

Name(s): _____

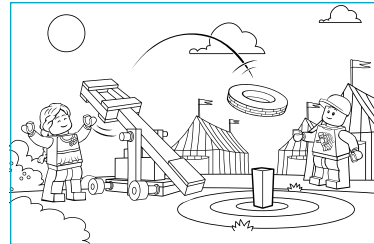
Date and subject: _____

Main Activity: Catapult

Student Worksheet



Note: Be careful not to point the catapult toward anybody's face when catapulting the tire.



1. First, build Catapult Model C3 and try it out.

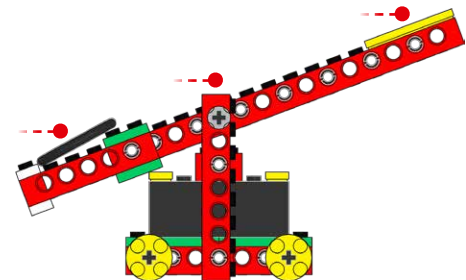
Follow Building Instructions C, pages 16 to 30, steps 1 to 16.



2. Label the model; draw lines from the words to the model.



Effort ●
Pivot ●
Load ●



Which class of lever is the catapult?



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3. Then, look carefully at the pictures of the models and compare Catapult Model C3 to Catapult Model C4.

- Count how many LEGO® studs or holes there are on the lever beam from the pivot to the load in the two models.

- What do you notice? Explain how the two models are different.

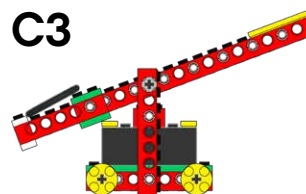


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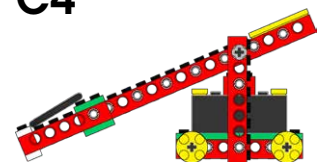
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C3



C4



4. Next, look carefully at the pictures of the models and make a prediction.

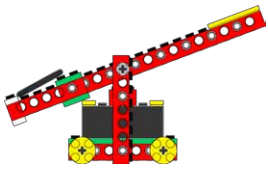




If I compare model C3 to model C4, then I think Catapult Model (C3 / C4) will throw the tire further.

C3	<input type="text"/>
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C4	<input type="text"/>
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5. Test Catapult Model C3.

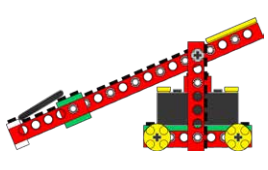


	Test 1	Test 2	Test 3
Measurements 			
Observation Notes 	<hr/> <hr/> <hr/>	<hr/> <hr/> <hr/>	<hr/> <hr/> <hr/>

6. Build Catapult Model C4 and try it out.
Follow Building Instructions C, page 32, step 1.



Note: Be careful not to point the catapult toward anybody's face when catapulting the tire.

7. Test Catapult Model C4.

	Test 1	Test 2	Test 3
Measurements 			
Observation Notes 	<hr/> <hr/> <hr/>	<hr/> <hr/> <hr/>	<hr/> <hr/> <hr/>

8. Finally, draw a conclusion and check your prediction.
My tests show that Catapult (C3 / C4) throws the tire further.





C3	
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C4	
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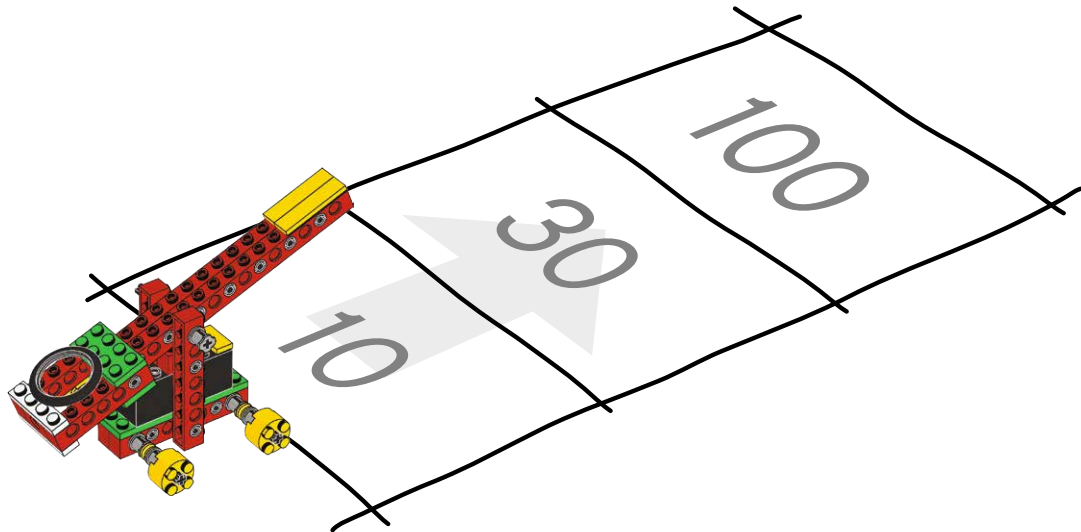
My prediction was (right / wrong).



	
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Think about different games where you have to aim for a goal—then design your own game where you have to aim precisely with the catapult to score points. You will need to decide what you have to aim for. Try to make rules so that players score different numbers of points for different results.



Experiment with different positions in the catapult for the lever beam.

What do you notice?
Explain how the effects are different.
Record your observations.



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Create a sign for your game explaining the rules and inviting people to play.