




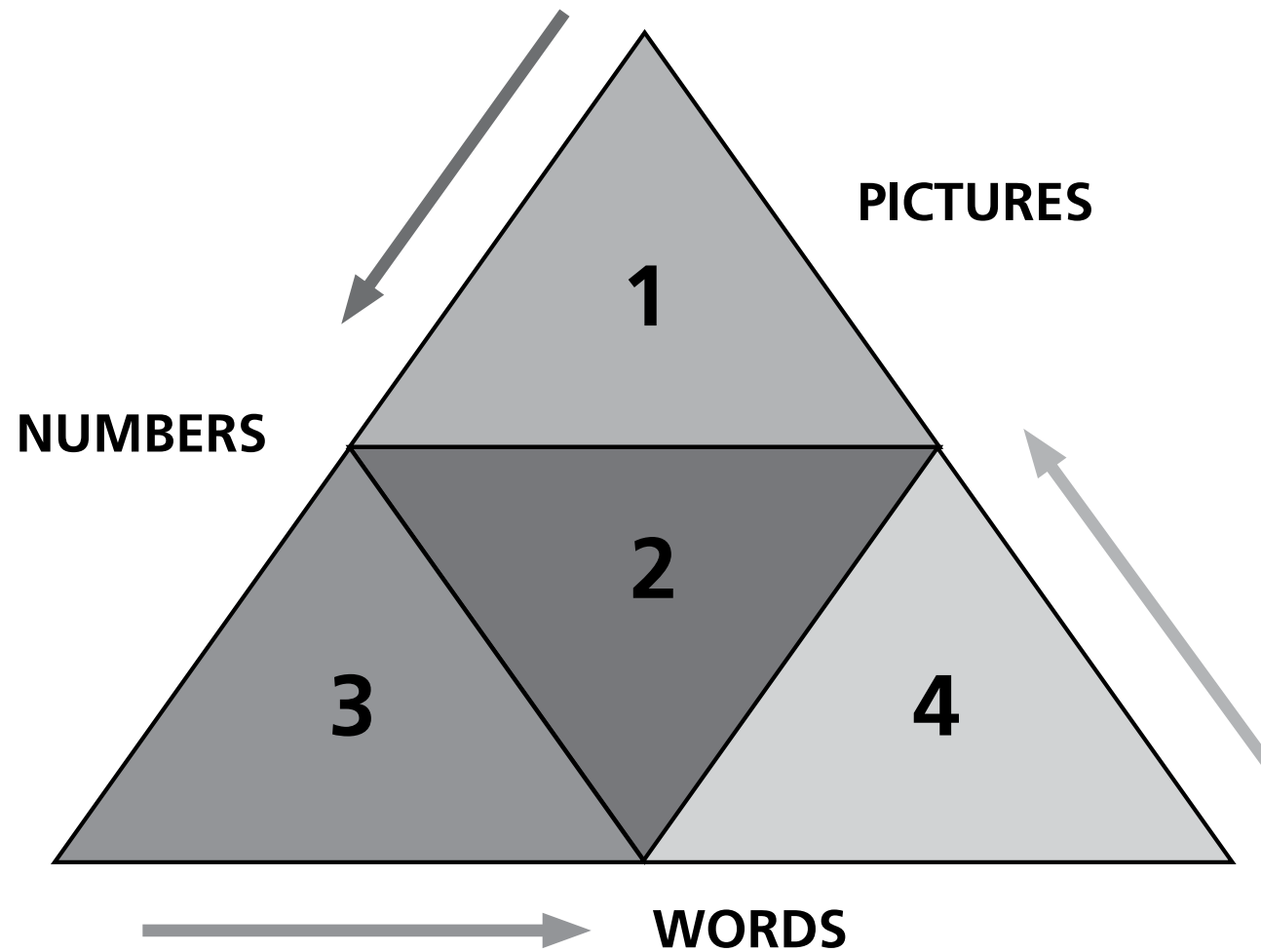
I SEE, I THINK AND SO ORGANIZER

Name: _____

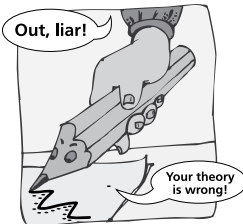

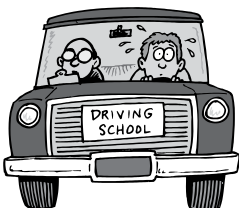
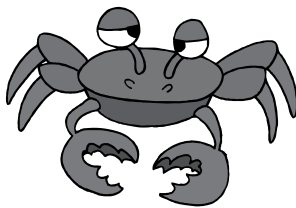
I See...	I Think...	and So...
		



