Light Intensity

Activity 1: Power Up Question Group 1

Question 1

A 60-Watt bulb illuminates a surface a distance d away with an illuminance of 1800 lux. What would be the illuminance on a surface the same distance away if illuminated by a 120-Watt bulb?

Question 2

A 60-Watt bulb illuminates a surface a distance d away with an illuminance of 2400 lux. What would be the illuminance on a surface the same distance away if illuminated by a 120-Watt bulb?

Question 3

A 60-Watt bulb illuminates a surface a distance d away with an illuminance of 3600 lux. What would be the illuminance on a surface the same distance away if illuminated by a 120-Watt bulb?

Question Group 2

Question 4

A 60-Watt bulb illuminates a surface a distance d away with an illuminance of 1800 lux. What would be the illuminance on a surface the same distance away if illuminated by a 240-Watt bulb?

Question 5

A 60-Watt bulb illuminates a surface a distance d away with an illuminance of 2400 lux. What would be the illuminance on a surface the same distance away if illuminated by a 240-Watt bulb?

Question 6

A 60-Watt bulb illuminates a surface a distance d away with an illuminance of 3600 lux. What would be the illuminance on a surface the same distance away if illuminated by a 240-Watt bulb?

Question Group 3

Question 7

A 60-Watt bulb illuminates a surface a distance d away with an illuminance of 1800 lux. What would be the illuminance on a surface the same distance away if illuminated by a 30-Watt bulb?

Question 8

A 60-Watt bulb illuminates a surface a distance d away with an illuminance of 2400 lux. What would be the illuminance on a surface the same distance away if illuminated by a 30-Watt bulb?

Question 9

A 60-Watt bulb illuminates a surface a distance d away with an illuminance of 3600 lux. What would be the illuminance on a surface the same distance away if illuminated by a 30-Watt bulb?

Activity 2: Distance Matters

Question Group 4

Question 10

A light bulb illuminates a surface a distance 1.0 meter away with an illuminance of 1800 lux. What would be the illuminance on a surface 2.0 meters away if illuminated by the same bulb?

Question 11

A light bulb illuminates a surface a distance 1.0 meter away with an illuminance of 2400 lux. What would be the illuminance on a surface 2.0 meters away if illuminated by the same bulb?

Question 12

A light bulb illuminates a surface a distance 1.0 meter away with an illuminance of 3600 lux. What would be the illuminance on a surface 2.0 meters away if illuminated by the same bulb?

Question Group 5

Question 13

A light bulb illuminates a surface a distance 1.0 meter away with an illuminance of 1800 lux. What would be the illuminance on a surface 3.0 meters away if illuminated by the same bulb?

Question 14

A light bulb illuminates a surface a distance 1.0 meter away with an illuminance of 2400 lux. What would be the illuminance on a surface 3.0 meters away if illuminated by the same bulb?

Question 15

A light bulb illuminates a surface a distance 1.0 meter away with an illuminance of 3600 lux. What would be the illuminance on a surface 3.0 meters away if illuminated by the same bulb?

Question Group 6

Question 16

A light bulb illuminates a surface a distance 1.0 meter away with an illuminance of 1800 lux. What would be the illuminance on a surface 4.0 meters away if illuminated by the same bulb?

Question 17

A light bulb illuminates a surface a distance 1.0 meter away with an illuminance of 2400 lux. What would be the illuminance on a surface 4.0 meters away if illuminated by the same bulb?

Question 18

A light bulb illuminates a surface a distance 1.0 meter away with an illuminance of 3600 lux. What would be the illuminance on a surface 4.0 meters away if illuminated by the same bulb?

Question Group 7

Question 19

A light bulb illuminates a surface a distance 1.00 meter away with an illuminance of 1800 lux. What would be the illuminance on a surface 0.50 meters away if illuminated by the same bulb?

Question 20

A light bulb illuminates a surface a distance 1.00 meter away with an illuminance of 2400 lux. What would be the illuminance on a surface 0.50 meters away if illuminated by the same bulb?

Question 21

A light bulb illuminates a surface a distance 1.00 meter away with an illuminance of 3600 lux. What would be the illuminance on a surface 0.50 meters away if illuminated by the same bulb?

Question Group 8

Question 22

A light bulb illuminates a surface a distance 1.00 meter away with an illuminance of 1800 lux. What would be the illuminance on a surface 0.25 meters away if illuminated by the same bulb?

Question 23

A light bulb illuminates a surface a distance 1.00 meter away with an illuminance of 2400 lux. What would be the illuminance on a surface 0.25 meters away if illuminated by the same bulb?

Question 24

A light bulb illuminates a surface a distance 1.00 meter away with an illuminance of 3600 lux. What would be the illuminance on a surface 0.25 meters away if illuminated by the same bulb?

Activity 3: Putting it All Together

Question Group 9

Question 25

A 60-Watt bulb illuminates a surface a distance d away with an illuminance of 1800 lux. What would be the illuminance on a surface a distance 2•d away (i.e., twice as far away) when illuminated by a 120-Watt bulb?

Question 26

A 60-Watt bulb illuminates a surface a distance d away with an illuminance of 2400 lux. What would be the illuminance on a surface a distance 2•d away (i.e., twice as far away) when illuminated by a 120-Watt bulb?

Question 27

A 60-Watt bulb illuminates a surface a distance d away with an illuminance of 3600 lux. What would be the illuminance on a surface a distance 2•d away (i.e., twice as far away) when illuminated by a 120-Watt bulb?

Question Group 10

Question 28

A 60-Watt bulb illuminates a surface a distance d away with an illuminance of 1800 lux. What would be the illuminance on a surface a distance 2•d away (i.e., twice as far away) when illuminated by a 30-Watt bulb?

Question 29

A 60-Watt bulb illuminates a surface a distance d away with an illuminance of 2400 lux. What would be the illuminance on a surface a distance 2•d away (i.e., twice as far away) when illuminated by a 30-Watt bulb?

Question 30

A 60-Watt bulb illuminates a surface a distance d away with an illuminance of 3600 lux. What would be the illuminance on a surface a distance 2•d away (i.e., twice as far away) when illuminated by a 30-Watt bulb?

Question Group 11

Question 31

A 60-Watt bulb illuminates a surface a distance d away with an illuminance of 1800 lux. What would be the illuminance on a surface a distance 0.5•d away (i.e., one-half the distance away) when illuminated by a 120-Watt bulb?

Question 32

A 60-Watt bulb illuminates a surface a distance d away with an illuminance of 2400 lux. What would be the illuminance on a surface a distance 0.5•d away (i.e., one-half the distance away) when illuminated by a 120-Watt bulb?

Question 33

A 60-Watt bulb illuminates a surface a distance d away with an illuminance of 3600 lux. What would be the illuminance on a surface a distance 0.5•d away (i.e., one-half the distance away) when illuminated by a 120-Watt bulb?

Question Group 12

Question 34

A 60-Watt bulb illuminates a surface a distance d away with an illuminance of 1800 lux. What would be the illuminance on a surface a distance 0.5•d away (i.e., one-half the distance away) when illuminated by a 30-Watt bulb?

Question 35

A 60-Watt bulb illuminates a surface a distance d away with an illuminance of 2400 lux. What would be the illuminance on a surface a distance 0.5•d away (i.e., one-half the distance away) when illuminated by a 30-Watt bulb?

Question 36

A 60-Watt bulb illuminates a surface a distance d away with an illuminance of 3600 lux. What would be the illuminance on a surface a distance 0.5•d away (i.e., one-half the distance away) when illuminated by a 30-Watt bulb?