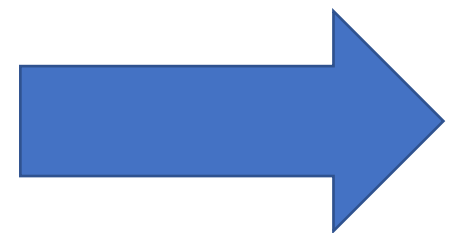
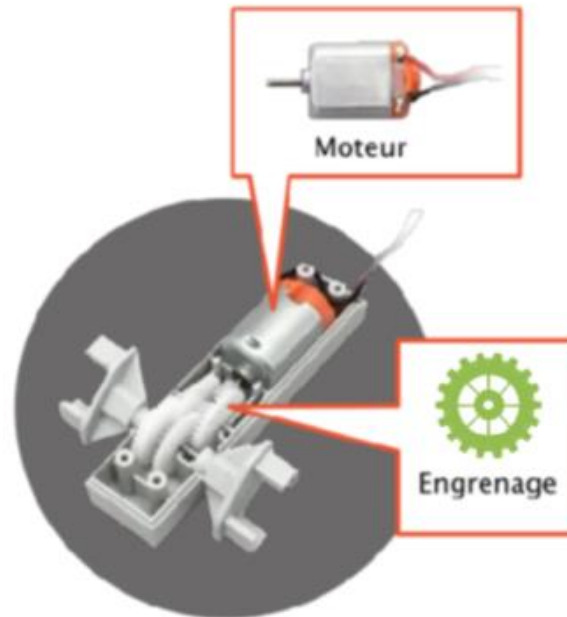


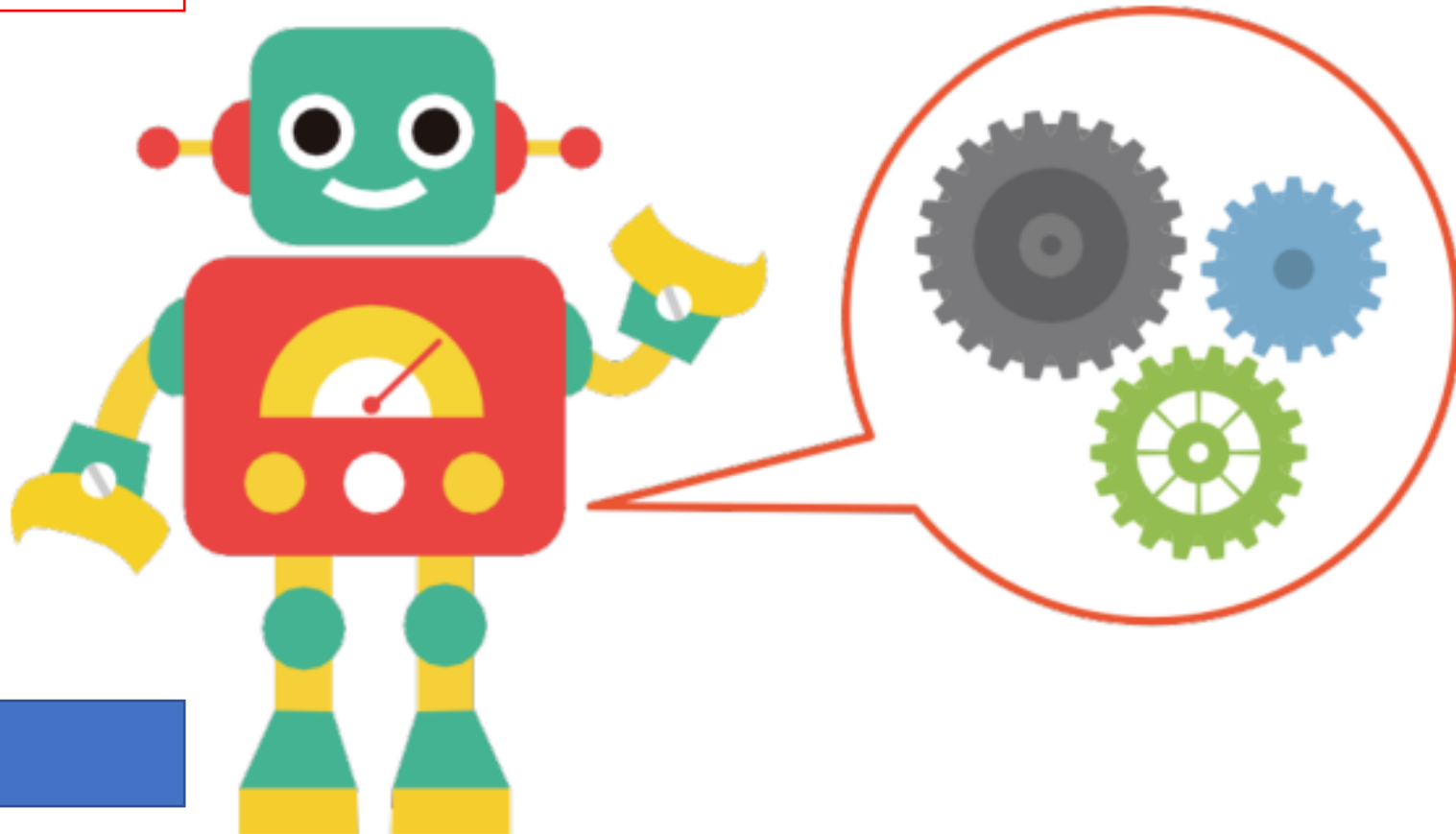
# SEANCE 2 – A LA DECOUVERTE DES MOUVEMENTS COMMENT AVANCE NOTRE ROBOT ?



