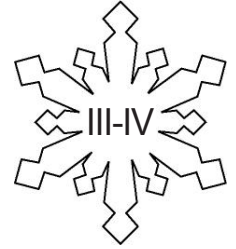


# Decision Making

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Levels



Grades 5-8

## Overview:

For good or bad, weather affects day-to-day activities. In this lesson, students develop an understanding of how weather and weather forecasting can help them plan activities and make decisions.

## Objectives:

The student will:

- identify how weather is important to planning an activity;
- create a decision tree; and
- work cooperatively.

## GLEs Addressed:

*Science*

- [5-8] SA1.1 The student demonstrates an understanding of the processes of science by asking questions, predicting, observing, describing, measuring, classifying, making generalizations, inferring, and communicating.
- [5] SA1.2 The student demonstrates an understanding of the processes of science by using quantitative and qualitative observations to create inferences and predictions.
- [6] SA3.1 The student demonstrates an understanding that interactions with the environment provide an opportunity for understanding scientific concepts by gathering data to build a knowledge base that contributes to the development of questions about the local environment (e.g., moose browsing, trail usage, river erosion).

## Materials:

- OVERHEAD: "Decision Tree"
- STUDENT WORKSHEET: "To Study or Not to Study"
- STUDENT WORKSHEET: "Weather Wise"

## Activity Procedure:

1. Ask students to pretend that today they are going to plan a potluck to be held tomorrow. Ask them what they need to consider in planning the potluck. Students should mention location, food, games, weather, etc.
2. Lead students to a discussion about location; whether to have the potluck inside or outside. Introduce the decision making tree. Show Overhead "Decision Tree". There are three parts to a decision making tree. The first is the decision point; in this case the decision point is the location of the picnic; inside or outside. The second part is a random event. THE third section lists the outcomes. Finally, the arrows represent time.
3. Help students fill in the decision making tree. Remind students that the question is whether to have the picnic indoors or outdoors. List this information at the decision point. Ask students to discuss what is important is considering the location. One answer is the weather. Assuming that is it warm enough to hold a potluck outside, the question is whether or not it will rain. Tell students that for this example, they are going to assume there is a 30% chance that it will rain tomorrow. Fill in the decision point section of the tree. Finally, discuss with students what the outcomes would be at the end of each branch of the tree.
4. Since weather is important to planning an activity, ask students how they can find out information about the weather.

5. Explain that weather can influence our daily lives directly and indirectly. Assign students to groups and hand out the STUDENT WORKSHEET: "To Study or Not to Study". Instruct students to complete the worksheets as a group.
6. Remind students that weather is an important factor in making a decision about an activity. Ask students what it means when a weather person says there is a 30% chance of rain. Explain that one way in which weather forecasters computer rain probability is by looking at historical weather data. If tomorrow was October 20, and we gave the weather forecaster 100 years worth of weather data, he or she would add up all the times it rained on October 20 in the last 100 years. If it rained 30 times on October 20 within the last 100 years, there is a 30% probability of rain.
7. Explain that forecasters have many other ways of determining the chance of rain or other weather, such as snow or wind.
8. Hand out the STUDENT WORKSHEET: "Weather Wise." Ask students to pick an activity that is weather dependent and write it on number 1 of their worksheet. Ask them to complete the decision tree alone or in groups.

## Answers:

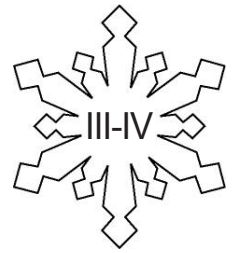
*Answers will vary, but decision tree should be complete.*

