

Activity 3 – “A Journey through Time” game instructions and rationale

The object of this game is for players to learn about and interpret how the coastal landscape has changed over time, and to think critically about the impacts and consequences of various natural and human caused events.

Rounds of Play

Three rounds are played representing three different periods of time and the activities that may have occurred during those periods. While these activities are based on real events, they are not intended to represent or judge current events.

The three rounds are described as follows:

Round 1 – The Time Before We Arrived – This period represents actions that occurred to create the natural attributes of a watershed, estuary, and ocean environment before the arrival of humans to the Pacific Northwest coast (~12,000 to 10,000 years ago).

Round 2 – The Time When We Arrived – This period represents actions taken by human settlers along the Pacific Northwest coast (~10,000 years ago to 50 years ago).

Round 3 – The Time is Now! – This period represents actions taken by modern inhabitants of the Pacific Northwest coast (50 years ago to present day).

Cards designed for each round are color coded to the rounds and each card holds text describing an event or observation and a series of point values. The three values are listed in consecutive order and represent: Social, Environmental, and Economic categories. (i.e. a card with a point series of +2 -1 +1 indicates a Social value of +2, an Environmental value of -1, and an Economic value of +1).

The point range for each card is: -2 -1 0 +1 +2

The criteria for point values are listed below.

- +2 Impact of the condition is substantial resulting in major positive changes to the Social, Environmental, or Economic state of the community.
- +1 Impact of the condition is noticeable resulting in moderate positive changes to the Social, Environmental, or Economic state of the community.
- 0 Impact of the condition is negligible resulting in no apparent changes to the Social, Environmental, or Economic state of the community. This value may also represent the offsetting effects of opposing consequences or impacts during a specified period of time. (i.e. several successful years of crab harvest are followed by several poor years. Therefore, the net impact during that period of time is zero.)
- 1 Impact of the condition is noticeable resulting in moderate negative changes to the Social, Environmental, or Economic state of the community.
- 2 Impact of the condition is substantial resulting in major negative changes to the Social, Environmental, or Economic state of the community.

Note: Round 1 cards only contain one point value per card since humans had not arrived on the scene, so an Environmental point value is the only one assigned. This represents activity over many millions of years that created the environmental conditions which attracted humans to Oregon's coast after the last ice age.

The assignment of point values for each card is one person's interpretation of the Social, Environmental, and Economic values related to that particular event or condition. The values are by no means meant to represent an absolute and should be used with this awareness in mind. The purpose of this activity is to challenge the students to think about the many different impacts and consequences of actions and events on the social, environmental, and economic systems that we live within.

In fact, a variation of play for rounds 2 & 3 is to have the students privately develop their own point values for each category, and then share their scores with a small group of fellow students. They are then asked to work together to resolve their different point values and come up with a group set of point values for their particular card. This is more challenging since they must develop a rationale for why they assigned the points they did to each category. By summing all the points within each group, opposing points of view and point assignments will tend to cancel out resulting in the need to compromise when the group attempts to assign a group set of point values.

Chaos cards

Chaos cards may only be chosen during the third round and may be selected in place of the card the student was given. In other words, they made trade in a card in the third round for a Chaos card. Alternatively, the teacher may choose to randomly introduce "chaos" into the selection by announcing that a particular student must also choose a Chaos card on their turn. To control this "chaos", the teacher may wish to require a Chaos card selection every 5 minutes during the round. If this is done, this shouldn't be revealed to the students to avoid their predicting who will end up with the Chaos card and forcing the situation.

If a "Doubling Effect" Chaos card is chosen, the student must read their original card and then interpret the "doubling" of whatever action was on the original card they chose (i.e. if a Lumber Mill closes, then doubling would mean two mills have closed.) Doubling effects are based on the idea that in situations where we do not have much experience or science to base decisions upon, we may grossly underestimate the impacts of the situation. Conversely, "Halving Effect" Chaos cards work in the opposite way, reducing the impact by one half with based upon a similar rationale of difficult in accurate estimation. Note: Doubling or Halving has a corresponding effect on the number of points in each category for the card previously chosen by the student. Some Chaos cards may have no particular effect on the card previously selected by the student and the student can simply say so when they are asked for their interpretation of the event.