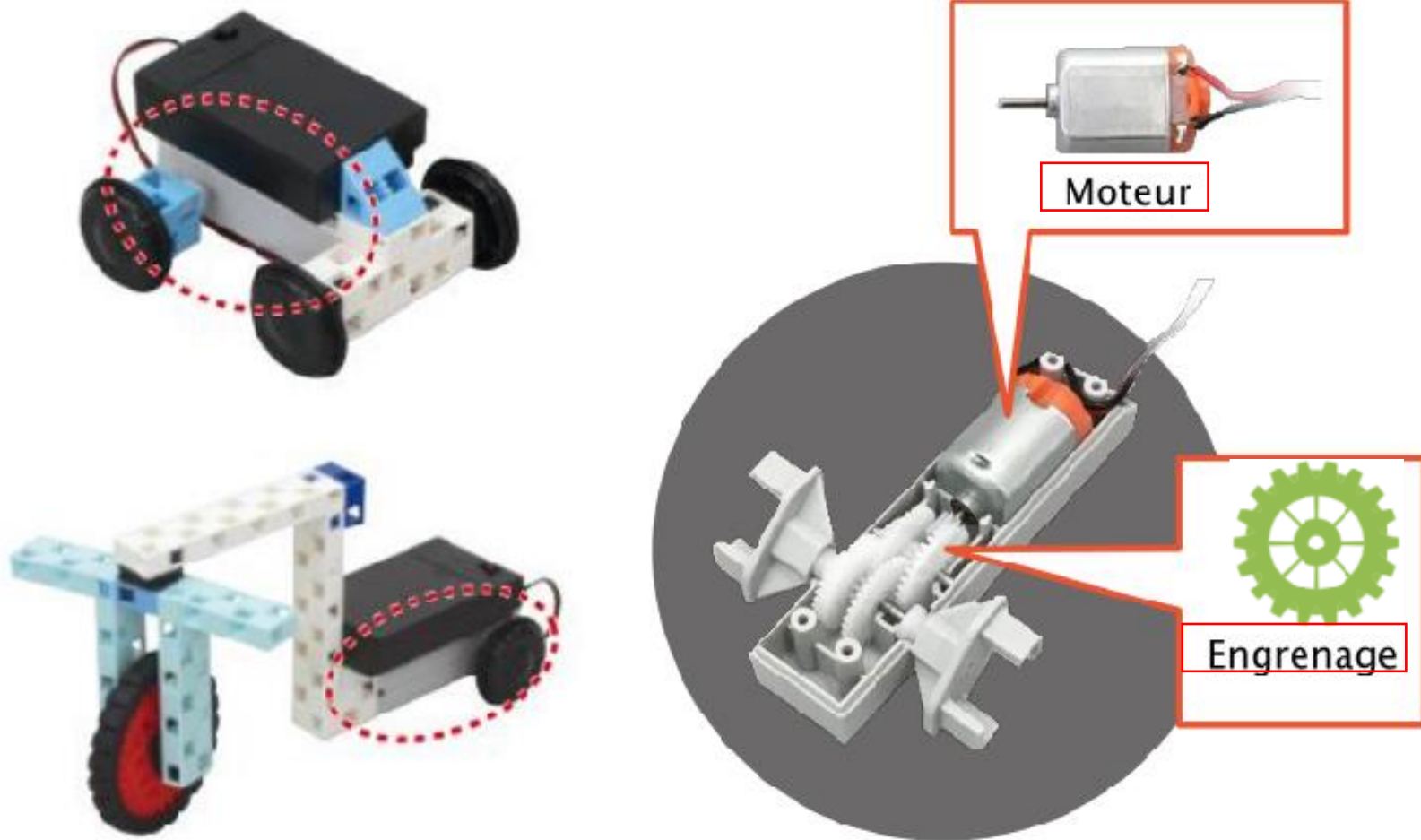
## Comment fonctionnent les engrenages ?

Quand un **robot** doit plier ses bras ou ses jambes, on peut utiliser un élément appelé un **engrenage** !

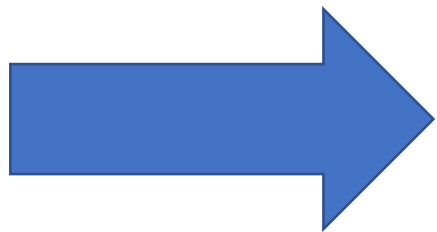
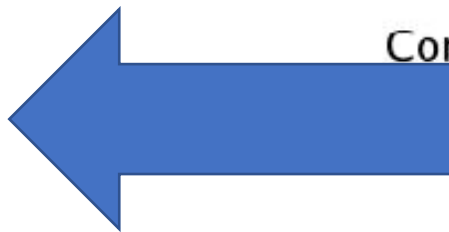
Il est possible de combiner plusieurs engrenages pour faire toutes sortes de **mouvements** intéressants.



Les **moteurs** qui se trouvent dans les voitures et les motos comportent plein d'engrenages aussi !



Combine quelques engrenages ensemble et observe leurs mouvements.

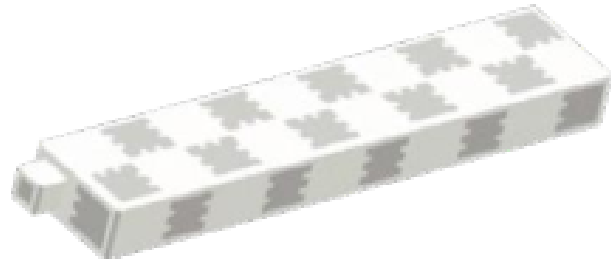


# UTILISER 2 ENGRENAGES

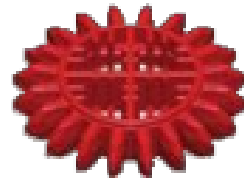
## 1 Assembler des engrenages

Tu auras besoin de

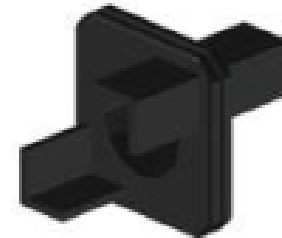
Mets une croix dans la case quand tu as trouvé la pièce !



