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| Sub project | **Lesson title** | **Resources** |
| Biological Sciences | Lie detectors – should they be used as evidence in court?(EEG/ ECG and galvanic skin response) | Lesson planPowerpointWork book |
| Learning objectivesTo be able to describe the kind of responses the autonomic nervous system controls.To be able to explain the mechanism by which this happens.To understand how we can measure changes in the autonomic nervous system. |
| Differentiation? More able pupils could be given more time to produce and show a role play about the reflex arc.Less able students may need more consolidation in class or small group discussion.More able pupils could hold a formal debate about the use of lie detectors as evidence.More able pupils could focus on the whether lie detectors are ‘bad science’ because they are not used as evidence in court (could lead to discussion on the nature of science). |
| Activity | **Timing** |
| Starter: show a clip of Jeremy Kyle lie detector and ask pupils for ideas on how it works. Point out whilst video is running the claims about accuracy that scroll across the bottom. Ask them why if it’s good enough for Jeremy should it be good enough as evidence in court?Main: introduce autonomic nervous system. Give some scenarios like putting hand on something hot, running a mile, going out in December without a coat, being frightened, telling a lie. What are the bodies responses to these? How do these reactions occur? (pupils should discuss and fill out first two columns of table in work book using their own ideas).Discuss as classShow structure of nerve cell and reflex arc discuss what’s happening.Pick one scenario and explain it using reflex arc. Pupils could write a paragraph, draw a cartoon strip or act out what’s happening in small groups.How can we measure this activity? Show various techniques in booklet. Which technique could we use to assess the changes in each of previous scenarios? Add to table. Discuss as class if reinforcement needed.Plenary: should lie detectors be admissible as evidence in a British court? Pupils could write a closing statement for a debate based on whether they think they should be or not. You could finish by asking the question ‘does this make the data they produce invalid?’ | 5mins10 mins5 mins5 mins10 mins10 mins10 mins. |