Beginning the Play

The map or projection should be placed on a wall at the front of the room. Students will be dealt cards for 3 rounds (10-12 minutes each) in which they are to read the cards and attach them to the watershed map at the front of the room. Additionally, each card has 3 point

values assigned to it under the categories – Social, Environmental, and Economic. A classroom tally is kept for each card plays and the points in each category are added up at the end of the round. As the student places their card, they must also briefly describe and relate how they think this action will affect the estuary. Alternatively, they may choose to ask a relevant question pertaining to the topic, which is then written on the board. They may also want to make brief notes or shadings on the base map that help to define the changes (i.e. shading a section of the river brown to show a landslide/dam that occurred in the “Time Before We Arrived”.)

If you choose to use the student scoring sheet included with this activity, make the students aware in advance of the criteria you will be using for the scoring. The suggested categories are Accuracy, Detail of Description, and Creativity. Suggested weightings are included with the score sheet.

Note: you may adjust the timing of this activity by reducing the number of cards played in each round (no less than ten) to ensure that all three rounds are played.

The following game instructions are to be read aloud to the students:

Round 1

“Today we are going to explore the changes to the coast that have occurred since Oregon first rose out of the sea and became a land of mountains, rivers, lakes and estuaries. We are going to talk about some of the events that occurred over many thousands of years, and then explore how human settlement has changed and continue to change the coastal landscape. The map at the front of the room shows the outline of a coastal watershed, the creeks and rivers, the shoreline of the estuary, and the ocean.”

“In the first round, you will each be given a card to read aloud and place somewhere on the map that makes sense to you given what you have just read. You will then explain why you placed the card where you did. This round represents the Pacific Northwest coast before humans arrived here 10,000 to 12,000 years ago. Each card in the first round will be worth 2 points and we will keep track of those points under a category called Environmental. Once we have finished this round, we will move on to the second round.”

Round 2

“In the second round, you will each receive another card that will have a sentence to read and a series of three numbers. The first number indicates the points assigned for the social impact of the event described on the card. The second number indicates the points assigned for the environmental impact of the event, and the third number indicates the economic impact. The second round period represents actions taken by human settlers along the Pacific Northwest coast from 10,000 years ago to 50 years ago.”

“On your turn, you must read the card aloud and include the points for each category, social, environmental, and economic. We will keep track of the points and you will then place the card somewhere appropriate on the map and try to describe why the event had the social, environmental, and economic impacts it did. A social impact is one that affects how people live and behave in a community. An environmental impact is one that has consequences for

the natural conditions of the ecosystem. An economic impact is one that affects how people make a living or obtain wealth in a community.”

Round 3 and Chaos

“In the third round, you will each receive another card that will have a sentence to read and a series of three numbers representing the same three categories in the same sequence, social, environmental, and economic impacts. The third round represents the time from 50 years ago to present and describes actions that have occurred during that time period. In this round, we will also use Chaos cards which can increase or decrease the impact of the cards played. Chaos is unpredictable and so you will not know when or who will receive a Chaos card along with their regular card. Sometimes the combined impact will be great and sometimes it will have no relationship. Your instructions are the same as in the previous rounds, read your card and point values aloud. Then place the card in an appropriate location on the map and describe why the event or events had the impacts it did.”

“When we have completed all three rounds, we will tally the scores for each category and talk about whether this is an accurate description of the coast and what has happened here over time.”

“Please remember at all times during the game to respect other points of view and to think carefully about how the events described can have an impact on the social, environmental, and economic systems in our community. There is no one right answer to the challenges that these changes have posed.”

Alternative Play and Extra Rounds

As an alternative to using the provided point values for each card, you may want to have the students devise their own points for each category of each card. This play would only be done in the second or third round. To do this, divide the students into groups of three students each and give each group one card, but do not reveal the pre-assigned point values. Ask the students to independently read the card and write down a series of point values for the three categories without revealing their point values to their fellow group members. Once everyone has written down their independent values, have the students reveal their point values to the group and then tally them. Once this is done, have each group report out the summed values and the event highlighted on their card. The effect on the point values of students in the same group with opposite views will be offset by summing the points. However, the effect of similar viewpoints in the same group will be an extreme reinforcement of one perspective.

At this point, you may choose to ask the students to develop a group score by discussing and compromising to come to agreement about the point values for each category for their particular event. This presents an opportunity to explain how compromise occurs in the real world as decisions are made about social, environmental, and economic systems within a community. If this alternative form of play is employed as an extra round, compare the cumulative score from this round with the score from the round played using the pre-assigned point values. Follow this up with a discussion of why the two sets of scores are similar or different.