



KISLAND

A newly independent country that has peacefully declared its independence from the MYP Empire

RECYCLED REGATTA



SCIENCE AND TECHNOLOGY WEEK

An interdisciplinary, cross-grade level, MYP design cycle event . . .

KISLAND is a newly independent country that has peacefully declared its independence from the MYP Empire.

Unfortunately, much of KISLAND's extensive coastline has been littered with rubbish. With unlimited opportunities for potential growth, international investors and experts have flocked to this peaceful nation to help make it more developed.

The KISLAND Ministry of Transportation and the Ministry of the Environment & Engineering are calling on

foreign experts from all countries and historical eras to come help build a strong effective coast guard, while simultaneously solving the country's environmental issues.



KISLAND needs you!

"IB Profilus, Alumno Callidus"



- Are you a group of modern Canadian Canoe experts?
- Ancient Polynesian Catamaran builders?
- Chinese Junk engineers from the Han Dynasty?



SCIENCE & TECH

WEEK

KIS 2010



	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
1st period	Auditorium	Auditorium	Option A: Computer Labs Option B: D109 & Library	Option A: Computer Labs Option B: D109 & Library	Work until 9:00, then...
2nd period	Computer Labs	Computer Labs			Auditorium for Presentations
3rd period	Computer Labs	Computer Labs			
4th period	Science Labs	Science Labs or Testing in the pool	Science Labs or Testing in the pool	Science Labs or Testing in the pool	Pool for Race
5th period					
6th period					



RESEARCH & MARKETING

AOI FOCUS: Human Ingenuity

How and why do we create?

Have you ever wondered why there are different types of boats? Who came up with the designs and why?

Figuring out the answer to this question just may help you promote your own design!



KISLAND Ministry of Transportation

The KISLAND Ministry of Transportation needs your help in starting its Coast Guard. During the

boats and their uses. This information will help you as you choose and create your own design!

RESEARCH & MARKETING portion of the project you will research historical

ATL's
- Collaboration
- Information Literacy

You will also research about Coast Guards around the world, and what it is that they do. This will help your group market your design to the KISLAND Coast Guard.

QUESTION #1	QUESTION #2	QUESTION #3	QUESTION #4
What are the various kinds of boats that have been used throughout history?	What were those boats used for?	How does a Coast Guard operate?	How can you promote your design/product? This is research, not brainstorming!

Research and Marketing Rubric

	1 / 2	3 / 4	5 / 6	TOTAL
A KNOWLEDGE	The group was challenged with using appropriate vocabulary to demonstrate an historical context. Their use of nautical terms was limited.	The group used and explained appropriate vocabulary that demonstrated an historical context and their use of nautical terminology.	The group used and explained appropriate vocabulary that clearly and consistently demonstrated an historical context and their mastery of nautical terminology.	
B PRESENTATION SKILLS	The presentation is not within the time limit. Clearly evident that rehearsal was not sufficient. There are many technical problems. The audience is bored.	The presentation is not within the time limit. Some evidence that rehearsal was not sufficient. There is one (or few) technical problem. The audience is entertained.	The presentation is one minute long, clearly well rehearsed . There are no technical problems evident. The audience are highly entertained and engaged.	
C PERSUASION TECHNIQUES	The group was not persuasive.	The group used persuasion techniques and some emotive language.	The group used highly effective persuasion techniques and emotive language.	
D RESEARCH	The students have chosen and used a limited amount of relevant information and resources, from a limited number of appropriate sources.	The students have chosen and used a good amount of relevant information and resources, from a fairly extensive number of appropriate sources.	The research contains excellent , relevant information and resources from a wide variety of appropriate web, print, and interview sources.	
E COMMUNITY SPIRIT	The group experienced many problems working together.	Not all members of the group contributed fairly. Not everyone had fun.	Each member of the group had a balanced contribution. Everyone had fun.	
TOTAL:				

Getting Started . . .