Name: \_\_\_\_\_

# To study or not to study....

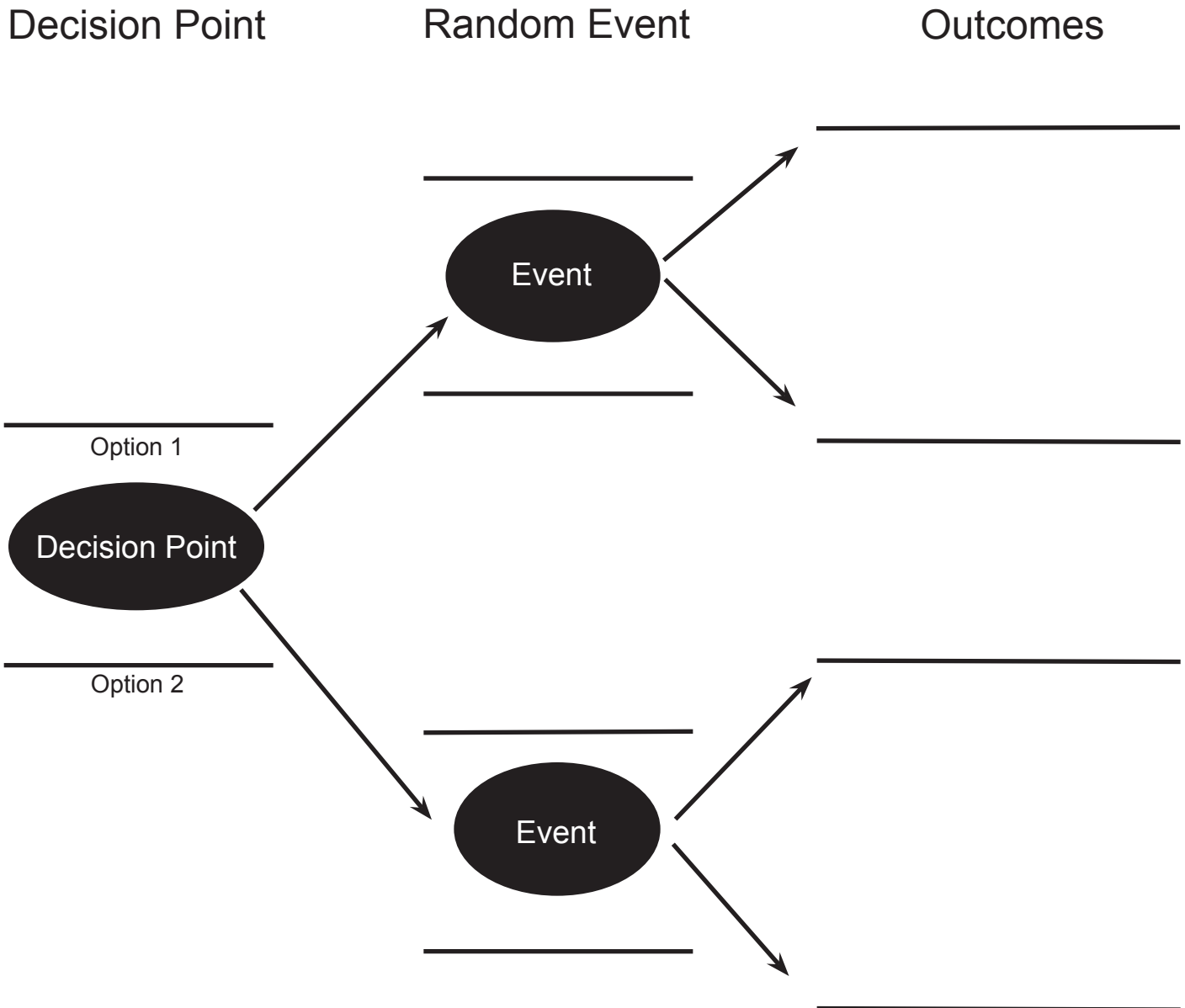
## Student Worksheet

Levels



**Directions:** Use the information below to complete the decision tree.

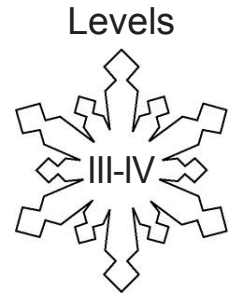
You have been planning to go hunting with your family over the weekend. Your teacher announces on Friday that there is a 20% chance of a test on Monday and an 80% chance of not having a test. Develop a decision tree associated with the decisions to study over the weekend or go hunting with your family. If you study and there is a test, you will have a passing grade. If you go hunting and there is a test, you will fail the test. However, there is also the possibility that there will be no test.



