

SFU

SIMON FRASER UNIVERSITY
THINKING OF THE WORLD



Lighting:

Operation & Safety

Spring 2016

Before Borrowing Lighting Kits

- Complete the online quiz
- Score 100% based on the material in this workshop
- Show the library technicians
- Get a sticker for your student card

Lighting Kits

- Quartz Halogen vs. Incandescent Lighting
 - Both operate on the same principle:
 - Electric current passes through a thin tungsten metal filament causing it to heat white hot and emit light
 - However, quartz halogen lamps encase the filament in a quartz casing filled with halogen gas. This allows these bulbs to run hotter, brighter and whiter

Lighting Kits

- Lighting Kits For Loan:

- Small Lighting Kit

- 3 x Lowel Prolight 150W tungsten balanced lights
 - Low-level key or accent light, fill light (with diffusion) or back-light for interviews & other small shooting-areas
 - 3 x stands
 - 3 x barn doors
 - Colour correction and diffusion gels



Lighting Kits

- Lighting Kits For Loan:

- Large Lighting Kit

- Contains one 750W ARRILite open face lamp and two 300W ARRI fresnel lamps
 - Ideal for lighting standing or multiple subjects or from a farther distance
 - 3 x stands
 - Soft-box
 - 3 x barn doors
 - Scrims



Lighting Kits

- Safety
 - Check all equipment for damage before use
 - Tape down all cables with Gaffer tape or duct tape (the library can provide duct tape)
 - Use in dry conditions
 - Always open the barn doors before turning a lamp on
 - Use at least **14 gauge** extension cords
 - Never look directly at the lamps (call “Spark!”)

Lighting Kits

- Safety
 - Never pick up and move a lamp stand while the lamp is on
 - Do not operate the lamps pointing up or down at a very steep angle
 - Do not operate lamps upside down; they could overheat
 - If smoke appears around the lamp or cables turn off the lamp and return it to the library

Lighting Kits

- Hot Lamps
 - These lights can get very hot!
 - Use only approved accessories and gels that are specifically designed for use with hot lights.
 - **When placed on or very near the lights, any other materials such as paper, plastic or cellophane will melt and possibly ignite.**
 - If you have a problem with a bulb, DO NOT attempt to change it, return it to the library for assistance
 - Subjects will be affected by the lights; consider their comfort

Lighting Kits

- Hot Lamps
 - Keep all subjects/objects minimum **2 meters** away
 - Keep all lamps and cables at least **6 meters** away from all flammable materials such as gas and oily rags
 - Do not touch the lamps without gloves for at least **5 minutes** after turning them off

Lighting Kits

- Electric Safety
 - How to find the draw on a circuit
 - Draw (amperage) = total light wattage (watts) / voltage
 - e.g. draw = 1000 watts / 120 volts = 8.3 amps
 - In North America, 120V is the standard
 - Most households have 15amp circuits
 - Using this formula do not load a circuit more than 80% of its maximum
 - e.g. most household circuits are rated at 15 amps:
 - » 15 amps x 80% safety factor = 12 amps
 - » (do not use more than 12 amps)

Lighting Kits

$$A = \frac{W}{V} \quad 12_{\text{amps}} = \frac{W}{120_{\text{volts}}}$$

Lighting Kits

$$W=AV$$

$$W=12_{\text{amps}} \times 120_{\text{volts}} = 1440_{\text{watts}}$$

approx. **1440w** of lights may be loaded on a standard household circuit

Lighting Kits

- Activity: Inventory Check
 - What is in the Kit:
 - A set of 3 lamps
 - 3 sets of barn doors
 - 3 light stands
 - Operation and safety guide
 - Gaffer' s tape or duct tape
 - Leather gloves
 - Gels and clothes pegs are in the Small Lighting Kit only
 - Soft-box and scrims are in the Large Lighting Kit only

Lighting Kits

- Activity: Inventory Check
 - Additional items you should borrow from the library
 - Gels (not in the Large Lighting Kit)
 - Sandbags
 - Umbrellas, reflectors, bounce boards, gobos
 - 14 gauge power extension cables
 - Duct tape
 - Ask the library techs for accessories!

Lighting Kits

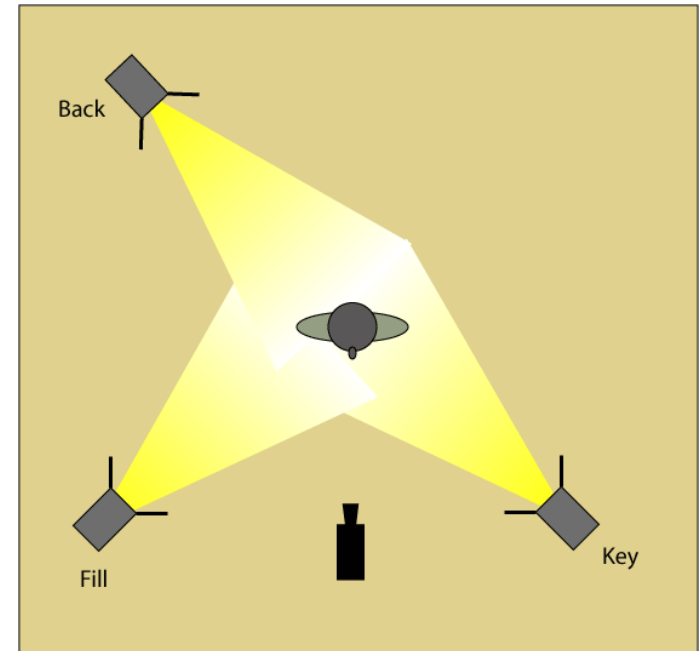
- Extras You Can Supply:
 - Wooden clothes pegs for fastening gels, foils, etc.
 - Practical lighting from hardware stores:
 - Utility lights:
 - Aluminum reflectors, ceramic sockets, etc.
 - Windshield sunscreen as a reflector
 - Foam core whiteboard
 - Leather gloves for handling bulbs

Lighting Kits

- Activity:
 - Setup and Assembly

Lighting Kits

- Assembly and Setup
 - Procedure:
 - Assemble your lighting kits according to the instructions
 - Recall what you learned about safety and...
 - Set the lights according to the 3-point lighting diagram
 - After your setup is checked by your instructor, disassemble and return the kits



Lighting Kits

- Online Quiz:
 - <https://www.lib.sfu.ca/about/branches-depts/fraser/fraser-equipment/siat-equipment>
 - Lighting kit workshop and quiz

Lighting Kits

- Questions:
 - Contact the Library Media Technicians
 - fraser_library@sfu.ca
 - 778-782-7411

Lighting Kits