

Name:

Date:

Class:

Resource Binder

Name:

Date:

Class:

Boats

Know:	Want to Know:	Learned:

Name:

Date:

Class:

Research Record

#1:	#2:	#3:
Other findings:		Want to share:

Name:

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General Boat Research Links

Why do ships Float by SciShow Kids:

<https://www.youtube.com/watch?v=CvWrkxzCiaY>

How do ships Float by Science Out Loud MIT+K12 Videos

<https://www.youtube.com/watch?v=pnIE1xD-yM>

Buoyancy: What makes something float or sink? By Kids Want to Know

<https://www.youtube.com/watch?v=nMIXU97E-uQ>

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Boat Movement Research Links

Technobrain
2015 Boat
Race

<https://www.youtube.com/watch?v=cgdCmDt5gVs&spfreload=10>

Homemade sailboat:

<https://www.youtube.com/watch?v=KnnqK-jGfYo>

Rubber band
powered boat:

<https://www.youtube.com/watch?v=Wy1RUskWxqk>

Rubber band
powered boat:

<https://www.youtube.com/watch?v=USB-dHeWMiY>

Balloon boat:

https://www.youtube.com/watch?v=tz-t_DXk6-c

How to make water
boat without a motor:

<https://www.youtube.com/watch?v=RcrJvlreS84&t=3s>

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How will your boat move?	How will your boat move?	How will your boat move?
How will your boat move?	How will your boat move?	How will your boat move?
How will your boat move?	How will your boat move?	How will your boat move?

Name:

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Sinking or Floating?



Name:

Date:

Class:

Properties Recording Sheet

Color:	Shape:	Size:
Weight:	Temperature:	Sink or Float:
Texture:	Magnetism:	

Name:

Date:

Class:

Clay Investigation

Property:

Procedure:

Observations:

Conclusion:

Name:

Date:

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Materials for boat:	Materials for Boat:	Materials for boat:
Materials for boat:	Materials for boat:	Materials for boat:
Materials for boat:	Materials for boat:	Materials for boat:

Name:

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Question Cards for *The Most Magnificent Thing*

<p>Before: Look at the cover. What can you observe?</p>	<p>Before: What do you predict the most magnificent thing will be?</p>	<p>During: What steps has the girl taken so far as an engineer?</p>	<p>During: How does the girl react when she doesn't succeed the first time?</p>
<p>During: Look closely at the illustrations. How has the girl's expression changed? Why do you think the illustrator choose to show that?</p>	<p>During: Can you think of a time you failed the first time?</p>	<p>During: Examine the verbs the author is choosing. What do they tell us about how the girl feels?</p>	<p>During: How did the girl discover how to make the most magnificent thing? Have you ever learned from your own mistakes?</p>
<p>During: Look at the speech bubbles in the illustrations. What do the other people think of her "failed" inventions?</p>	<p>After: What is the theme, or moral message, of this story? How can we apply that to our boat designs?</p>	<p>After: What other stories have we read that have a similar moral message?</p>	

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Cost of Materials

Item	Price	Item	Bulk Price
wood plank (balsa)	\$50.00	10 corks	\$10.00
Styrofoam block	\$50.00	4 water bottles	\$30.00
cube of modeling clay	\$50.00	10 rubber bands	\$5.00
cork	\$2.00	10 popsicle sticks	\$5.00
water bottle	\$10.00		
rubber band	\$1.00		
popsicle stick	\$1.00		
wood stick (balsa)	\$5.00		
fabric (1 meter)	\$5.00		
fan rental	\$10.00		
balloon	\$10.00		
plastic cup	\$1.00		
twine (30 cm)	\$10.00		
plastic wrap	\$10.00		
aluminum foil	\$10.00		
duct tape	\$10.00		
clear tape	\$5.00		

Name:

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Budget Approval Form

Item	Price

Total Price:
Engineer signature:
Engineer signature:
Principal Investigator (teacher) signature:

Name:

Date:

Class:

Rubric

	5	4	3	2
Description of properties	The student can describe the boat's size, shape, color, weight, texture, and sink or float, with measurements when appropriate.	The student can describe 5 of the properties accurately and with measurements when appropriate.	The student can describe 3 of the properties accurately and with appropriate measurements.	The student can describe 2 of the properties with or without the appropriate measurements.
Boat design	The student chose materials that were in budget and made a boat that floated and could reach their destination or they had a plan to fix their design.	The student chose materials that were in budget and made a boat that floated. Their boat did not reach their destination and they did not have a plan to fix their design.	The student only met 1 of the requirements.	The students did not meet the requirements.
Teamwork	The student listened to their partner's ideas and contributed their own ideas. They made decisions together.	The student wanted to use their own ideas and had difficulty accepting their partner's ideas.	The student wanted to use their own ideas and did not accept their partner's ideas.	The student did not work with their partner.
Sharing findings	The student prepared a presentation that included the materials they used and why, what went well, and what they would do next time.	The student prepared a presentation that only answers two of the three questions.	The student prepared a presentation that only answers one of the three questions.	The student did prepare for their presentation.
Self- Assessment	The student completed their self- assessment.			The student did not complete the self- assessment

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Self-Assessment

I had a growth mind-set as I designed and created my boat.			
I collaborated with my partner and had a positive attitude.			
I can describe the properties of my boat.			
I stayed in budget when purchasing materials.			
I shared my design with others.			