

Date: _____

Name: _____

Light Source Binary

This activity was created by Amaris

In each scenario, identify which lights are turned on or off using binary code (1 for “on” and 0 for “off”).

SCENARIO #1

You and your friend are having a sleepover, and you go downstairs to watch a movie. You don't want to have a glare on the TV from the basement lights because you won't be able to see what's happening on the screen very well. What should you do with the basement lights, as well as the TV?

Basement lights TV

SCENARIO #2

You are biking home from your friend's house after the sun has just gone down. You want to make sure cars can see you in case any pass by. Which light sources should be “on” and which are “off”?

Front bike light Rear bike light Sunlight

SCENARIO #3

You and your sibling are baking cookies, and you want to check to see how cooked they are without opening the oven and losing heat. What should you do with the oven light?

Oven light

SCENARIO #4

You and your family want to have a fire in your backyard. It's already dark out and kind of hard to see where to walk to get down to the fire. Which light sources do you think are available to you?

Yard lights Flashlight Fireflies Sunlight

After a couple hours, your family is tired and all wants to go to bed because it's getting late, but what should you make sure to do before you go in the house?

Fire

SCENARIO #5

Your whole family sleeps on the top floor of your house, and you are the last one downstairs because you were studying for a test. You are done studying and want to go to bed. What should you do before you head upstairs to go to bed (especially if you want to save energy overnight)?

Downstairs lights Computer light

SCENARIO #6

You're playing a game of hide and seek with your friends and it's dark out, so you, the tagger, have a flashlight. You can hear someone rustling in the bushes but don't want them to know you've found them. What should you do with the flashlight?

Flashlight