Name _____ **Class** _____ **Date** _____

Imagine that you work for a company that designs and makes sports equipment. Some of the managers have asked you why the company needs to employ scientists to help to design new equipment.

You will need to:

- explain the effects of different forces (such as friction) on sport
- explain how springs or springy materials are used in sport
- explain how pressure can affect some sports
- draw at least one force diagram to explain a point.

Prepare a presentation to the management team to persuade them that an understanding of forces is necessary. Prepare a set of notes or a list of things you would talk about if you were giving the presentation. Your presentation may need to look at several different sports to cover all the points above.

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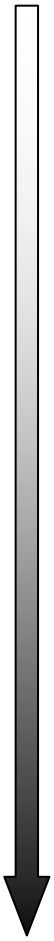
Now that you have completed the activity, circle the number of stars next to each of these sentences to describe how well you did.



I have…	
named one force.	* * * * *
described at least one example of how forces affect sporting equipment.	* * * * *
named two or more forces.	* * * * *
stated at least two examples of where friction is useful and two examples of where it is not useful in sports.	* * * * *
given two examples of how friction in sporting equipment can be reduced or increased.	* * * * *
explained why an object used in a sport needs to be strong to carry out its job.	* * * * *
identified two or three different forces as contact or non-contact forces.	* * * * *
described the effects of balanced and unbalanced forces on at least two objects.	* * * * *
named an object used in sport that has to be elastic and provide the right amount of stretchiness.	* * * * *
explained how or why friction is important in some sports, using at least one example.	* * * * *
described how or why pressure is important in some sports, using at least one example.	* * * * *
used arrows on diagrams to represent the size and direction of forces.	* * * * *
explained why manufacturers might need to know how far a particular material or object stretches when a certain force is applied.	* * * * *
explained why manufacturers might need to know the elastic limit or limit of proportionality of a material or object.	* * * * *