Developing Decision Trees

Subject Areas: All subjects

Grade Level: 7 – 12 (ages 12 - 18)

Time: At least one 45-minute class period; time outside of class as necessary

Lesson Objective:
Students will learn to use a decision tree to help make a choice between multiple options.

Common Core State Standards\(^1\):
College and Career Readiness Anchor Standards for Writing:

- **Standard 1.** Write arguments to support claims in an analysis of substantive topics or texts using valid reasoning and relevant and sufficient evidence.
- **Standard 6.** Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

Overview:
Help your students learn to make decisions more easily with the use of decision trees. They work by helping users to organize a complex set of possible outcomes and visualize all outcomes at once. Use the Decision Tree template to introduce the concept to your students (Webspiration Classroom™ Starter>Starter Docs>Thinking & Planning>Decision Trees). Decision trees are helpful when trying to decide on the best course of action, such as choosing between possible topics to research or whether or not to go to college.
Preparation:
• This lesson requires Internet access and the Webspiration Classroom software application published by Inspiration® Software, Inc. It can be accessed by visiting <http://www.webspirationclassroom.com>.
• Access to library resources would also be helpful for student research.

Lesson:
1. Engage students by asking them to choose a partner and share with each other a difficult decision they are currently trying to make or one they had to make in the past. After groups have had two or three minutes to share, open the Decision Tree template and demonstrate for students how it can be used to make a decision more easily. Ask for a volunteer to share one of the difficult decisions that was discussed and model how to complete the diagram to arrive at a clear solution. If you or your students have never used decision trees, explaining the following simple steps to create one style of tree may be helpful:
   a. Enter a question into the “Question” symbol.
   b. Decide if “Yes” and “No” are the only answer choices or if there are others. If brainstorming results in more possible answer choices, add more Symbols to the diagram to represent all the possible outcomes. Then draw a Link to each new Symbol and label it with one of the other possible answers.
   c. Decide on the pros and cons of each alternative and add them to the Symbols, using Notes to record more detail if necessary.
   d. If a result is another question or uncertain, continue in the same fashion until clear outcomes are determined.

2. Optional: Open the example file (Webspiration Classroom Starter>Examples>Thinking & Planning>Decision Tree Example) and talk the students through it, as well. Ask students if a clear course of action is revealed by the diagram or if it should be expanded further. For example, would more research and additional data be helpful for any part of the diagram?
3. Explain that students may need to conduct research throughout the process to gather data which can be added to the diagram. **Hyperlinks** can be used to link to important information on the Internet.

4. Students can obtain feedback from the teacher and their peers using the collaboration tools. Documents can be shared with others using the **Collaborate Tab**. The **Comment Tab** can be used to comment on the document, or the **Chat Tab** can be used, if it is turned on at your school, to discuss ideas in real time.

**Adaptations / Extensions:**

- Have students “publish” their work by making presentations about their decisions to the class. A data projector or interactive whiteboard could be used, if one is available, to display diagrams as visual aids. Subtopics can be hidden or viewed using the **Subtopic Quick Controls** to allow focused attention on the topics being discussed.

- Students can download their project to Inspiration® or a word processor, or transfer it to a Google Doc, to complete a written essay about their decision.

- A related exercise is to use Webspiration™ to help students solve difficult problems. Get students started with the **Problem Solving Process** template: [Webspiration Classroom Starter>Starter Docs>Thinking & Planning>Problem Solving Process](http://www.corestandards.org).