

Little Monster's Engineers

Sample Challenges to
Spark Creativity and
Critical Thinking



Brain Flakes® is a trademarked building toy brand of VIAHART LLC. The pieces comprising discs, axles, wheels, and other connectors should be referred as such and not as brain flakes. Any use of the words Brain Flakes here, with or without the registered ® is brand use.



Engineering Fun Facts



Engineers use math and science to solve problems and create new inventions. They design everything from roller coasters and bridges to airplanes and smartphones.



The tallest building in the world is the Burj Khalifa in Dubai, United Arab Emirates. It's so tall that you can see the sunset twice - once from the ground and again from the observation deck at the top!



Engineers who design roller coasters use physics principles like gravity, friction, and momentum to create thrilling and safe rides. That's why roller coasters have loops, twists, and turns that make you feel like you're flying!



The Danyang–Kunshan Grand Bridge in China is the longest bridge in the world, stretching for over 102 miles (164.8 kilometers) along the Beijing–Shanghai High-Speed Railway. It was completed in 2010 and spans various landscapes, including rivers, lakes, and urban areas.



Biomimicry is taking ideas from nature to make cool inventions and designs. It's when engineers look at how animals or plants do things and then use those ideas to make stuff like buildings or gadgets.



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Challenges

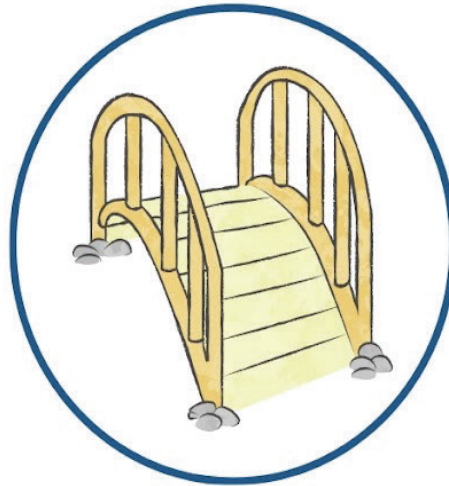


Bridge Challenge

Using only Brain Flakes, design and build a bridge that can span a gap of at least 12 inches and support the weight of a small toy car or stuffed animal. Your bridge should be sturdy and stable, with no sagging or collapsing under the weight.



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grab 2 discs



slide together



success!





Tower Challenge

Build the tallest freestanding tower possible using only Brain Flakes. Your tower should stand on its own without any additional support and reach a minimum height of 12 inches. Get creative with your design and experiment with different shapes and configurations to maximize height and stability.



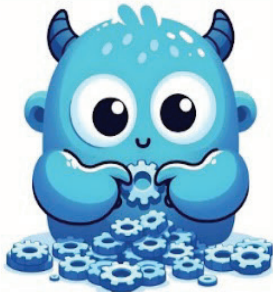
grab 2 discs



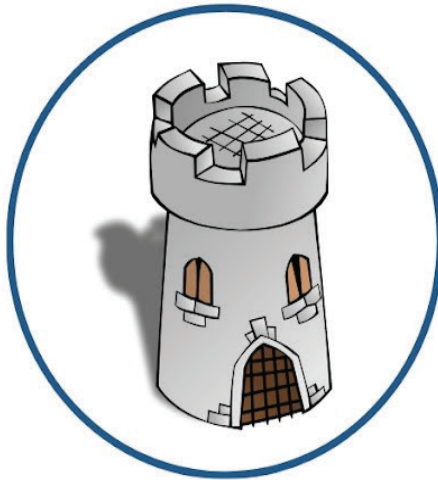
slide together



success!



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Patterns - Level 1

Complete the patterns below using your Brain Flakes® Discs



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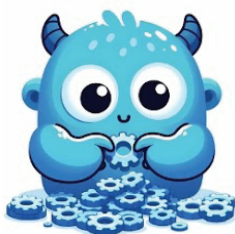
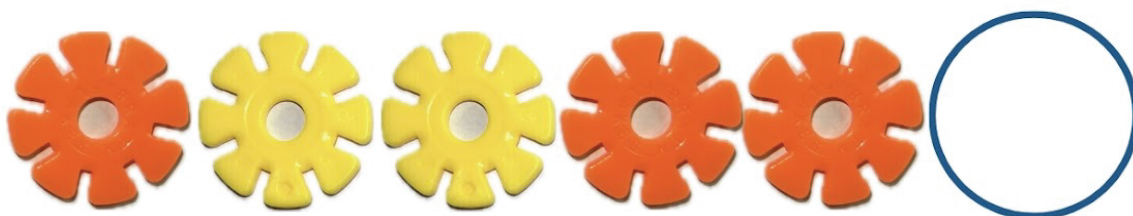
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Patterns - Level 2

Complete the patterns below using your Brain Flakes® Discs



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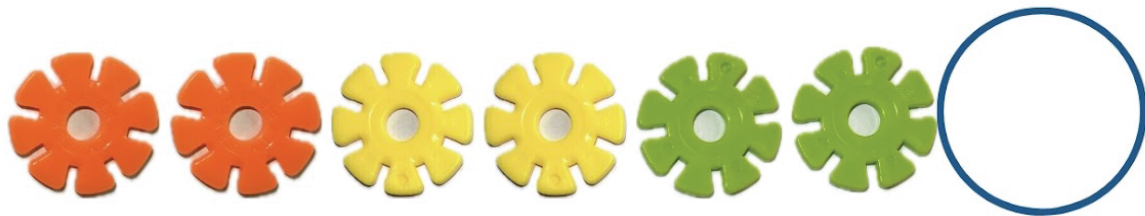
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Patterns - Level 3

Complete the patterns below using your Brain Flakes® Discs



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