TEAM NAME

What are you going to call your team? Will it reflect your members, your design, your time period, or all three?

To Think About . . .

When collaboratively researching it's important to make sure you record all your information, and everyone knows what they're supposed to do.

Who will do what in your group? Assign roles to each group member.

TEAM LOGO

Sketch some team logo ideas.

ROLES

Question #1



What are the various kinds of boats that have been used throughout history?

What do you want/need to know???

Research

REFERENCES

Question #2



What were those boats (in Question #1) used for?

What do you want/need to know???

Research

REFERENCES

Question #3



How does a Coast Guard Operate?

What do you want/need to know???

Research

REFERENCES

Question #4



How can you promote your design/product?
- This is research, not brainstorming!

**What do you
want/need to
know???**

Research

REFERENCES

Option A: One-minute video.

... Storyboarding

Audience:



Scene 1: _____



Scene 2: _____

Materials and Locations:



Scene 3: _____



Scene 4: _____

Other Notes:



Scene 5: _____



Scene 6: _____

Option B: One-minute skit.

... Scripting

Setting

Where does your skit take place?

Audience:

Materials:

Characters

Who is in your skit?

Dialogue

DESIGN & BUILD



**AOI FOCUS:
Environment**

What resources do I have or need?

Have you ever considered recycled materials as a resource? What are some things besides plastic bottles that could be used again to make something new?

Figuring out the answer to this question could help save money and the planet!

KISLAND Ministry of the Environment and Engineering

ATL's
- Reflection
- Thinking

The KISLAND Guiding Environmental & Engineering Experts of KISLAND (GEEEK's) will help guide you as you implement the Design Cycle to create an

environmentally friendly boat for the KISLAND Coastguard. All boats in KISLAND must meet the criteria set forth by the Ministry of the Environment and Engineering.

All elements of the Design Cycle are critical as you seek to come up with the best possible design for your boat, particularly good Reflection skills!



QUESTION A	QUESTION B	QUESTION C	QUESTION D
Which historical boats could realistically be made from recycled materials?	Which design elements would be best for stability and speed?	How does your design meet GEEEK Certification standards?	What about your design is unique to your product?



Your final standing in the Recycled Regatta will not be based on your time alone! Your final race place will earn you points, but those points will be multiplied by your GEEEK Certification rating. The better your rating, the higher your final score. Being the fastest team does not guarantee you finish first. In fact if you come in first with only a CERTIFIED rating, and the 20th place team earned a PLATINUM rating, they would beat you with their final score!

ATL's
- Following a Rubric!

0-24 PTS	25-44 PTS	45-54 PTS	55+ PTS
CERTIFIED (x 1.0)	SILVER (x 1.4)	GOLD (x 1.6)	PLATINUM (x 1.8)
- Meets minimum design & build requirements.	- Meets minimum design & build requirements, and - Shows <i>SOME</i> innovation, and concern for environmental impact	- Meets minimum design & build requirements, and - Shows <i>GOOD</i> innovation, and concern for environmental impact	- Meets minimum design & build requirements, and - Shows <i>EXCELLENT</i> innovation, and concern for environmental impact

RACE FORMAT

- 11 races of 4 teams, winners go to Semifinals
- 5 fastest runner-ups go to Semifinals
- Semifinals are 4 races of 4 teams, winners go to finals
- Times determine final positions

Race Rules

- 3 team members race one length of the pool.
- 1 member may be in the water to help switch racers
- If you fall off during the race you must get back on in the same place, or add 5 seconds
- feet must be out of the water

1ST	2ND	3RD	4TH	5TH	6TH	44TH
50 pts	49 pts	48 pts	47 pts	46 pts	45 pts	7 pts

Group Members:

Team Name:

Total:	Innovation and Design	Possible Points:	10
	Prerequisite - Can support any team member with feet out of water		0
	Credit 1 - Appropriate design selected		3
	Credit 2 - Fusion of two designs		3
	Credit 3 - Innovative design created		4