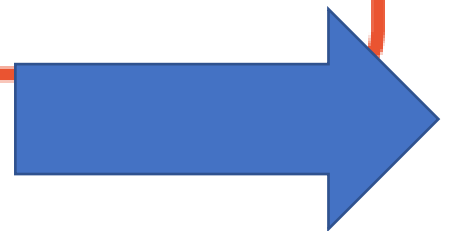
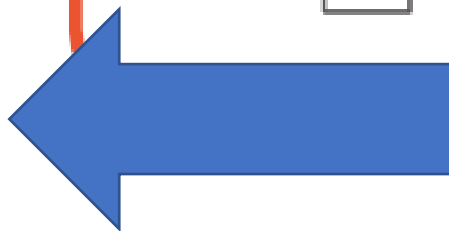
Barre x 2



Engrenage (S) x 4



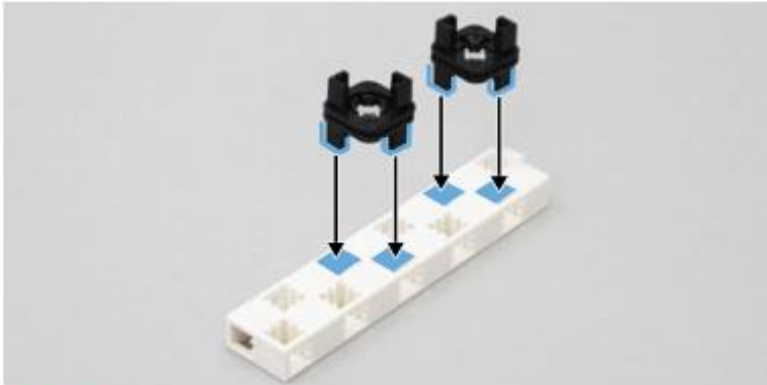
Axe x 4



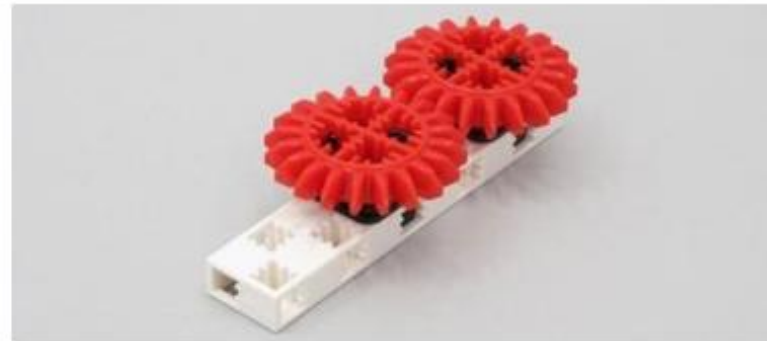
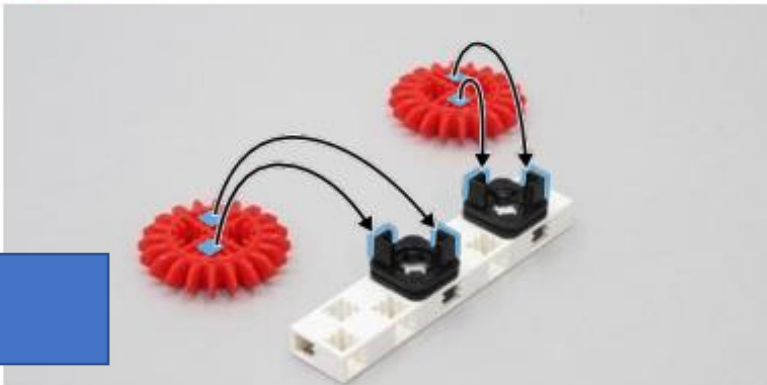
# UTILISER 2 ENGRENAGES

Combiner deux engrenages

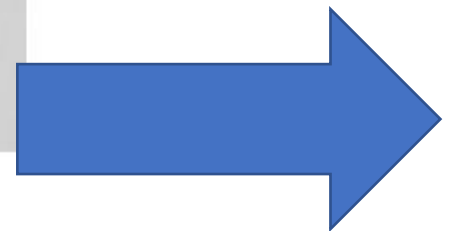
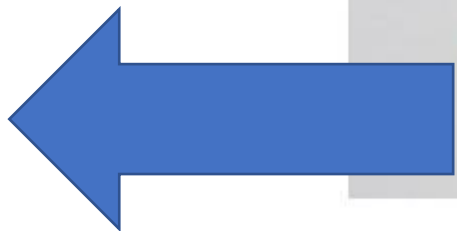
1