TRI THIS! TRIANGLE



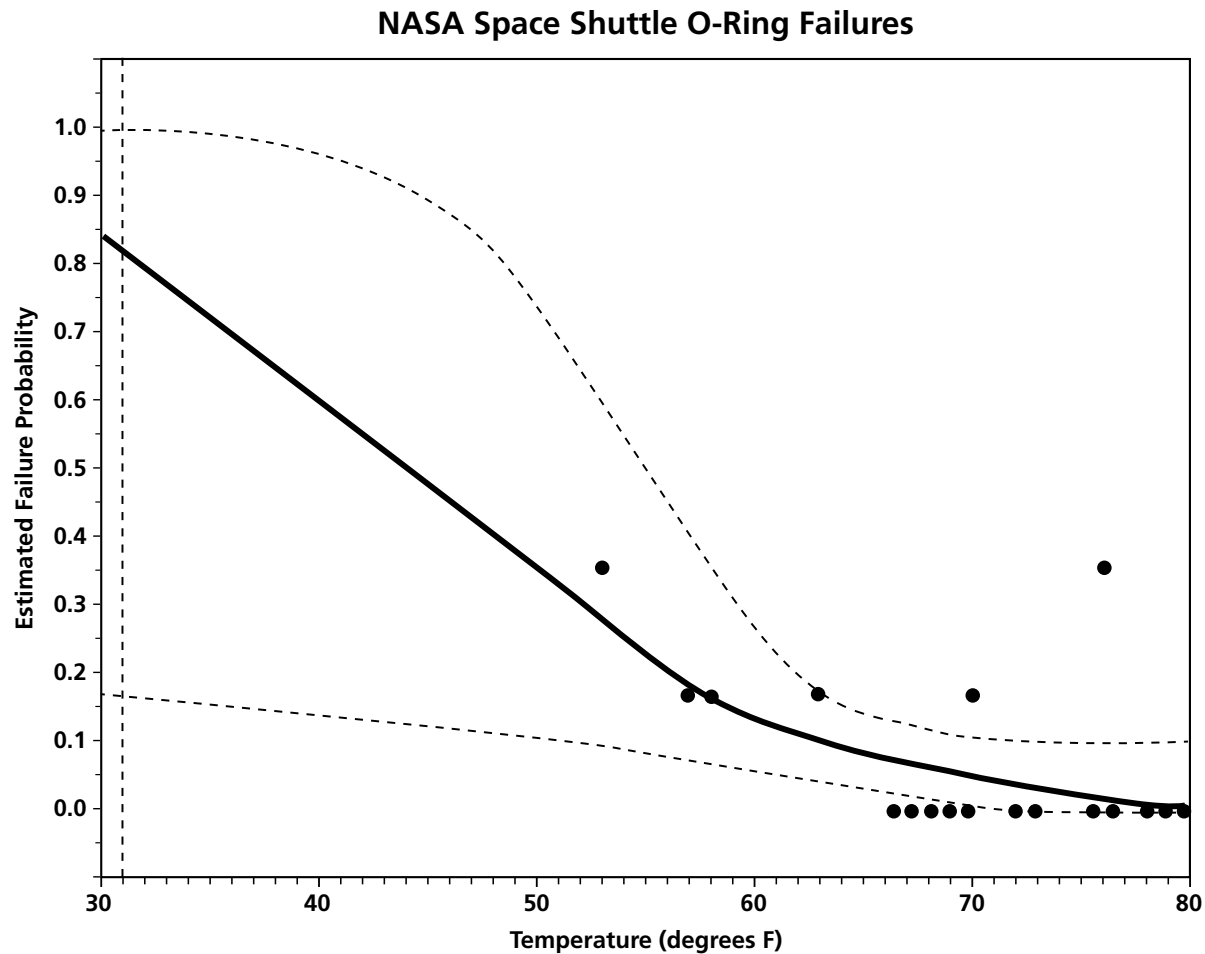
DATA MANAGEMENT RAFT ORGANIZER

Role		Audience	Format	Topic
1 Outlier on Scatterplot of Challenger Space Shuttle		Jury	Closing arguments and an explanation about inclusion and exclusion of outliers in graphs.	Why you should be included with the rest of the points on the graph. See Outlier Data (Appendix C1). Form a hypothesis about the effect that you and other outliers have on the graph and the decision to use the tiles at that temperature. Examine the data and graph and prepare arguments to support your conclusion.
2 Grade 7 Student		Parents' Council at School	Report to group convincing them to buy more bike racks and discount bus passes for students to help the environment.	Form a hypothesis about which forms of transportation students use the most to get to school. Using the Census at School data—see Grade 7 Student Data (Appendix C2)—to prove or disprove your hypothesis.
3 Driving Teacher		Students	Convince students that speeding is not safe with a presentation using percentages and graphs.	Headline: Speedy Drivers are in Less Accidents! Does driving at high speeds mean you are more likely to end up in an accident? Form a hypothesis about speeding and accidents. Using statistics on speeds at which cars were driving at the time of an accident—see Driving Teacher Data (Appendix C3)—to prove or disprove your hypothesis.
