

Radiation Exposure Vocabulary Activities

The concepts surrounding radiation can be complex. By conducting a vocabulary activity before beginning an activity or series of activities, students will have a shared base knowledge.

Materials and Resources

- *Vocabulary Materials* document.
- Materials noted in activity suggestions.

Common Core State Standards (CCSS)

The concepts in this activity align with the following CCSS English Language Arts Standards for Literacy in History/Social Studies, Science, & Technical Subjects:

- Key Ideas and Details: CCSS.ELA-LITERACY.RST.6-12.2
- Craft and Structure: CCSS.ELA-LITERACY.RST.6-12.4
- Vocabulary Acquisition and Use: CCSS.ELA-LITERACY.L.6-12.6

Vocabulary by Activity

Activity 1: Types of Radiation	<ul style="list-style-type: none"> • Atom • Electromagnetic spectrum • DNA • Gamma rays 	<ul style="list-style-type: none"> • Ionizing radiation • Non-ionizing radiation • Radiation • X-rays
Activity 2: Sources of Annual Radiation Exposure	<ul style="list-style-type: none"> • Cosmic radiation • Dose (optional) • Ionizing radiation • Man-made radiation • Natural (background) radiation 	<ul style="list-style-type: none"> • Radiation • Radon • Rem (optional) • Terrestrial radiation
Activity 3: Penetrating Powers of Ionizing Radiation	<ul style="list-style-type: none"> • Alpha particles • Beta particles • Direct exposure • Exposure pathways • Gamma rays • Ingestion • Inhalation 	<ul style="list-style-type: none"> • Ionizing radiation • Radiation • Radiation exposure • Radiation protection • Radioactive contamination • X-rays
Activity 4: Exposure Pathways	<ul style="list-style-type: none"> • Alpha particles • Beta particles • Direct exposure • Gamma rays • Ingestion • Inhalation • Ionizing radiation 	<ul style="list-style-type: none"> • Man-made radiation • Natural (background) radiation • Radiation • Radiation exposure • Radiation protection • X-rays •

Activity 5: Radiation Health Effects	<ul style="list-style-type: none"> • Alpha particles • Beta particles • Direct exposure • Gamma rays • Ingestion • Inhalation 	<ul style="list-style-type: none"> • Ionizing radiation • Man-made radiation • Natural (background) radiation • Radiation • Radiation exposure • X-rays
Activity 6: Acute versus Chronic Exposure	<ul style="list-style-type: none"> • Alpha particles • Beta particles • Direct exposure • Gamma rays • Ingestion • Inhalation 	<ul style="list-style-type: none"> • Ionizing radiation • Man-made radiation • Natural (background) radiation • Radiation • Radiation exposure • X-rays
Activity 6: Acute versus Chronic Exposure	<ul style="list-style-type: none"> • Alpha particles • Beta particles • Direct exposure • Gamma rays • Ingestion • Inhalation 	<ul style="list-style-type: none"> • Ionizing radiation • Man-made radiation • Natural (background) radiation • Radiation • Radiation exposure • X-rays
Activity 7: Radiation: Fact or Fiction?	<ul style="list-style-type: none"> • Ionizing radiation • Radiation • Radiation exposure 	<ul style="list-style-type: none"> • Radioactive atom • Radioactive material • Radiation exposure

Activity Suggestions

- **Identifying images.**
 - Print the applicable images from the *Vocabulary Materials* document.
 - Display the images around the room or spread them out in an open area on the floor.
 - Pronounce the vocabulary words one at a time. NOTE: You can provide the definition of the given word at this time or after students have identified the words.
 - Have students take turns identifying the words in an active manner. Suggestions include having students move to and identify the correct image, use a flashlight to point to the correct image (review safety rule: never shine the light in another person's eyes), drive a remote control car to the correct image, or throw a bean bag to land on the correct image.
- **Matching words and images.**
 - Print the applicable words and images from the *Vocabulary Materials* document.
 - Give each student a vocabulary word or image. Options: Fold or ball up the copies and let each student select one. Have students trade their copy with another student once or twice. NOTE: You may need an even number of participants.
 - Direct students to find the person with the matching word or image.
 - Review the matches to confirm they are correct.
 - Pronounce each word and provide a definition.
- **Spelling the words.**
 - Print the applicable words and images from the *Vocabulary Materials* document.
 - Display the words and images.
 - Pronounce each word and provide a definition.
 - Conduct a spelling activity:
 - Have students create a word scramble or word find activity, trade papers and complete the activity.
 - Play spelling basketball. Divide the class into two teams. Pronounce a vocabulary word. Have a student (alternating between teams) spell or write the word on the board. Students that spell the word correctly are given an opportunity to shoot a basket (use a trash can) with a ball of paper (ball) from a designated distance (or varying distances for a different number of points). The team that scores the most points wins. You can have students provide a definition for extra points.
- **Creating definitions.**
 - Print the applicable words and images from the *Vocabulary Materials* document.
 - Display the vocabulary words and images.
 - Pronounce the vocabulary words.
 - Have students work in pairs or small groups to hypothesize and create a definition for each vocabulary word.
 - Options: Direct one student from each pair/group to rotate and join another pair/group or have two pairs/groups join together. Direct the newly formed groups to compare their definitions and modify them if desired.
 - Review each pair/group's definitions, have students discuss what they agree/disagree with and share the accurate definition.