Mutant Radishes

Summary

Students will germinate radishes that that have been irradiated and determine what dosage of radiation will affect them.

Time Frame

2 class periods of 60 minutes each

Group Size

Small Groups

Materials

- student worksheet
  (attached)
  20 control (normal) radish seeds
  irradiated radish seeds (available from most scientific supply catalogs)
  petri dish
  paper towels
  small beaker

Background for Teachers

Time Needed:
Part 1: set up day 50 minutes, daily checks-10 minutes over two weeks. Part 2: same
Safety concerns:
Make sure students are using a safe source of irradiation. Check their procedures before allowing them to proceed.

Instructional Procedures

Procure the radish seeds by ordering them or if you have a source of radiation (access to X-ray machine in hospital or airport), radiate your own. Collect the materials, copy student sheets.
Read the introduction and procedures on student sheets with students. The lab is written so that each group only tests two of the 4 types of irradiated seeds. This will save money but if you have lots of that, each group can do all four types of seeds.
Allow time for groups to set up the dishes and place in the designated place.
Students should observe the seeds for several days to make sure all the seeds that will germinate have time to.
Have students determine in their groups what type of radiation they will expose the next set of seeds to. You may need to help them determine what radiation is and where some sources are. It will be helpful to find an internet site or reading selection to help them.
Allow students to expose their seeds to the radiation they chose for the time periods they chose. The newly irradiated seeds should be planted in dishes and labeled. They should be allowed to grow for several days until results seem clear.
Have students report by group to the class on their results and what they think they mean.

Bibliography

Lesson Design by Jordan School District Teachers and Staff.

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