

## Involving pupils in self- and peer- assessment

How can pupils help each other to use the Key Processes?

### Into the classroom

The following suggestions describe one possible approach to self- and peer-assessment. Pupils are given a chance to tackle a problem unaided, allowing you to assess their thinking and to identify pupils that need help. This is followed by formative lesson in which pupils collaborate, reflect on their work and try to improve it.

#### Before the lesson

**20 minutes**

Before the lesson, perhaps at the end of a previous lesson, ask pupils to attempt one of the assessment tasks, *Text messages*, *Golden rectangles* or *Counting Trees*, on their own. Pupils will need calculators, pencils, rulers, and squared paper.

*The aim is to see how able you are to tackle a problem without my help.*

- *You will not be told which bits of maths to use*
- *There are many ways to tackle the problem - you choose*
- *There may be more than one 'right answer'*

*Don't worry if you cannot understand or do everything because I am planning to teach a lesson on this next in the next few days.*

Collect in pupils' work and review a sample of it. Look carefully at the range of methods pupils use and the quality of the reasoning. Try to identify particular pupils who have struggled and who may need support. Also look out for pupils that have been successful. These may need an extension activity to challenge them further.

#### Re-introduce the problem to the class

**5 minutes**

Begin the lesson by briefly reintroducing the problem:

*Do you remember the problem I asked you to have a go at last time?*

*Today we are going to work together and try to improve your first attempts.*

*Even if you got most of it right first time, you will learn something because there are different ways to tackle the problem.*

At this point, choose between the Track A or Track B. Either decide to let pupils assess and improve their own work, or offer them the provided samples of work to assess. There won't be time for both!

## Track A: Using pupils' own work

**Track A: Pupils assess and improve their own work****15 minutes**

Ask pupils to work in pairs or threes and give each group a large sheet of card and a felt-tipped pen. Give each group back their initial attempts at the problem.

*I want you to look again at you answers, but this time work as a group.  
Take it in turns to describe your attempt to the rest of the group.  
After each suggestion, the others in the group should say what they like about your method and also where they think it can be improved.*

*After you have all done this, I want you to work together to produce a better answer than you did separately.  
Make a poster showing your best ideas.  
It doesn't have to be beautiful, but it should show you thinking.*

Go round the room, listening, assessing their thinking and making appropriate interventions. Listen specifically to pupils that struggled with the task when they worked alone, and offer them support. If pupils have succeeded and their work is correct, provide one of the planned extensions.

**Track A: Pupils exchange and comment on each others' work****15 minutes**

Ask pupils to exchange their posters with another pair and issue each group with a copy of the "progression steps" framework for the task – one that is written in pupil-friendly language.

*On a separate sheet of paper, write comments on:*

- *Representing: Did they choose a good method?*
- *Analysing: Is the reasoning correct – are the calculations accurate?*
- *Interpreting: Are the conclusions sensible?*
- *Communication: Was the reasoning easy to understand and follow?*

As they do this, go round encouraging pupils to read the work carefully and comment on the points mentioned. You may need to help them understand what the 'progression steps' mean. When pupils have commented on the work, one person from the group should take the poster to the group that produced it, and explain what needs to be done for the work to be improved.

**Track A: Pupils improve their own work****5 minutes**

Give groups a little time to absorb the comments and time to further improve their ideas.

**Track A: Plenary discussion on approaches and changes****15 minutes**

Towards the end of the lesson hold a discussion on the approaches used and the changes that have been made:

*What changes have you made to your initial work?  
Why is it now better than it was before?*

Collect in the work and assess how the thinking has improved.

## Track B: Using the provided sample work

### Track B: Pupils assess provided sample work

15 minutes

Give out the sample student work.

*These samples of work were taken from another class. I want you to imagine that you are their teacher. This work may give you ideas you haven't thought of. It is also full of mistakes!*

*I want you to comment on each of the following themes:*

- *Representing: Did they choose a good method?*
- *Analysing: Is the reasoning correct – are the calculations accurate?*
- *Interpreting: Are the conclusions sensible?*
- *Communication: Was the reasoning easy to understand and follow?*

In this way, pupils will become more aware of what is valued in their work – the Key Processes of representing, analysing, interpreting and communicating.

Listen to their discussions and encourage them to think more deeply. Encourage pupils to say what they like and dislike about each response and ask them to explain their reasons.

### Track B: Pupils assess sample work using “progression steps”

10 minutes

After pupils have had time to respond freely, issue each group with a copy of the “progression steps” framework for the task – one that is written in pupil-friendly language.

*This framework may give you further ideas.  
Where would you put the work on the framework?*

### Track B: Plenary discussion of the sample work

15 minutes

Project each piece of sample student work on the board and ask pupils to comment on it:

*What can we say about this piece of work?  
Share some of the comments you wrote.*

*What did you think of the methods they chose?  
Which method did you like best? Why was this?*

*Did you find any mistakes in their work?*

*Do you agree with their conclusions?*

### Track B: Working in pairs: Pupils improve their own work.

10 minutes

Now using what they have learned, ask pupils to work together to improve their own solutions. As they do this, ask pupils to explain their thinking.

*Max, tell me what you have done to improve your own solution.*

Collect examples of pupils' work for the follow-up session. Try to assess how much pupils have learned from the sharing session.