2

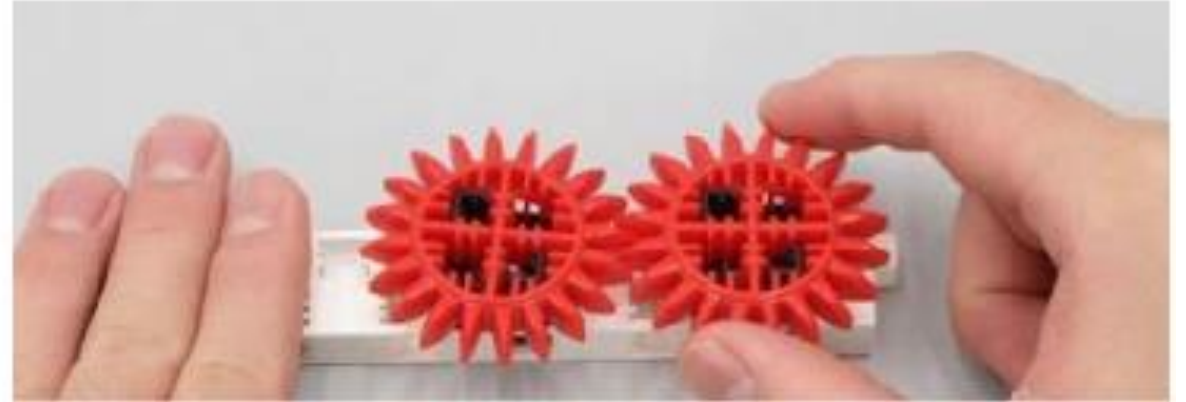


Fini !



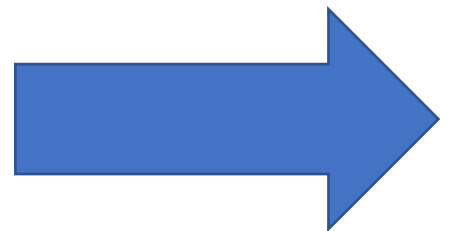
# UTILISER 2 ENGRENAGES

Fais l'essai !



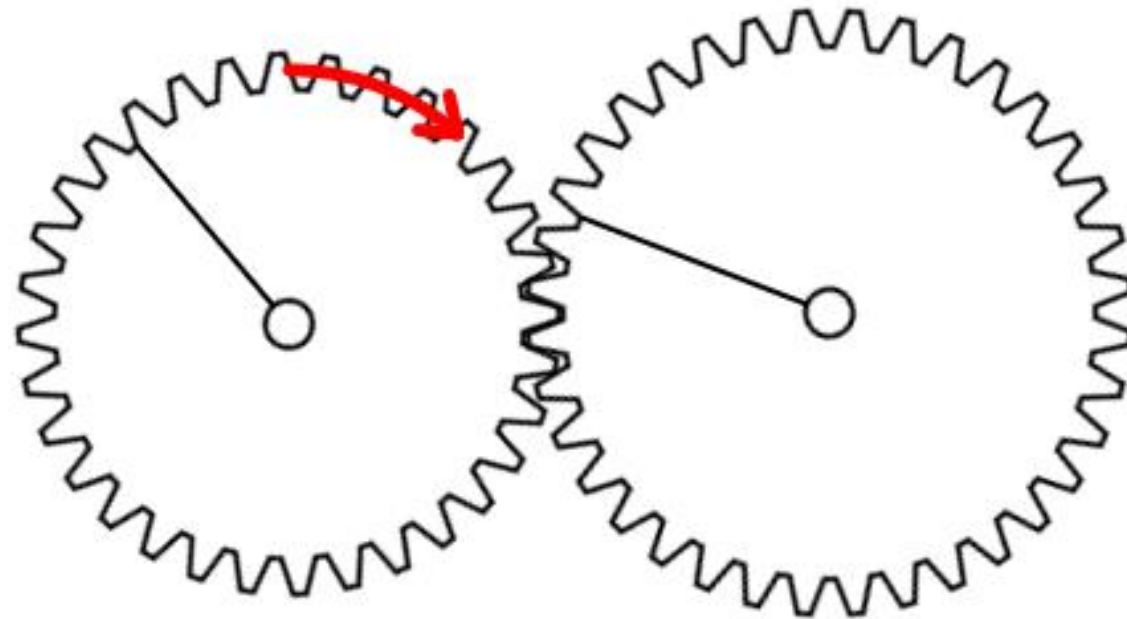
Les deux engrenages tournent dans la :

Même direction / direction opposée

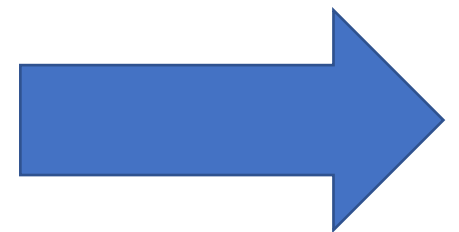
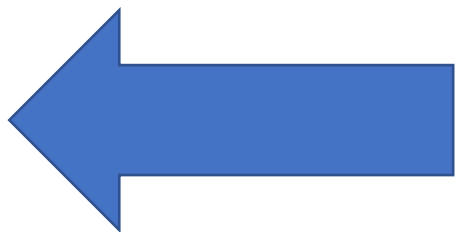