Name: \_\_\_\_\_

# Weather Wise

## Student Worksheet



**Directions:** Write a short paragraph describing a situation that is weather dependent.

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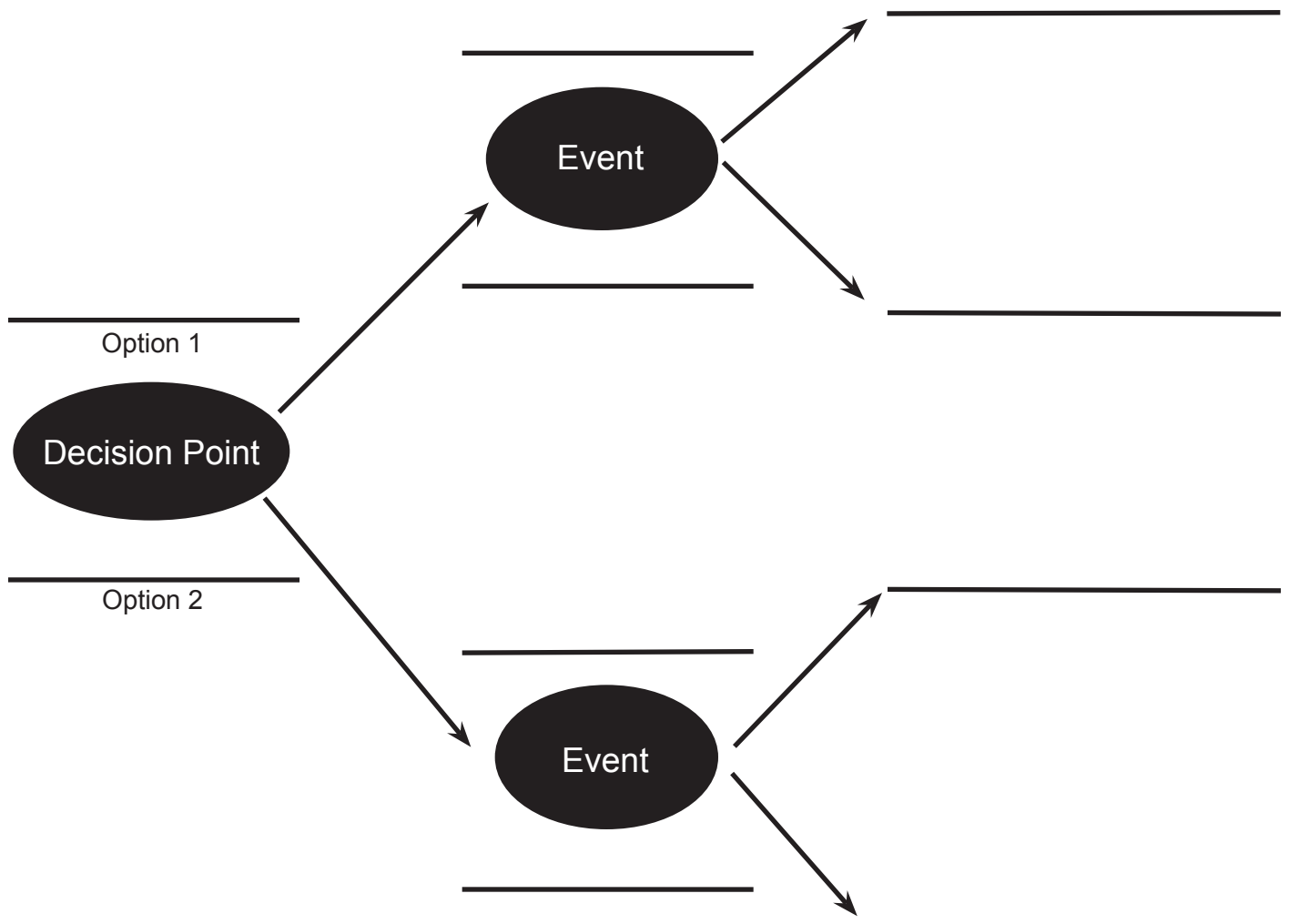
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Complete the decision tree for the situation described above.

Decision Point

Random Event

Outcomes



# Decision Tree Overhead

