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

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<td>• Cosmic radiation</td>
<td>• Alpha particles</td>
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<td>• Electromagnetic spectrum</td>
<td>• Dose (optional)</td>
<td>• Beta particles</td>
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<td>• DNA</td>
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| Activity 5: Radiation Health Effects | - Alpha particles  
- Beta particles  
- Direct exposure  
- Gamma rays  
- Ingestion  
- Inhalation | - Ionizing radiation  
- Man-made radiation  
- Natural (background) radiation  
- Radiation  
- Radiation exposure  
- X-rays |
|--------------------------------------|---------------------------------|---------------------------------|
| Activity 6: Acute versus Chronic Exposure | - Alpha particles  
- Beta particles  
- Direct exposure  
- Gamma rays  
- Ingestion  
- Inhalation | - Ionizing radiation  
- Man-made radiation  
- Natural (background) radiation  
- Radiation  
- Radiation exposure  
- X-rays |
| Activity 7: Radiation: Fact or Fiction? | - Ionizing radiation  
- Radiation  
- Radiation exposure | - Radioactive atom  
- Radioactive material |
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.