# UTILISER LE MODE SIMULE - 2 ENGRENAGES

<http://www.gearsket.ch/>



<http://www.gearsket.ch/#3ed493b1ed72d5e0>



# UTILISER 3 ENGRENAGES

Ajouter plus d'engrenages

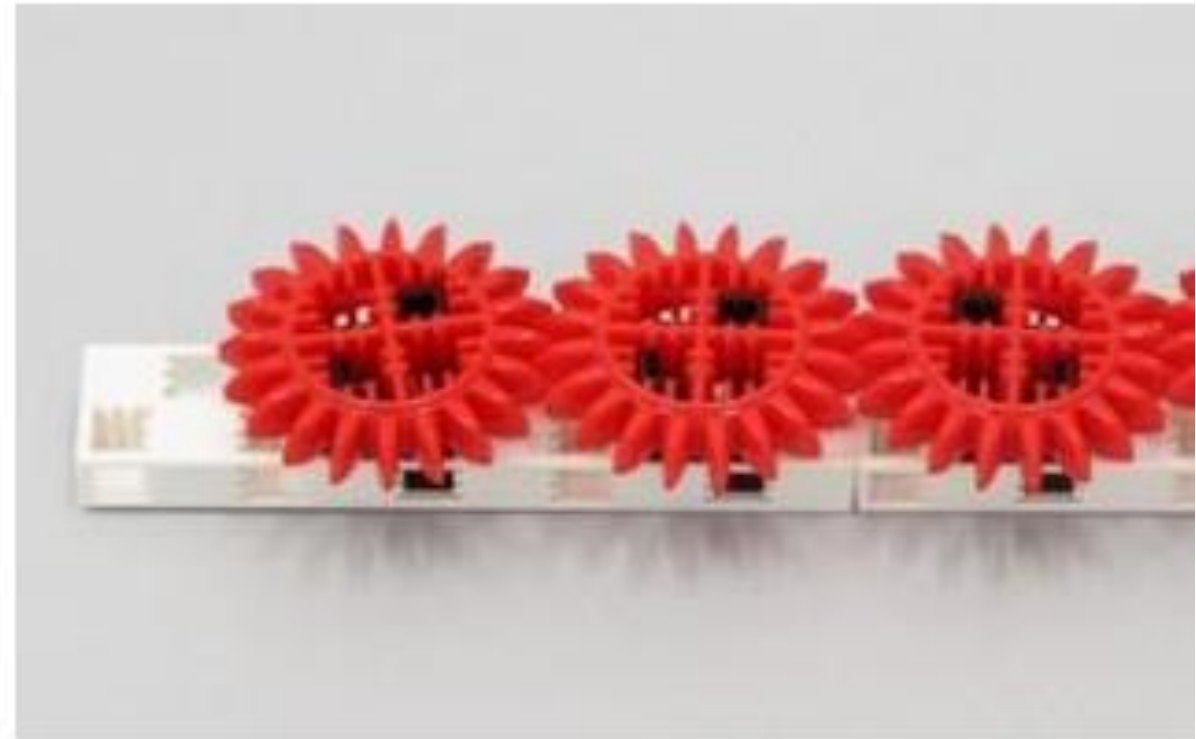
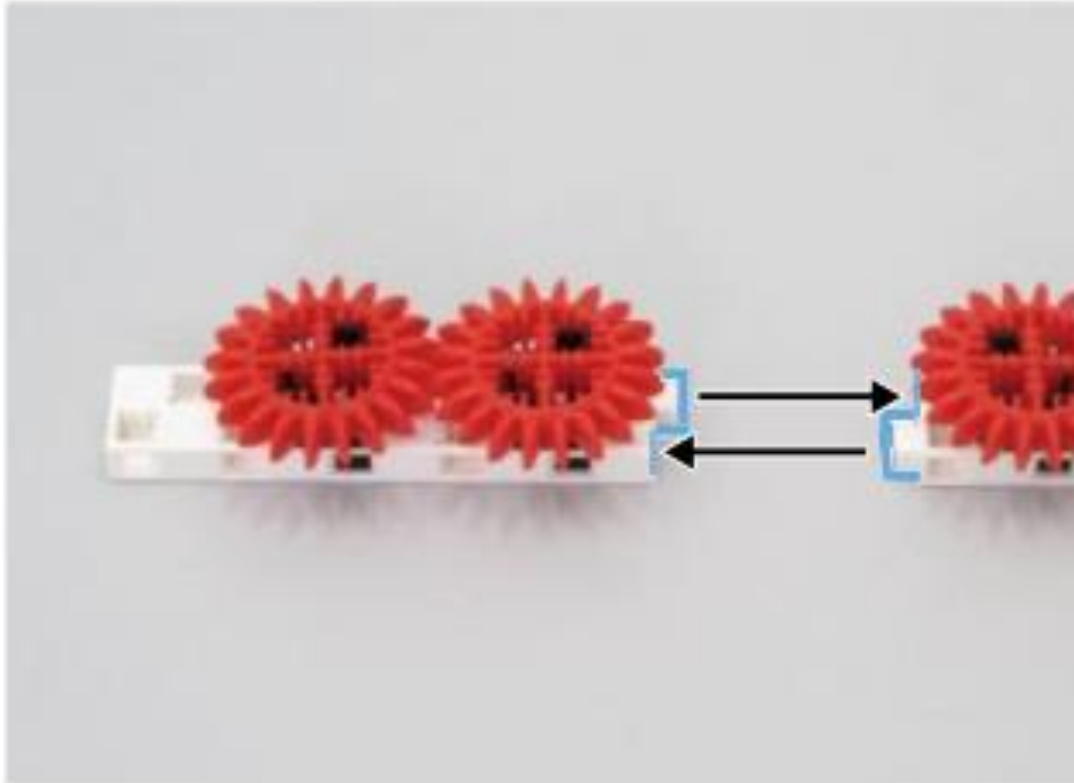
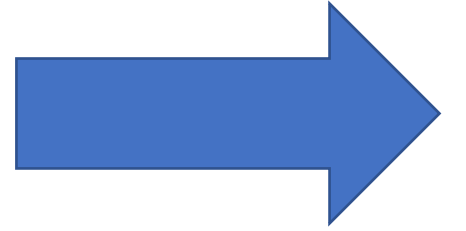
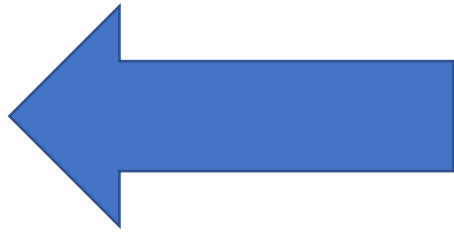
1





