

## Grade 4 Science

Lesson: 4-11

Unit: Light and Sound

Topic: Echoes

### Lesson

- Hand out worksheets
- Have students read through front of paper
- Discuss that experiment will need to be done in one big group (2 if enough supplies)
- Explain difficulties
  - Need silence
  - Different hearing levels
  - Can't bump it
  - limited resources
- Set up experiment with student help
- Allow each student to hear ticking through tube before setting up echo
  - \* Explain that this is a 10 on the volume scale and no sound is a 0.
- Set up echoing surfaces, one at a time, allowing each student to listen
- If time at end, have students go outside and try clapping to make echo

### Reminders

### Supplies Needed

- Ticking clock (small)
- Fabric
- 2 cardboard tubes
- Cookie sheet
- Cotton balling
- ~~Cardboard~~
- Tape

### Homework

### Notes

- \* Glued cotton balls to paper ← "Fluff" them first
- \* Had to do experiment as a class — with big class, try to set up 2 stations at least

## Grade 4 Science

Lesson: 4-12

Unit: Light and Sound

Topic: Ears

### Lesson

- Inform class that today is to be a student led lesson, they are given the information and the work, and we to try to complete it through:
  - independent work <sup>1<sup>st</sup></sup> and
  - peer conferencing <sup>2<sup>nd</sup></sup>
- Explain that this does not mean I won't help, just that I am encouraging them to practise using other resources
- Hand out sheet
- Students work
- If finished they can answer echo questions from last class.

### Reminders

### Supplies Needed

- worksheet

### Homework

### Notes

# Grade 4 Science

Lesson: 4-13

Unit: Light and Sound

Topic: Quiz

## Lesson

- Review Quiz expectations
  - eyes on own paper
  - no talking
  - hand up to ask clarification questions
- Hand out quizzes → point out options
  - choose experiment
  - choose what to write for part d
- If done students do finish up work.

## Reminders

## Supplies Needed

- Quizzes

## Homework

## Notes



# Grade 4 Science

Lesson: 4-14

Unit: Light and Sound

Topic: Light Sources.

## Lesson

- Ask students:
  - "Which is brighter, the sun or the moon?" → The sun
  - "Why do you think that is?" → Sun emits light, moon reflects light
  - "Can you think of other things that only reflect light?" → mirror, reflectors or bicycle
  - "What does the word 'Natural' mean?" → Occurs without humans
  - "What would 'Natural Light Source' mean?" → A light source that would exist without humans
  - "What would 'Artificial Light Source' mean?" → Man-made light
- Hand out worksheet and read through intro
- Discuss organization of light
- Explain activity
- Students work through activity

## Reminders

## Supplies Needed

- Worksheets

## Homework

## Notes

# Grade 4 Science

Lesson: 4-15

Unit: Light and Sound

Topic: Uses of Reflected Light

## Lesson

- "What am I wearing?" → duty vest
  - "What is it used for?" → so you can be noticed
  - Talk about how it is made to help people get noticed → bright colours  
→ shiny surfaces (reflectors)
  - Explain today's task → read info online  
→ look at pictures  
→ watch videos  
→ write a paragraph about how reflectors keep us safe  
→ Develop an advertisement for something that uses reflected light
  - If complete students are to think of other ways we use reflected light
- \* Could provide this question as extra work: How can we use reflected light to keep animals off the road?

## Reminders

- Put webpage online prior to class
- Wear duty vest to class

## Supplies Needed

- Computers
- ~~lined paper~~
- Duty Vest
- worksheets

## Homework

## Notes

Grade 4 Science

Lesson: 4-16

Unit: Light and Sound

Topic: Work Period

**Lesson**

- Review light source vs reflected light  
Natural vs artificial light  
Hot vs cool light
- Explain that today will be used to finish up work from previous cycle lessons.
- Students are to work mainly independantly, but may conferce when stuck

**Reminders**

**Supplies Needed**

**Homework**

**Notes**



# Grade 4 Science

Lesson: 4-17

Unit: Light and Sound

Topic: Heat vs No Heat (Light)

## Lesson

- Review  
Light source vs reflected light  
Natural vs artificial light  
Hot vs cool light
- Explain experiment → in small groups, given light source  
→ measure temp of source

## Reminders

## Supplies Needed

- Worksheets
- lamps
- Incandescent light bulbs
- Fluorescent light bulb
- Incandescent X-mas lights
- LED X-mas lights
- thermometers

## Homework

## Notes

# Grade 4 Science

Lesson: 4-18

Unit: Light and Sound

Topic: Prisms

## Lesson

- ~~Prisms~~ Explain procedure for today:
  - read information page
  - Finish questions from previous experiment
  - With a partner, play with prisms to try to separate light
  - Complete any other finish up work
  - Read quietly or do finish up for other subjects.
- Had out information pages
- Post colour picture page so students can reference
  - \* Could add in mist experiment if supplies
    - stand with back to sun
    - set spray bottle to fine mist
    - spritz ~~away~~ away from sun,
    - look for rainbow
- Ask students to bring in yogurt or sour cream type container.

## Reminders

## Supplies Needed

- Info page
- prisms
- Colour picture page

## Homework

- Bring in container

## Notes



Grade 4 Science

TIPO  
w.k.f. ✓  
word → word

Lesson: 4-19

Unit: Light and Sound

Topic: Use of Sound

**Lesson**

- Review: "What is sound?" → vibrations that our ears can hear
- "How do the vibrations get to our ears?" → sound travels in waves
- "What are some properties of sound?" → travels, caused by vibrations, can reflect, can absorb
- "How do our ears work (to hear sound)?" → sound travels down ear canal, hits ear drum, ear drum vibrates bones in ear, bones send signal to brain through nerves
- Hand out worksheet
- Students are to read with a partner
- Students then ~~find a different partner~~ to answer questions on their own
- When done, students conference to add more to answers
- ~~At~~ ~~the~~ ~~end~~ ~~of~~ ~~the~~ ~~lesson~~ remind students to bring in yogurt or sour cream type container, ~~as~~

**Reminders**

**Supplies Needed**

- Worksheet

**Homework**

- Bring in container

**Notes**

# Grade 4 Science

Lesson: 4-20

Unit: Light and Sound

Topic: Use of Light

## Lesson

- Review: "What is light?" → A type of energy we can see
- "how does light travel?" → in waves
- "what are some properties of light?" → travels in waves, travels in straight lines, can be absorbed, can reflect, bends when it changes substances.

- Hand out worksheet
- Read intro
- Have students get in groups of 5 (use 6 if shy students who don't want to read)
- Each student reads a section
- Students then do questions individually
- When done, students conference to add more to answer

→ Remind students to bring yogurt container next class

- Game - all stand, in sequence they say something that uses/produces light, they have 5 seconds or they sit and are out, if repeat an answer they have 5 seconds to come up with new answer

## Reminders

## Supplies Needed

- Worksheets

## Homework

- Bring container

## Notes

typo → fight = light 2#1  
change = changed phone  
missing → play = more DUO