4 Crab		Crab Ocean Council	Present a plan for safe outings on the beach for crabs and their friends. Share your hypothesis about safety at various times. Give reasons for your decision with supporting evidence.	When can the young crabs go out to play? Form a hypothesis about what times of day it will be safe to play on the beach in mid July. Analyze the Tide Tables for Peggy's Cove on Crab Data (Appendix C4) and prove or disprove your hypothesis.



OUTLIER DATA

Scatterplot of O-Ring Failures vs. Temperature for Space Shuttle



GRADE 7 STUDENT DATA

Census at School: How Do Most Students Usually Travel to School?

Mode of Transportation	Elementary			Secondary		
	Girls	Boys	All Students	Girls	Boys	All Students
	%					
Bus	40.26	35.78	38.04	50.78	48.6	49.73
Walk	32.83	32.14	32.49	16.67	18.67	17.63
Car	23.61	22.46	23.04	28.29	23.87	26.17
Bicycle	1.21	5.39	3.28	0.29	2.49	1.35
Subway or Metro	0.76	0.83	0.79	2.59	2.74	2.66
Skateboard	0.21	1.36	0.78	0.12	0.83	0.46
Train	0.21	0.27	0.24	0.50	0.57	0.54
Moped	0.13	0.28	0.20	0.21	0.80	0.49
Inline skate	0.08	0.27	0.17	0.12	0.26	0.18
Motorcycle	0.11	0.22	0.17	0.06	0.48	0.26
Other	0.59	1.01	0.80	0.38	0.70	0.54

Note: Modes of transportation appear in order of frequency for all elementary students.