# UTILISER 3 ENGRENAGES

2

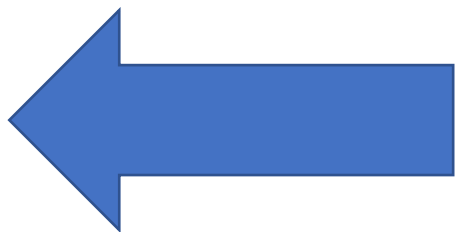
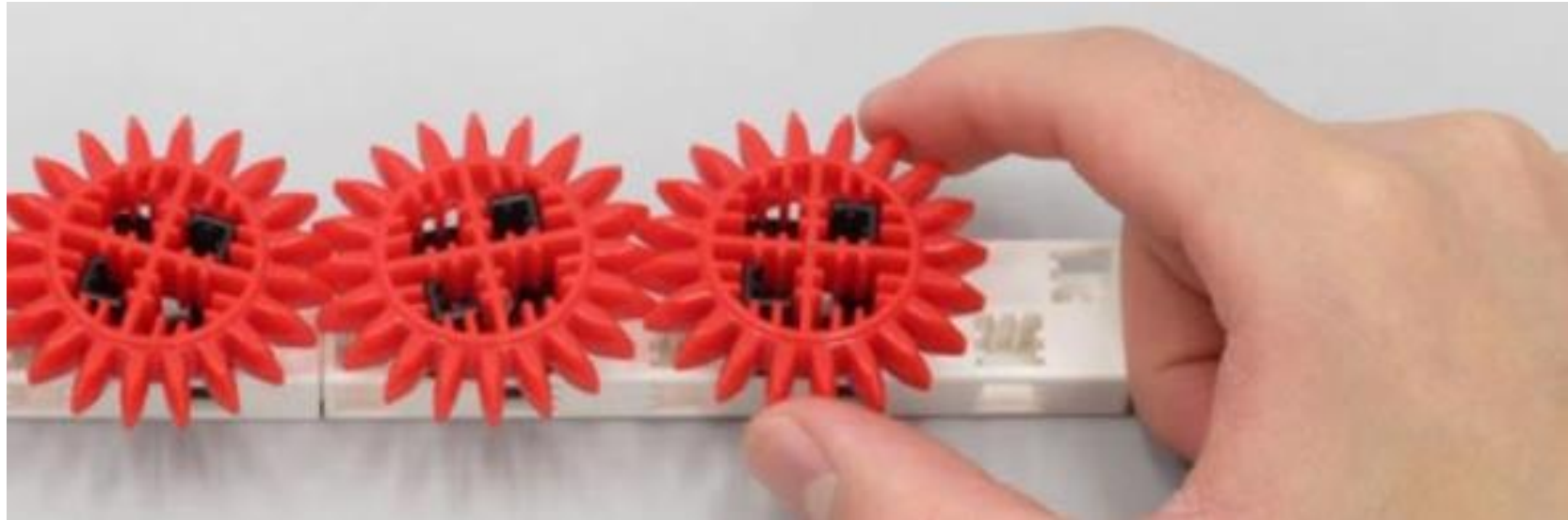


Fini !

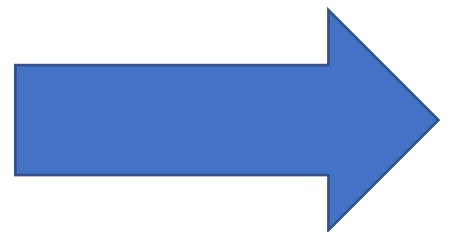
# UTILISER 3 ENGRENAGES

Fais l'essai !

Tourne l'engrenage qui se trouve à l'extrémité. Tu remarqueras qu'il fait tourner les autres engrenages aussi !

