

The Intel Visual Ranking tool allows individual or groups of students to rank a list of items, ideas, concepts, stages, etc. and supply comments/explanations regarding the decisions which led to their choices. In this example, you and/or your students will rank the various roles of water resources, provide reasoning behind your rankings, compare your rankings to others and then use this experience as the basis for a discussion of **Iowa Core principal: Human beings live within the world's ecosystems.** Increasingly, humans modify ecosystems as a result of population growth, technology, and consumption.

Logging into the Intel Visual Ranking Tool:

Divide your students into 1-6 groups. Assign each group a team. Provide each team with the appropriate Teacher ID, Team ID and Team Password.

1. Open a browser to: <http://educate.intel.com/en/ThinkingTools/VisualRanking/>
2. Click on the Student Login.
3. Submit the following information:

For all teams Teacher ID = iowasciencegal

Team ID =	Team1	Team2	Team3	Team4	Team5	Team6
Team Password =	Team1	Team2	Team3	Team4	Team5	Team6

Please note: If you use this example rather than setting up your own Intel Visual Ranking Tool for this activity then you will only be able to see the students' ranking and comments/explanations by viewing them on the screen or by printing each groups' ranking. Also note that it is unlikely but possible that another group will attempt to use the example tool at the same time as your students or directly after your students. If you want to allow your students to work on this project over a period of days, then I recommend that you register for the tool (this is free) and create your own project and student groups. This will allow you the additional feature of providing comments and additional instructions to individuals groups. You may copy any text from this page to create your own project.

Introduction: Humans rely upon and make changes to Earth's water resources. In this activity you will rank and discuss the relative merits of various roles of water resources in our human and natural environment.

Iowa Core Essential Concept: Understand and apply knowledge of the inter-dependence of organisms.

Principal: Human beings live within the world's ecosystems. Increasingly, humans modify ecosystems as a result of population growth, technology, and consumption.

Success Criteria: I can defend my group's ranking using reasoning and evidence. I can provide examples of how humans have modified water resources as a result of population growth, technology, and consumption. I can list three examples of how humans rely on water resources.

Instructions: Below is a list of 10 roles of Water Resources. Rank the list in order of importance from most important at the top to least important at the bottom. With your team add notes to explain the reasoning and evidence that support your ranking. Afterward, use the compare option to see how your ranking compares with other groups.

The Roles of Water

- Geochemical Cycles (water cycle, weather, climate)
- Creation of Energy
- Fish and Wildlife Consumption
- Human Consumption
- Irrigation
- Livestock Consumption
- Manufacturing/Industry
- Human Recreation and Aesthetics
- Transportation (of goods, resources and people)
- Ecological Role (habitat, ecosystem interactions)

(this list is modified from the list in *Choices and Preferences: Water Index* list to correlate with the Iowa Core Curriculum – Science 9th-12th Grade)

Possible Probing & Discussion Questions

- Are any roles missing? What are they?
- Why did you place <this role> first? What makes it more important than the others?
- What strategies did your group use to create their ranking?
- Is there anything else you would like to know or understand that could help you create your ranking?
- How did your group come to consensus about this?
- Is there anything about your group's ranking that you disagree with? Why?
- Which roles were the easiest to rank and why?
- Are there any roles that you don't understand?
- How does your list compare with the other groups? Why do you think this is the case?
- What value is there in ranking the roles of water?
- How has this exercise prepared you to discuss the interconnectedness of humans and the environment?
- How many of these roles are unique to human needs and wants?
- Could we rank these things based on how much fresh water each role uses in a year instead of importance? What data would we have to collect to do this?
- Do the choices you make have an effect on the water quality or quantity available for any of these roles? Why or why not? How so?
- How do you think a <farmer, water treatment plant manager, hunter, jet ski enthusiast, National Wildlife Refuge Manager, City planner, etc. insert any stakeholder here> would rank these? How would their reasoning differ from your own?

Adaption for *Choices and Preferences: Water Index*, p.367, [Project WET Curriculum and Activity Guide](#). See the activity for complete instructions. With modifications to create a stronger connection to the Iowa Core Curriculum <http://www.corecurriculum.iowa.gov/ContentArea.aspx?C=Science>