Total:	The Design Cycle	Possible Points:	16
	Prerequisite - 1 time through the design cycle		0
	Credit 1 - 2nd productive time through the cycle		2
	Credit 2 - 3rd productive time through the cycle		3
	Credit 3 - 4th productive time through the cycle		4
	Credit 4 - Evidence of reflection		1-7

Total:	Quality of Construction	Possible Points:	16
	Prerequisite - Boat floats		
	Credit 1 - Boat resembles the design		1-4
	Credit 2 - Boat is stable in the water		1-4
	Credit 3 - Boat is neatly made		1-4
	Credit 4 - Boat does not fall apart after short use in the water		1-4

Total:	Materials	Possible Points:	32
	Prerequisite - Made from recycled materials		0
	Credit 1 - Returns 5 original unused large bottles (x 2 points for each set of 5)		2 to 10
	Credit 2 - Returns 5 original unused small bottles (x 1 points for each set of 5)		1 to 4
	Credit 3 - Returns 10 meters of unused plastic string (x 2 points for each complete 10 meters)		2 to 10
	Credit 4 - Returns 1 roll of tape (x 4 points for each complete roll)		4 or 8

***** Student Choice Awards Bonus 5 points towards Build Total**

Certified: 0-24 points

Silver: 25-44 points

Gold: 44-54 points

Platinum: 55+

:Build Total	GEEK Rating:	Possible Points:	76
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:Race Points	x _____	Final Score	
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Question A

Which historical boats could realistically be made from recycled materials?

Question B

Which design elements would be best for stability and speed?

When your questions are answered, check with a KISLAND GEEK for permission to start planning.

Question C

How does your design meet GEEK Certification standards?

Question D

What about your design is unique to your product?

When your questions are answered, check with a KISLAND GEEK for permission to start planning.



INFLUENCES

What types of boats have good ideas you would like to use in your design?

To Think About . . .

It's not possible to start with one bottle just tape bottles on and end up with a boat!

What are the different parts of your design?

How will you make each part?

How will you attach the parts together?

. . . Sketch your design

When your boat is ready to test, check with a KISLAND GEEK for permission to go to the pool.

Checked by: _____

OBSERVATIONS and REFLECTIONS

What worked?

What didn't work?

What do you need to change?

Before you leave the pool, have a KISLAND GEEK, check your Observations.

Checked by: _____



INFLUENCES

Describe your design, and how it was influenced by other boat designs.

To Think About . . .

Wider is often better for stability, but narrower designs are better for speed. You can't win a race if you keep "crashing"!

Was your boat too slow, or too unstable?

. . . Sketch your design

When your boat is ready to test, check with a KISLAND GEEK for permission to go to the pool.

Checked by: _____

OBSERVATIONS and REFLECTIONS

What worked?

What didn't work?

What do you need to change?

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Checked by: _____



INFLUENCES

Describe your design, and how it was influenced by other boat designs.

To Think About . . .

More is not always better. Don't forget to think about the environmental impact of your boat, and that you get more credit for returning unused materials.

How can you make your design more efficient?

. . . Sketch your design

When your boat is ready to test, check with a KISLAND GEEK for permission to go to the pool.

Checked by: _____

OBSERVATIONS and REFLECTIONS

What worked?

What didn't work?

What do you need to change?

Before you leave the pool, have a KISLAND GEEK, check your Observations.

Checked by: _____



INFLUENCES

Describe your design, and how it was influenced by other boat designs.

To Think About . . .

Great inventions and designs often take many more than four design cycles.

Keep up the good creativity and hard work!

What's the most important thing you need to work on now?

. . . Sketch your design

When your boat is ready to test, check with a KISLAND GEEK for permission to go to the pool.

Checked by: _____

OBSERVATIONS and REFLECTIONS

What worked?

What didn't work?

What do you need to change?

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