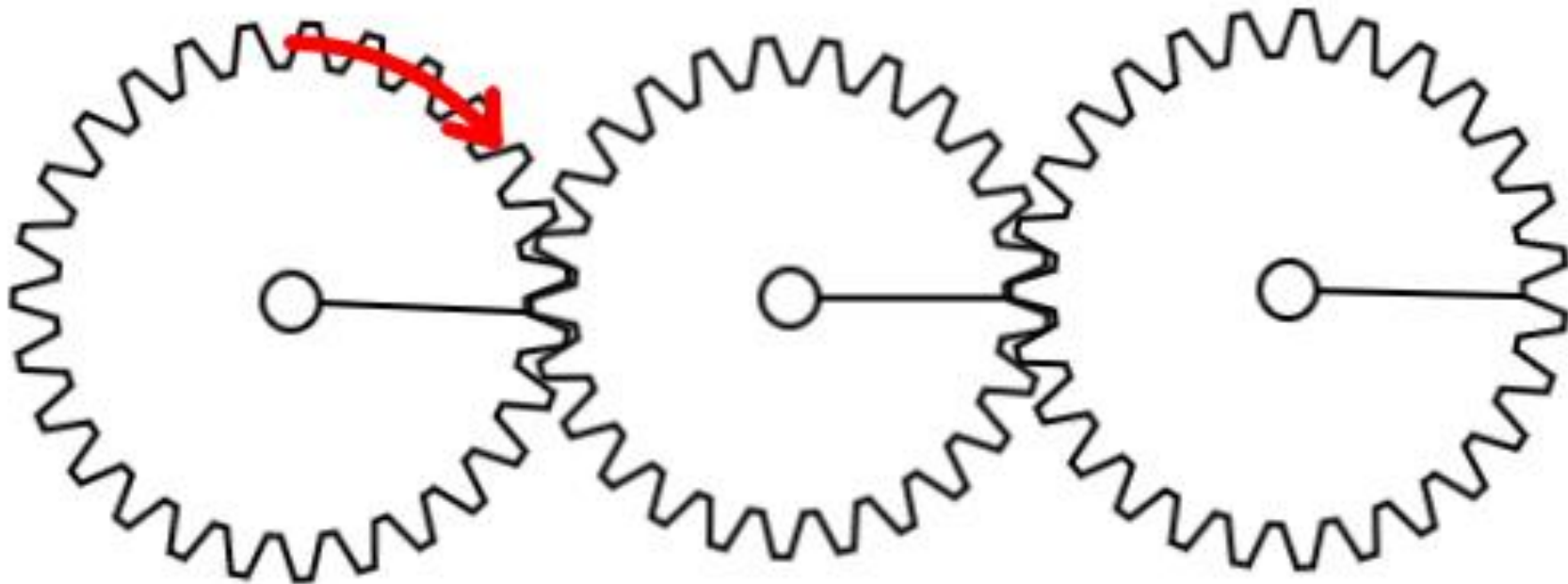


Même direction / direction opposée



# UTILISER LE MODE SIMULE - 3 ENGRENAGES

<http://www.gearsket.ch/>

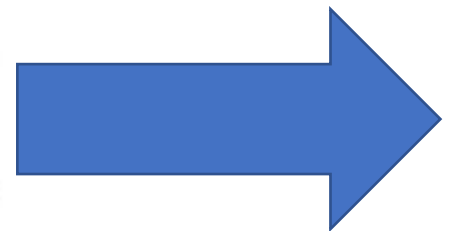


<http://www.gearsket.ch/#c63f1faa90595709>

# UTILISER 4 ENGRENAGES

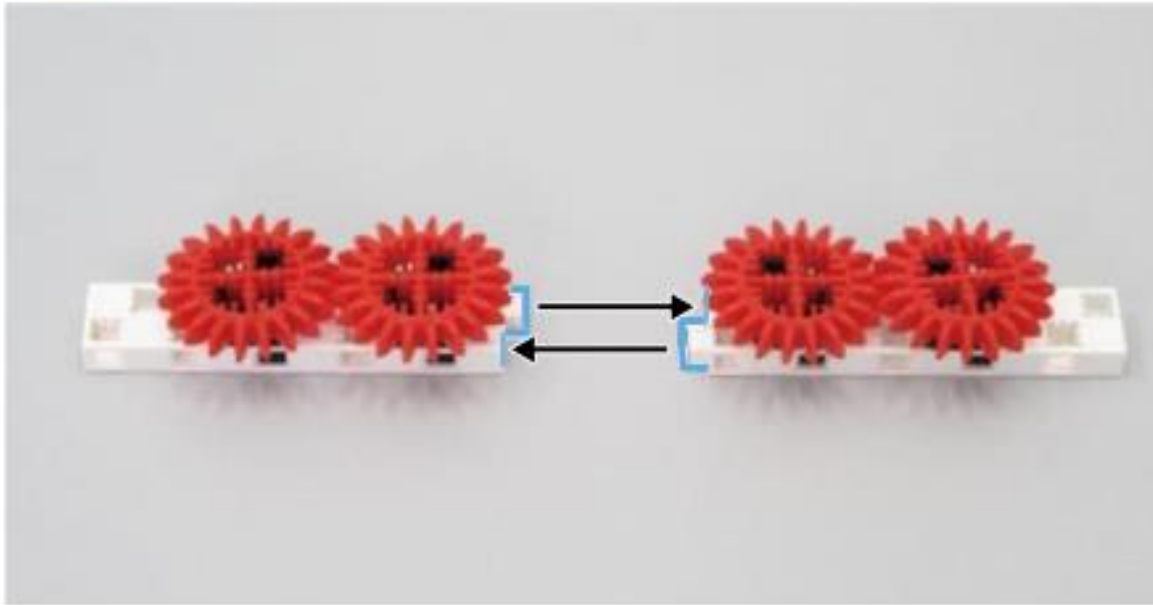
Ajouter plus d'engrenages

1

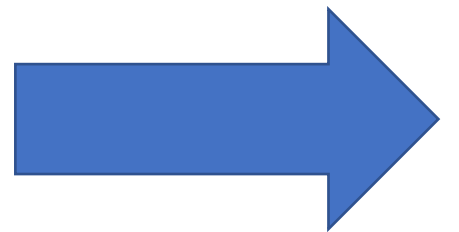
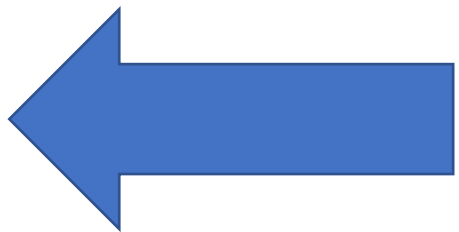


# UTILISER 4 ENGRENAGES

2



Fini !



# UTILISER 4 ENGRENAGES

Fais l'essai !