Sources: Statistics Canada (2006/2007). Census at School: www.statcan.gc.ca



DRIVING TEACHER DATA

Speed of automobiles involved in one or two car accidents:

28 km/h	45 km/h	55 km/h	58 km/h	65 km/h	73 km/h
35 km/h	42 km/h	70 km/h	62 km/h	93 km/h	82 km/h
50 km/h	88 km/h	125 km/h	44 km/h	75 km/h	85 km/h
42 km/h	48 km/h	86 km/h	92 km/h	73 km/h	130 km/h
47 km/h	58 km/h	62 km/h	75 km/h	50 km/h	42 km/h
55 km/h	84 km/h	90 km/h	92 km/h		



CRAB DATA**Tide Tables for Peggy's Cove****Indian Harbour, Nova Scotia (near Peggy's Cove) from 15 July, 2008 to 16 July, 2008**

44.5167° N, 63.9333° W

2008-07-15 01:00 ADT 0.72 meters, Low Tide

2008-07-15 02:48 ADT Moonset

2008-07-15 05:45 ADT Sunrise

2008-07-15 07:22 ADT 1.84 meters, High Tide

2008-07-15 13:01 ADT 1.00 meters, Low Tide

2008-07-15 19:09 ADT 2.06 meters, High Tide

2008-07-15 19:29 ADT Moonrise

2008-07-15 20:57 ADT Sunset

2008-07-16 01:41 ADT 0.66 meters, Low Tide

2008-07-16 03:40 ADT Moonset

2008-07-16 05:46 ADT Sunrise

2008-07-16 08:03 ADT 1.90 meters, High Tide

2008-07-16 13:43 ADT 0.98 meters, Low Tide

2008-07-16 19:51 ADT 2.10 meters, High Tide

2008-07-16 20:14 ADT Moonrise



RAFT RUBRIC

Mathematical Process: Reasoning and Proving

Category/Criteria	Level 1	Level 2	Level 3	Level 4
Thinking	The student:			
Formulates and defends a hypothesis	Forms a hypothesis with limited relevance to pertinent aspects of the problem	Forms a hypothesis with some relevance to pertinent aspects of the problem	Forms a hypothesis with considerable relevance to pertinent aspects of the problem	Forms a hypothesis with a high degree of relevance to pertinent aspects of the problem
Makes inferences, draws conclusions and gives justifications	Justifies answers with limited connections to the problem solving process	Justifies answers with some connections to the problem solving process	Justifies answers with considerable connections to the problem solving process	Justifies answers with thorough connections to the problem solving process
Interprets mathematical language, charts and graphs	Makes reasonable statements; interprets the information with limited accuracy	Makes reasonable statements; interprets the information with some accuracy	Makes reasonable statements; interprets the information with considerable accuracy	Makes reasonable statements; interprets the information with a high degree of accuracy

Mathematical Process: Communicating

Category/Criteria	Level 1	Level 2	Level 3	Level 4
Communication	The student:			
Makes presentations and explains and justifies solutions (e.g., connections between data and final conclusions)	Describes, with limited clarity, the connections between the data (numbers, graphs, tables, text) and their final conclusions	Describes, with some clarity, the connections between the data (numbers, graphs, tables, text) and their final conclusions	Describes, with considerable clarity, the connections between the data (numbers, graphs, tables, text) and their final conclusions	Describes, with a high degree of clarity, the connections between the data (numbers, graphs, tables, text) and their final conclusions



RAFT RUBRIC

Mathematical Process: Connecting

Category/Criteria	Level 1	Level 2	Level 3	Level 4
Application	The student:			
Relates mathematical ideas to situations drawn from other contexts	Transfers ideas to other contexts and makes connections that have limited relevance	Transfers ideas to other contexts and makes connections that have some relevance	Transfers ideas to other contexts and makes connections that have considerable relevance	Transfers ideas to other contexts and makes connections that have a high degree of relevance

A Rubric is an assessment tool used when assessing **for** and **of** learning. When the purpose is assessment **for** learning, students should be engaged in co-constructing the criteria to ensure that they know what success “looks like.” When the purpose is assessment **of** learning (evaluation), the Rubric provides the basis for decision-making about the student’s level of achievement using the agreed upon criteria.



TRI THIS! TRIANGLE: EXPANDED

