

Making a Tide Chart

Objective: To read a tide table, identify three tidal curves, determine tidal range, and plot a tidal curve.

Teacher

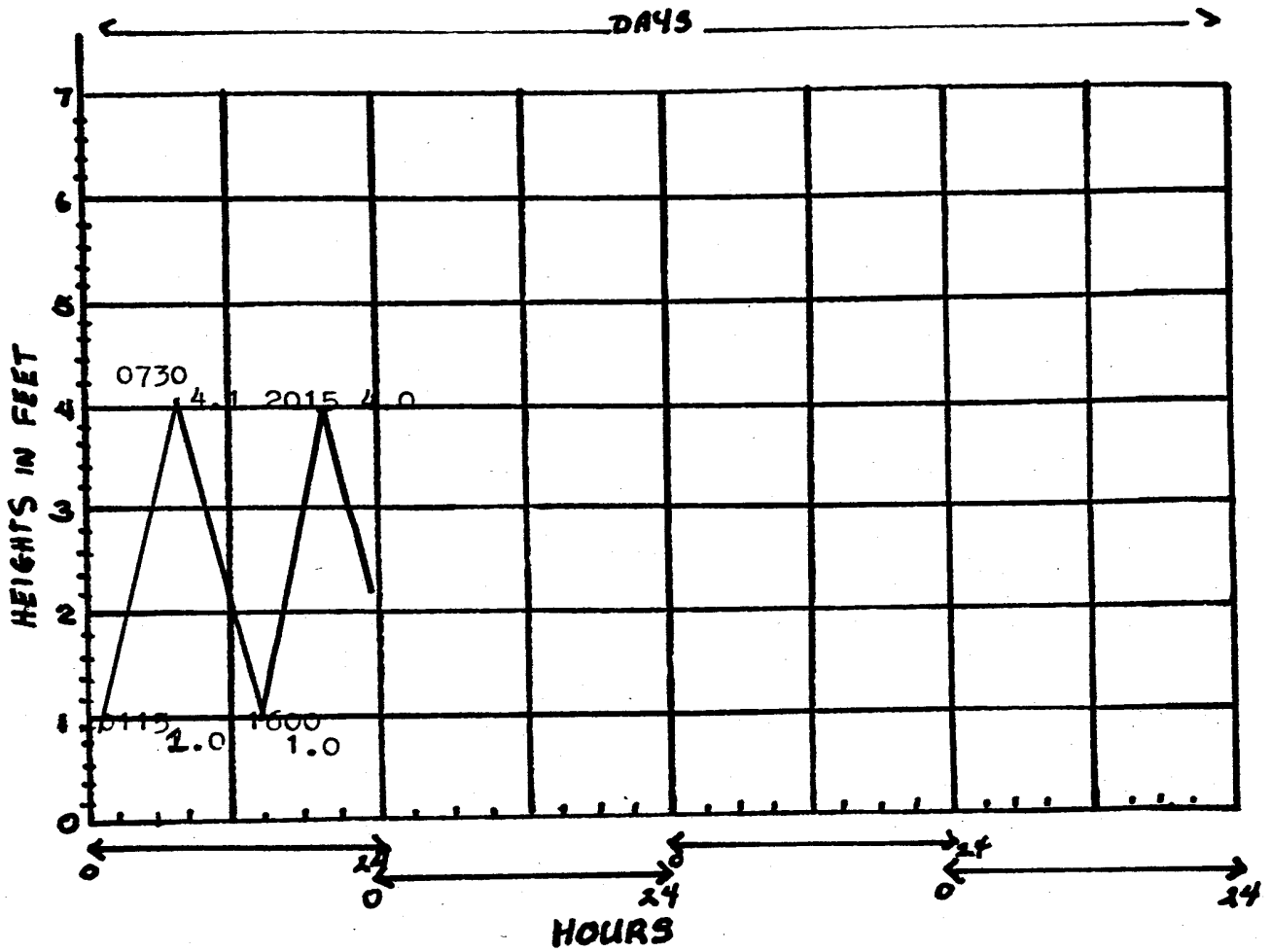
Preparation: Prepare sufficient tide charts (Figure 5) for each student.

Procedure:

1. Using the tide table, plot tidal highs and lows for four days (the first day is completed).
2. Answer the following questions after having connected consecutive points from the tidal curve.
 - a. When does the highest tide occur and how high is it? (Day 3, 7ft.)
 - b. When does the lowest tide occur and how high is it? (Day 3, 0 ft.)
 - c. Which would be the better time to look for driftwood on the beach- Monday morning or Monday afternoon? Why? (afternoon at low tide; more driftwood left behind)
 - d. Which would be a better time to go surfing- Monday afternoon or Wednesday afternoon? Why? (Wednesday afternoon; usually higher waves on an incoming (flooding) tide).
 - e. During which day is the tide diurnal? (Day 3)
 - f. During which day is the tide semidiurnal? (Day 1, Day 4)
 - g. During which day is the tide mixed? (Day 2)
 - h. During which day is the tide mixed? (Day 2)
 - i. During which day is the largest diurnal inequality (difference between consecutive high or low tides)? How much is it? (Tuesday, Day 2, 1.5 ft. at high tide)

Frankenberg, D., Mauldin, L. (1978). North Carolina Marine Education Manual. Raleigh, North Carolina: UNC Sea Grant Publication.

FIGURE 5;



Day	Time		Height Feet
	Hours	Minutes	
Mon. 1	01	15	1.0
	07	30	4.1
	16	00	1.0
	20	15	4.0
Tue. 2	02	00	1.0
	08	30	6.5
	14	15	2.0
	21	00	5.0
Wed. 3	04	15	0.0
	16	00	7.0
Thur. 4	04	30	1.0
	10	00	3.0
	16	00	1.0
	22	00	2.9

Source: Frankenberg, D., Mauldin, L. (1978). North Carolina Marine Education Manual. Raleigh, North Carolina: UNC Sea Grant Publication.

Discover How Tides are Formed!

South Carolina Science Curriculum Standards (Grades 7,9)

National Science Education Standards* Grade 7	S.C. Components*
Identify process skills that can be used in scientific investigations	
Observe	1
Classify	2
Infer	1
7	6
Design and conduct a scientific investigation	A, H
Develop descriptions, explanations, predictions, and models using evidence.	B
Think critically and logically to make relationships between evidence and explanations	A
Communicate scientific procedures and explanations	C

Grade	Area	Unit of Study	National Science Education Standards *		S.C. Components
7	III. Earth Science	The Abiotic Environment	A. Structure of the Earth System	1. Landforms are the result of a combination of constructive forces (e.g., deposition of sediments) and destructive forces (e.g., weathering and erosion).	C

*Refer to South Carolina Science Curriculum Standards, adopted by the S.C. Board of Education January 12, 2000, for complete national standards and S.C. components.