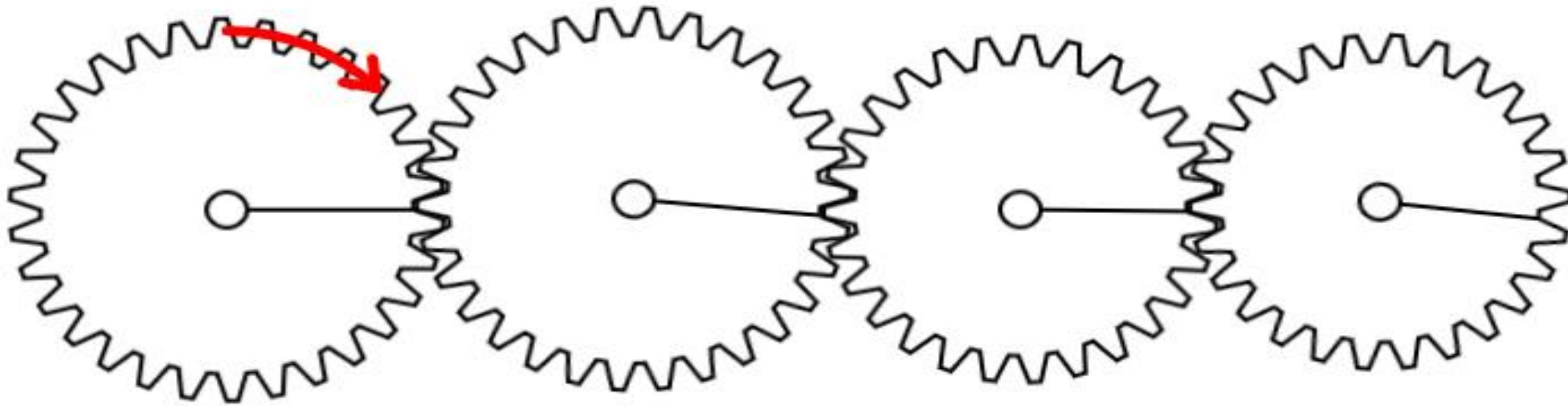
Tourne l'engrenage qui se trouve à l'extrémité. Tu remarqueras qu'il fait tourner les autres engrenages aussi !



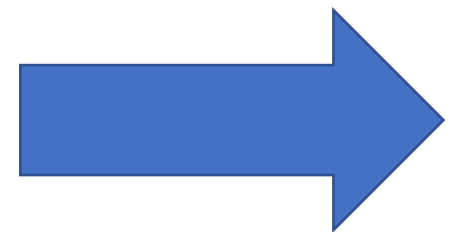
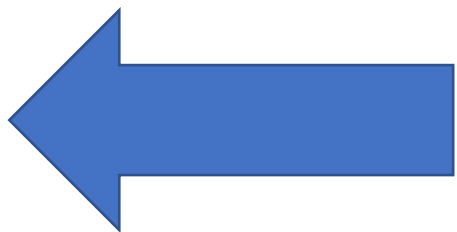
Même direction / direction opposée

# UTILISER LE MODE SIMULE - 4 ENGRENAGES

<http://www.gearsket.ch/>



<http://www.gearsket.ch/#a051fc0d95212229>

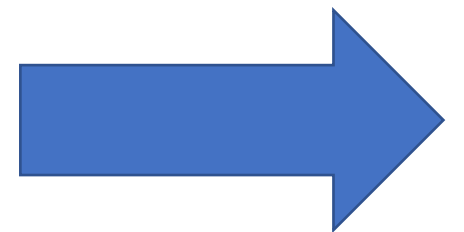
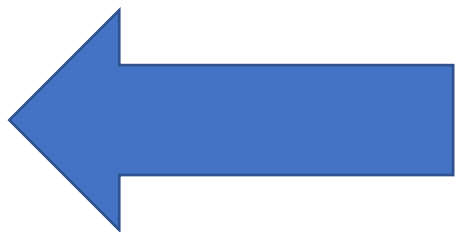


# SYNTHESE A REALISER

**Replacer les mots : impair / pair / le sens inverse / dans le même sens**

Si le nombre d'engrenages est \_\_\_\_\_, la première et la dernière roue tourneront dans \_\_\_\_\_:

Si le nombre d'engrenages est \_\_\_\_\_, la première et la dernière roue tourneront \_\_\_\_\_:



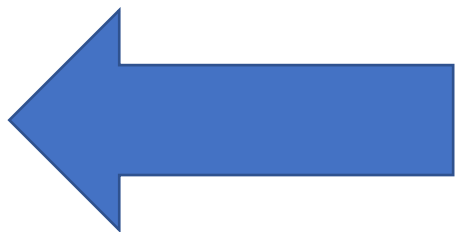


# SYNTHESE A REALISER

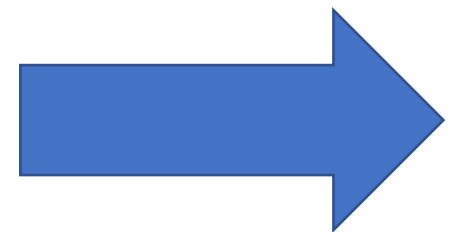
**Replacer les mots : impair / pair / le sens inverse / dans le même sens**

Si le nombre d'engrenages est **pair**, la première et la dernière roue tourneront dans **le sens inverse**.









Si le nombre d'engrenages est **impair**, la première et la dernière roue tourneront **dans le même sens**.

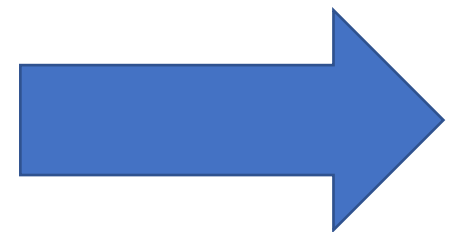
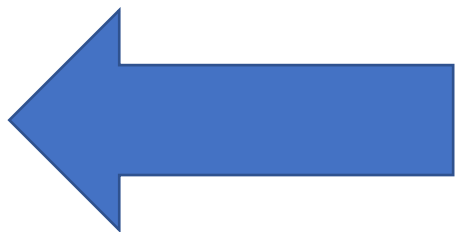


**CORRECTION**







# EXERCICES A REALISER

				
Même sens ou sens inverse ?				
Nombre de roues				
Pair / impair				
Sens de rotation Placer les flèches				



# EXERCICES A REALISER

				
Même sens ou sens inverse ?	<b>inverse</b>	<b>Même sens</b>	<b>inverse</b>	<b>Même sens</b>
Nombre de roues	<b>2</b>	<b>3</b>	<b>4</b>	<b>3</b>
Pair / impair	<b>pair</b>	<b>impair</b>	<b>pair</b>	<b>impair</b>
Sens de rotation Placer les flèches	