

Name(s): \_\_\_\_\_

Date and subject: \_\_\_\_\_

## Main Activity: Merry-Go-Round

Student Worksheet

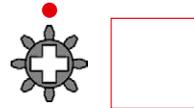


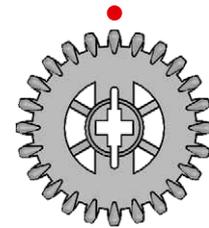
1. First, build Merry-Go-Round Model A6 and make it turn.

Follow Building Instructions A, pages 34 to 42, steps 1 to 11.



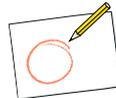
2. Count the teeth on the gears. Start counting from the dot.






3. Then look carefully at the pictures of the models and compare Merry-Go-Round Model A6 to Merry-Go-Round Model A7.

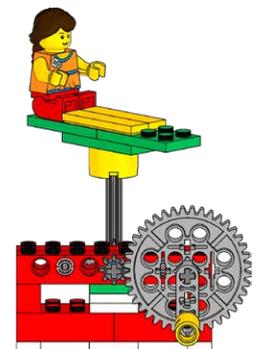
• Circle what is different.



A6



A7



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



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



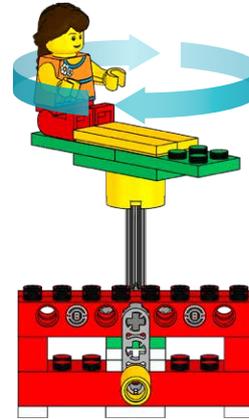
If I compare model A6 to model A7, then I think Merry-Go-Round Model (A6 / A7) will turn faster.

A6	<input type="text"/>
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A7	<input type="text"/>
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**5. Test Merry-Go-Round Model A6.**

- If you want Sam or Sally to make a full turn, how many times must you crank the handle?



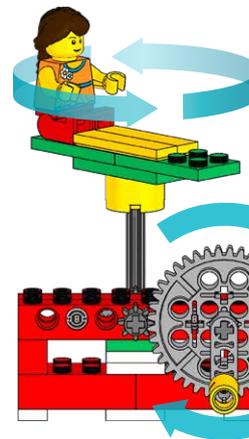
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Write down your answer.  
Remember to try at least three times for a fair test. It is important to keep an eye on  
a) where your handle start position is and  
b) where Sam or Sally's start position is on the Merry-Go-Round.

**6. Build Merry-Go-Round Model A7 and make it turn.**

Follow Building Instructions A, pages 44 to 52, steps 1 to 11.



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**7. Test Merry-Go-Round Model A7.**

- If you crank the handle three times, how many times does Sam or Sally take a full turn?



Write down your answer.  
Remember to try at least three times for a fair test. It is important to keep an eye on  
a) where your handle start position is and  
b) where Sam or Sally's start position is on the Merry-Go-Round.

**8. Finally, draw a conclusion and check your prediction.**

My tests show that Merry-Go-Round (A6 / A7) turns faster.



<b>A6</b>	
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<b>A7</b>	
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My prediction was (right / wrong).



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Explore the effect of the different gearings illustrated. Build them into the Merry-Go-Round one after the other.

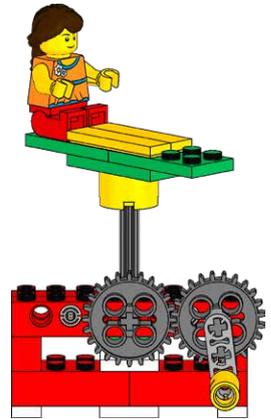
What do you notice?  
Explain how the gearings are different.  
Record observations.



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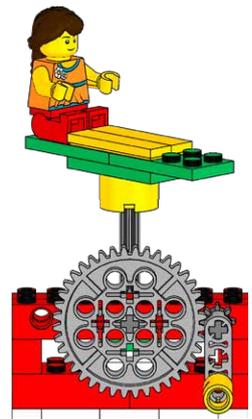
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Draw some gear trains (many gears meshing), or some everyday machines and mechanisms where gears are used.



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