot warm cold freezing

7th Website – What is a Laser?

http://spaceplace.nasa.gov/en/kids/laser/

List one major difference between light waves from ordinary sources compared to light waves from lasers. _____

_____

_____

8th Website – Refraction

http://inteleducationresources.intel.co.uk/content/keystage3/Physics/pc/learningsteps/refraction/launch.html

Imagine if the bird didn't allow for refraction. What would happen? _____

_____

_____

9th Website – How we see things

http://www.bbc.co.uk/schools/scienceclips/ages/10_11/see_things.shtml

*When light hits the mirror, it **changes direction**.*

Rewrite the above sentence by changing the bold words into more scientific terminology.

_____

10th Website – Sound

http://www.iknowthat.com/ScienceIllustrations/sound/science_desk.swf

- Click on ***Sound***. Select **Click Here to Start Your Activity** (Toward the bottom). Play with the clap, and then change to ***Exploring Pitch and Volume.***

Why does the pitch get higher as the glass gets smaller? _____

_____

11th Website – What are Lenses?

1. Using google.com, search for Optics for Kids What Are Lenses.
2. Click on link from optics.synopsis.com

Fill in the blank using synonyms…

Convex lenses will converge or _____ light.

Concave lenses will diverge or _____ _____ light.

12th Website – Space Talk

http://spaceplace.nasa.gov/x-ponder/en/
If the link doesn't work, search '*how to yell across a solar system'* and click on the link associated with NASA.

- Even though astronauts, telescopes, and satellites are thousands to millions of miles away from earth, they can communicate relatively quickly.

Watch the video, then answer the following question.

- The transmitter on the spacecraft takes the coded picture (a bunch of 1's and 0's) and decodes it into what type of wave? _____

Why is it necessary to decode the picture? _____

_____