

# DISTANCE EDUCATION

# Light Reflection

## PREPARE IN ADVANCE

You will need to prepare a clean surface with a solid white background. This will allow you to see the light reflection clearly.



## COMMON CORE STATE STANDARDS

CCSS.ELA-LITERACY.RST.6-8.3 Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.



## FOCUS

The goal of the experiment is to be able to define the term light reflection, and demonstrate where the light reflection is.



## GUIDING QUESTIONS

- Does the light reflect off the mirror at the same angle it hits the mirror?
- What is Reflection?
- Does light expand?



## PROCEDURAL KNOWLEDGE

- Asking Questions
- Problem Solving
- Following Instructions
- Critical Thinking
- Definition Finding



## RESOURCES

- [https://youtu.be/fD1544bM\\_c4](https://youtu.be/fD1544bM_c4)



# LIGHT REFLECTION LESSON PLAN

UNIT TITLE: LIGHT REFLECTION  
SUBJECT: SCIENCE  
GRADE: 4TH GRADE

## UNIT SUMMARY

THE PURPOSE OF THIS EXPERIMENT IS FOR STUDENTS TO FIND THE REFLECTION OF LIGHT, AND NOTE AT WHAT ANGLE THE LIGHT REFLECTS BACK.

## MATERIALS

- FLASHLIGHT
- MIRROR
- DARK ROOM

## • INTRODUCTION

### ENGAGE (5-7MINUTES)

ASK THE STUDENTS THE GUIDING QUESTIONS:

- WHAT IS LIGHT REFLECTION?
- WHAT IS LIGHT REFRACTION?

DISCUSS THE QUESTIONS WITH THE STUDENTS.

### PREPARE

AFTER YOU HAVE DISCUSSED THE GUIDING QUESTIONS AND THE STUDENTS HAVE AN IDEA OF LIGHT REFLECTION, GATHER THE MATERIALS AND SET UP STATIONS.

## • EXPERIMENT (35MINUTES)

### STEP 1:

DIVIDE THE STUDENTS UP INTO GROUPS OR PARTNERS. HAND EACH GROUP A FLASHLIGHT AND MIRROR.

### STEP 2:

HAVE THE STUDENTS SHINE THE LIGHT ONTO THE MIRROR, AND LOCATE IT'S REFLECTION.

### STEP THREE:

ONCE THE STUDENTS HAVE LOCATED THE REFLECTION OF THE LIGHT, HAVE THEM TRACE IT WITH THEIR FINGERS OR A RULER.

DISCUSS WITH THE STUDENTS THAT WHAT THEY ARE SEEING IS THE PATH OF LIGHT, AS WELL AS THE REFLECTION.

### STEP FOUR:

HAVE THE STUDENTS LOCATE THE ANGLE OF THE REFLECTION. THEY SHOULD BE NOTICING THE EQUAL ANGLES OF THE LIGHT.

## • CONCLUSION (10 MINUTES)

WRAP-UP

ASK THE STUDENTS WHAT THEY LEARNED. HAVE THEM RECAP THE EXPERIMENT, AND DISCUSS HOW LIGHT REFLECTION WORKS.

THEN, AS A CLASS, ASK THE QUESTION "WHAT HAPPENS WHEN YOU'RE IN A DARK ROOM, AND SOMEONE OPENS THE DOOR JUST A CRACK"

THE STUDENTS SHOULD EXPRESS HOW THE ROOM BECOMES BRIGHTER, EVEN IF THE DOOR IS BARELY OPEN.

DISCUSS WITH STUDENTS HOW LIGHT EXPANDS.

## EXTRA ACTIVITIES

IF THERE IS SPARE TIME AT THE END OF THE LESSON, HAVE THE STUDENTS WATCH THE FOLLOWING VIDEO AND DISCUSS AFTERWARDS AS A CLASS:

[BILL NYE THE SCIENCE GUY: LIGHT BENDING](https://www.youtube.com/watch?v=FD1544BM_C4&feature=emb_title)

[HTTPS://WWW.YOUTUBE.COM/WATCH?V=FD1544BM\\_C4&FEATURE=EMB\\_TITLE](https://www.youtube.com/watch?v=FD1544BM_C4&feature=emb_title)

## ADVANCED LEARNING: (OPTIONAL)

HAND STUDENTS THE FOLLOWING PICTURES.

HAVE THEM CIRCLE THE REFLECTIONS ON THE PHOTO.

THEN, HAVE THEM WRITE A PARAGRAPH ABOUT WHERE THEY HAVE SEEN REFLECTIONS BEFORE, AND WHY IT IS HARDER TO SEE A REFLECTION AT NIGHT.

COLLECT THE ANSWERS, AND DISCUSS AS A CLASS THE ANSWERS. YOU CAN HAVE THE STUDENTS SHARE THEIR EXPERIENCES WITH THE CLASS ON WHERE THEY HAVE SEEN REFLECTIONS.

ADVANCED LEARNING: (OPTIONAL) REFLECTION PHOTOS



