

Grade 4 Science

Lesson: 4-1

Unit: Light and Sound

Topic: Introduction

Lesson

- Explain to students that ~~at~~ today we are starting our new unit. The title of the unit is "Light and Sound"
- Explain today's tasks to students
 - Look at pictures
 - Record things that give us light and things that make sound on worksheet
 - Discuss with peers to add more
 - Make title page for unit on other side of worksheet
- Remind students to treat picture pages appropriately so they may be used multiple times
- Hand out work

Reminders

Supplies Needed

- Picture pages
- Worksheets

Homework

Notes

Grade 4 Science

Lesson: 4-2

Unit: Light and Sound

Topic: Properties of Light

Lesson

- Start class by reading the definition of light from worksheet
* it is meant to be confusing
 - Discuss with class the meaning of what was read, having them provide input towards a grade 4 level definition
 - Hand out worksheets
 - Have student volunteers read the properties of light
 - Inform students that they are to answer the questions on the back by using those properties.
 - Students use remaining time to work.
- At the end of class, ask students to bring a flashlight to store in their desk for the unit.

Reminders

Supplies Needed

- worksheets

Homework

Notes

Grade 4 Science

Lesson: 4-3

Unit: Light and Sound

Topic: Properties of Sand

Lesson

- Explain that today we will be doing a very similar lesson to last class, only this time we are looking at sand.
- Read definition of sand from worksheet
- Discuss with class to come up with a Grade 4 definition
- Hand out worksheet
- Have students volunteer to read the properties of sand
- Students then answer the questions on the back, based on those properties
- Remind students to bring a flashlight

Reminders

Supplies Needed

- Worksheet

Homework

Notes

Grade 4 Science

Lesson: 21-4

Unit: Light and Sound

Topic: Light Travels in Straight Line

Lesson

- Explain today's activity to students
 - Draw bull's eye on an index card
 - Punch hole in middle of 3 other cards
 - Try to shine light through cards to hit bull's eye
- Hand out worksheets
- Tell students they may get supplies (with partner) only after they have read entire sheet.
- Students perform experiment
- Once successful, allow students to try with laser pointer
- Leave time for cleanup
- Ask students to keep ~~an~~ index cards in their folders

Reminders

Supplies Needed

- Index cards
- Flash lights
- worksheets
- Play dots
- laser pointer

Homework

Notes


Grade 4 Science

Lesson: 4-5

Unit: Light and Sound

Topic: What Makes Sound

Lesson

- Inform students that today we will be doing an experiment with sound
- Show students a tuning fork and discuss use
 - hit on shoe only, not hard surface
 - do not put right next to ear
- Explain activity → plastic wrap over container, stretch tight, elastic to hold
 -  Demo w/ out salt → Salt on top
 - Hit fork once and hold close (show)
 - Hit lots hold close
 - Hit once ~~hold~~ gently
 - Repeat with ^{touch} water
- Students must read entire sheet before getting supplies

Reminders

- ~~lots of~~ clean up time for salt and water

Supplies Needed

- Tuning forks
- Plastic wrap
- Elastics
- Yogurt containers (or substitute)
- Salt
- Worksheets

Homework

Notes

Grade 4 Science

Lesson: 4-6

Unit: Light and Sound

Topic: Reflecting light

Lesson

- Set up mirror and white cue card at 90°
 - show reflection off mirror to cue card
 - show how to compare reflection by lowering and raising another surface in front of the mirror
 - point out the difference in intensity of reflection
- Discuss how to rank surfaces from 1 → 7 (guess first)
- Hand out worksheet, when students have predicted the rank and read entire sheet, they may begin
- Remind students to be careful with the breakable mirrors
- Leave tidy-up time at end.

Reminders

Supplies Needed

- | | | |
|---------------|-----------------|------------------|
| - Mirrors | - Colored Paper | - Play doh |
| - white Paper | - Aluminum foil | - Other surfaces |
| - Black Paper | - Flashlights | - Worksheets |

Homework

Notes

Grade 4 Science

Lesson: 4-7

Unit: Light and Sound

Topic: Sound Vibrations

Lesson

- Today's lesson is to be an independent lesson
- Hand-out worksheets
- Students read through information on front of page and then answer questions on back
- Encourage students to discuss/ask questions when stumped

Reminders

Supplies Needed

- worksheets

Homework

Notes

Grade 4 Sound

Lesson: 4-8

Unit: Light and Sound

Topic: Work Period

Lesson

- Today's period is to be used to finish up any incomplete work
- Lay out equipment from all previous experiments
- Inform students that their goal for today is to complete all of their worksheets
 - today's work needs to be focused on the task
 - safety rules must be followed
 - clean-up as you work
- Leave extra clean-up time at end of class

Reminders

Supplies Needed

- Supplies for all previous experiments

- Yeast containers
- Plastic wrap
- Salt

- index cards
- Flash light
- mirrors

- Tuning forks
- Black Paper
- White Paper

- Colored Paper
- Aluminum Foil
- Play doh

Homework

Notes

Grade 4 Science

~~Light and Sound~~

Lesson: 4-9

Unit: Light and Sound

Topic: Take-up Period

Lesson

- Have students pull out their worksheets
- One sheet at a time
 - Take student input of answers
 - Discuss
 - Come to conclusion of ~~the~~ proper, detailed answer
 - Check understanding
 - Allow time for students to update

Reminders

Supplies Needed

- Answer keys to 4-2 → 4-7

Homework

Notes


Grade 4 Science

Lesson: 4-10

Unit: Light and Sound

Topic: Light and Water ^{Refraction}

Lesson

- Review the idea of catching a fish with a spear requires throwing the spear in front of where the fish is seen.
→ ask why? - light bends as it enters water
- Explain that water is not the only thing that bends light, light bends whenever it changes from one thing to another. This is called refraction
- Draw diagram to show refraction through flat vs curved surface


light leaves at same angle → ← light does not leave on same angle
- Discuss how this relates to glasses and magnifying lenses.
- Hand out worksheet
- Student read, then perform activity

Reminders

Supplies Needed

- | | | | |
|---------------------|----------------|------------------------------|-------------|
| - Yogurt containers | - Plastic wrap | - A variety of small objects | - Newspaper |
| - Elastics | - Water | - Pipettes | - Quiz work |
| | | - Worksheet | |

Homework

Notes